

the means in this case being well-known equivalents for each other, we think the charge of infringement is made out.

The decree of the court below is therefore reversed, and the case remanded for further proceedings in conformity with this opinion.

87. WESTERN ELECTRIC CO. v. ROCHESTER TEL. CO., 145 Fed. 31, 75 C. C. A. 313 (1906, Second Circuit).

Before Wallace, Lacombe, and Townsend, Circuit Judges:

Per curiam. * * * While we do not find in any single prior patent a distinct anticipation, we fully concur in his conclusion that the device of the patent "was a mere improvement without involving the exercise of inventive faculty." * * *

At the close of a very long record one of the patentees finally stated the improvement of the patent to be the devising of a "system of supervisory signals in which the interruption of the talking current in the line circuit is caused to apply the current or power for displaying the positive supervisory signal, which current or power is later withdrawn when the plug is withdrawn from the jack, permitting the signal to disappear." This "system" is brought about by a rearrangement of old parts, and in the literature of the art these parts had already been brought together in such a variety of ways, and there had been so many substitutions of one device for another, so many methods shown of controlling one current by another and of displaying and obscuring signals, such a transposition of parts and shifting of currents that it seems to us entirely clear that the rearrangement of the patentees, clever though it may have been and in its details perhaps novel, was nevertheless one of those minor improvements which was easily within the ordinary skill of the telephone engineer. The case seems to come within the views expressed in *Atlantic Works v. Brady*, 107 U. S. 199, 200, 27 L. ed. 438, and peculiarly within those expressed in *Thomson Houston Elec. Co. v. Western Elec. Co.*, (C. C.) 65 Fed. 619.

The decree is affirmed, with costs.

88. ANDREWS v. THUM, 67 Fed. 911, 15 C. C. A. 67 (1895, First Circuit).

* * * Before Colt, Webb and Aldrich, Judges:

Colt, J. Since the decision rendered June 23, 1894, denying the motion to dismiss this appeal, the objections to the validity of the appeal now urged by the appellees are not open, and the case comes before the court at this time for decision on its merits.

The Peck patent, No. 125,326, which is printed in the record, cannot be considered by the court, for the reason that it was not set up in the answer and was first introduced as evidence in the court below

in support of a motion for rehearing and to reopen the case, which was denied.

This suit was brought for the infringement of Letters Patent No. 278,294, dated May 22, 1883, and of Letters Patent No. 305,118, dated September 16, 1884, both issued to Otto Thum. These patents relate to fly-paper.

Patent No. 305,118 is for an improved method of applying the adhesive compound to the paper by means of rollers and for the improved article produced thereby. The suit is not pressed as to the first and second claims, which relate to the improved method, but only as to the third claim, for the product. This claim reads as follows:

“3. As a new article of manufacture, the fly-paper with adhesive faces placed together, so as to be packed without folding, and adapted to be separated when ready for use, substantially as described.”

We are unable to discover anything patentable in this claim, considered by itself, or apart from the mechanical means set forth in the patent by which the article is produced. There certainly can be no invention in placing two sheets of fly-paper together, with their sticky surfaces face to face, although in this form they may be packed without folding and may be readily separated for use. The invention, if any, in this patent must reside in the mechanical means by which this was effected, and it is not shown that the defendants have made use of these means.

Patent No. 278,294 is for an improvement in fly-paper and contains a single claim, as follows:

“A sheet of fly-paper partially covered with a sticky composition, the latter being surrounded with a band or margin of less but still slightly adhesive material.

The specification says:

“My invention relates to an improved method of making and packing sticky fly-paper; and its object is to prevent the running and spreading of the adhesive coating under any circumstances, so that large quantities of the paper may be packed and transported without deterioration, and kept on hand. The invention consists in surrounding the adhesive coating with material of such a nature that it will adhere slightly to an adjoining sheet, but will separate readily for use, and when the sheets are in contact will prevent the adhesive coating from spreading.”

The only new result which seems to have been accomplished by this method of making fly-paper is the production of an article which can be packed in large quantities and kept on hand without deterioration. It is undoubtedly true that this method produces a very merchantable article; but the question arises whether its adoption called for the exercise of invention, in view of what was old and well

known. It is not contended that there was anything new in the adhesive substances themselves or in the mechanical means by which they are applied; but the simple question is whether there was any invention in coating the body of a sheet of paper with an adhesive composition and surrounding it with a border of less adhesive material. If the patentee had been the first to apply two compositions, one of which was more adhesive than the other or one of which was adhesive and the other not, to a single sheet of paper, and this accomplished a new and useful result, it might, perhaps, be said that it involved invention in the eye of the patent law; but this can hardly be true if we find that substantially all this was old.

In the preparation of medicinal plasters it was common to spread upon a sheet of leather or paper a medicated composition, either slightly or not at all adhesive, and to surround it with a margin of more adhesive substance, intended to secure the plaster to the surface on which it was to be applied. Thus the use of two substances, the one slightly adhesive and the other readily adhesive, upon the same sheet of leather or paper was common long before the date of the patent. To apply this old method in the preparation of fly-paper only called for the transposition of these materials. All the patentee did was to reverse the order and put the less adhesive material on the outside or margin and the more adhesive in the middle of the sheet. Such a rearrangement required no invention, but would suggest itself to any one skilled in the art. It is not sufficient that the patentee may have produced a better and more merchantable article, but there must have been something novel in the means which were employed in its production. What constitutes patentability in this class of cases is clearly expressed by the Supreme Court in the recent case of *Knapp v. Morss*, 150 U. S. 221, 14 Sup. Ct. 81. On page 228, 150 U. S., 14 Sup. Ct., the Court says:

“Tested by these authorities, the validity of the patent in question must be ascertained, not from a consideration of the purposes sought to be accomplished, but of the means pointed out for the attainment thereof; and if such means, adapted to effect the desired results, do not involve invention, they can derive no aid or support from the end which was sought to be secured. All that Hall did was to adapt the application of old devices to a new use, and this involved hardly more than mechanical skill, as was ruled in *Aron v. Railway Co.*, 132 U. S. 85, 10 Sup. Ct. 24, where it was said: ‘The same device employed by him [the patentee] existed in earlier patents. All that he did was to adapt them to the special purpose to which he contemplated their application, by making modifications which did not require invention, but only the exercise of ordinary mechanical skill, and his right to a patent must rest upon the novelty of the means he contrived to carry his idea into practical application.’ ”

For these reasons Patent No. 278,294 and the third claim of Patent No. 305,118 must be held to be void for want of patentable novelty.

The decree of the circuit court is reversed and the cause remanded, with directions to dismiss the bill, with costs.

89. **BROWN v. PIPER**, 91 U. S. 37, 23 L. ed. 200 (1875, Patent, Reissues No. 732 and No. 36,107).

Mr. Justice Swayne: The summation and claim are: "Having described my invention, what I claim as new, and desire to secure by letters patent, is, preserving fish or other articles in a close chamber by means of a freezing mixture, having no contact with the atmosphere of the preserving chamber, substantially as set forth."

* * *

The patent is for "a new and useful improvement" in the art to which it relates. It was issued under the Act of July 4, 1836, 5 Stat. at L., 117. The rights of the parties are to be considered in the light of that Act. The defense relied upon in the answer is the want of novelty; and several instances of prior use and knowledge, with the requisite circumstances of time, place and persons, are alleged.

We deem it sufficient to consider one of them. On the 17th of August, 1842, a patent was issued to John Good "for a corpse preserver." The apparatus, as described, was an outer case with a close-fitting lid. The case was made double; there being a partition to within four or five inches, more or less, of the top of the outer one, leaving a space between the two of several inches, which was to be filled with ice. There was a false bottom with holes in it in the inner compartment. It rested upon ledges, which kept it four or five inches above the bottom. The intervening space was a receptacle for ice. The corpse was deposited upon the false bottom. A tray was placed over it, and under the lid. The tray was four or five inches deep, used to contain the freezing mixture, and had a flange to prevent the mixture from escaping. Proper outlets were provided for the passage of the water from the melting ice. There was no communication between the tray containing the freezing mixture and the inner compartment containing the body. Swartz, an intelligent and unimpeached witness, was examined on the 15th of October, 1869. He testified that he was an undertaker, and had used the apparatus for about twenty years, sometimes with ice under the false bottom and sometimes without it. In either case he applied a sufficient degree of cold to prevent putrefaction before interment. He thought the bodies were sometimes frozen, but was not certain. The material point in his business was the prevention of decay for the time being; and that was always accomplished.

Here was the application of the requisite degree of cold, exactly in the manner called for in the specification of the appellee.

This is hardly denied, but it is insisted that the process was never applied by the witness to the preservation of fish and meats.

The answer is that this was simply the application by the patentee of an old process to a new subject, without any exercise of the inventive faculty and without the development of any idea which can be deemed new or original in the sense of the patent law. The thing was within the circle of what was well known before, and belonged to the public. No one could lawfully appropriate it to himself and exclude others from using it in any usual way for any purpose to which it may be desired to apply it.

This is fatal to the patent. *Ames v. Howard*, 1 Sumn. (U. S.) 487; *Howe v. Abbott*, 2 Story 194; *Bean v. Smallwood*, 2 Story 411; *Winans v. R. R. Co.*, 2 Story 412; *Hotchkiss v. Greenwood*, 11 How. (U. S.) 248, 13 L. ed. 683.

There is another view of the case that may properly be taken.

Evidence of the state of the art is admissible in actions at law under the general issue without a special notice, and, in equity cases, without any averment in the answer touching the subject. It consists of proof of what was old and in general use at the time of the alleged invention. It is received for three purposes and none other—to show what was then old, to distinguish what was new, and to aid the court in the construction of the patent.

Of private and special facts, in trials in equity and at law, the court or jury, as the case may be, is bound carefully to exclude the influence of all previous knowledge. But there are many things of which judicial cognizance may be taken. "To require proof of every fact, as that Calais is beyond the jurisdiction of the court, would be utterly and absolutely absurd." *Gres. Eq. Ev.* 294. Facts of universal notoriety need not be proved. See *Taylor, Ev.*, sec. 4, n. 2. Among the things of which judicial notice is taken, are: The law of nations; the general customs and usages of merchants; the notary's seal; things which must happen according to the laws of nature; the coincidences of the days of the week with those of the month; the meaning of words in the vernacular language; the customary abbreviations of Christian names; the accession of the Chief Magistrate to office and his leaving it. In this country, such notice is taken of the appointment of members of the cabinet, the election and resignations of senators and of the appointment of marshals and sheriffs, but not of their deputies. The courts of the United States take judicial notice of the ports and waters of the United States where the tide ebbs and flows, of the boundaries of the several states and judicial districts, and of the laws and jurisprudence of the several States in which they exercise jurisdiction. Courts will take notice of whatever is generally known within the limits of their jurisdiction;

and, if the judge's memory is at fault, he may refresh it by resorting to any means for that purpose which he may deem safe and proper. This extends to such matters of science as are involved in the cases brought before him. See 1 Greenl. Ev. 11, *Gres. Eq. Ev.*, supra; and Taylor, Ev., sec. 4, and post.

In the *Ohio Life, etc., Co. v. Debolt*, 16 How. (U. S.) 416, 435, 14 L. ed. 997, it was said to be "a matter of public history, which this court cannot refuse to notice, that almost every bill for the incorporation of companies" of the classes named, is prepared and passed under the circumstances stated. In *Hoare v. Silverlock*, 12 Ad. & Ell. (N. S.) 624, it was held that where a libel charged that the friends of the plaintiff had "realized the fable of the frozen snake," the court would take notice that the knowledge of that fable existed generally in society. This power is to be exercised by courts with caution. Care must be taken that the requisite notoriety exists. Every reasonable doubt upon the subject should be resolved promptly in the negative.

The pleadings and proofs in the case under consideration, are silent as to the ice cream freezer. But it is a thing in the common knowledge and use of the people throughout the country. Notice and proof were, therefore, unnecessary. The statute requiring notice was not intended to apply in such cases. The court can take judicial notice of it and give it the same effect as if it had been set up as a defense in the answer and the proof were plenary. See *Glue Co. v. Upton*, 6 Pat. Off. Gaz. 843, and *Needham v. Washburn*, 7 Pat. Off. Gaz. 651—both decided by Mr. Justice Clifford upon the circuit. We can see no substantial diversity between that apparatus and the alleged invention of the appellee. In the former, as in the apparatus of the appellee, "the freezing mixture" has "no contact with the atmosphere" of the chamber where the work is to be done. If the freezer be full and the preserving chamber be full, there would be room for but little air in either. If either were only partially full, the vacuum would be filled with that substance. The cold is generated by the same materials and applied under the same circumstances. If the cream were taken out of the freezer and fish put in, there would be, in all substantial respects, the same apparatus, process and result. If the preserving chamber were as tight as the freezer, either might be convertibly used for the purpose of the other.

"The preservative effect of cold, and especially of dry cold, is well known and exemplified in the keeping of meat and fruit in ice-houses. Animals have been found undecomposed in the ice of Siberia which belong to extinct species, and which must have been embalmed in ice for ages." Tit. "Antiseptic," 1 Amer. Encyclo. 570.

Artificial freezing is usually applied to water and articles of food.

"There are two general methods of effecting it, viz: By liquefaction and by vaporization and expansion. The method by liquefaction

is performed by freezing mixtures, which are formed by mixing together two or more bodies, one or all of which may be solid. They are used together in vessels having three or more concentric apartments—an inner one, containing the article to be frozen; one eccentric to this, containing the freezing mixture, provided with some contrivance for agitation; one, again, outside of this, filled with a non-conductor of heat, as powdered charcoal, gypsum or cotton wool; and sometimes one between them for holding water." Tit. "Freezing," Amer. Encyclo. 474.

Here the principle and substance of the appellee's claim are set forth as belonging to the general domain of knowledge and science. It is known that Lord Bacon applied snow to poultry to preserve it. He said the process succeeded "excellently well." The experiment was made in his old age, imprudently, and brought on his last illness.

Examined by the light of these considerations, we think this patent was void on its face and that the court might have stopped short at that instrument and, without looking beyond it into the answers and testimony, sua sponte, if the objection were not taken by counsel, well have adjudged in favor of the defendant.

These views render it unnecessary to consider the exceptions to the master's report.

The decree of the Circuit Court is reversed and the cause will be remanded, with directions to dismiss the bill.

90. **ROBERTS v. RYER**, 91 U. S. 150, 23 L. ed. 267 (1875, Patent No. 13,802, Reissue No. 455).

Mr. Chief Justice Waite delivered the opinion of the court.

* * *

The patent is, therefore, for a combination of three elements; to-wit: 1. An open-bottom ice-box, or its equivalent, so constructed that the air may pass freely down through it, while, at the same time, the drip of the water from the melting ice is prevented by collecting the water, and taking it in an escape-pipe outside of the refrigerator; 2. A dividing partition, open above and below, separating the refrigerator into two apartments; and, 3. A chamber directly under the open-bottom icebox, in which articles to be refrigerated may be placed in such manner as to receive the descending current of air from the ice-box directly upon them.

There is no doubt of the utility of this combination. If the patentee was its original and first inventor, the device was patentable to him. * * *

Such being the patent, we now proceed to consider the defense; which is, that the invention patented had been anticipated by Asel S. Lyman and others. Sanford, the patentee, does not carry his inven-

tion back of the summer of 1855, when, it perhaps sufficiently appears, his application was filed. * * *

When the air comes in contact with the cold surfaces of the ice, its capacity for moisture is lessened, and the moisture is deposited on the ice. By this arrangement of the ice receptacle in the upper part of the refrigerator, with an opening for receiving air in its upper part, and a grate in the lower part on which the ice rests, a cold-air chamber below the grate and a descending conduit from this cold-air chamber, or with an arrangement of parts substantially the same, so that the air shall be caused to circulate rapidly from bottom to top in the refrigerating chamber, and from top to bottom in the separate combinations as described, the air is not only cooled, but it is, by being frequently passed through the interstices of the ice, thoroughly dried, and it is washed as by a hail-storm; a decided improvement in its smell is effected; and the apparatus becomes not only cooling and drying, but, to some extent, a disinfecting apparatus."

He then claimed as his invention "the combination of the reservoir of cooling, drying and disinfecting material with the descending tube or conduit, so that the cold and condensed air in this conduit shall, on account of its increased weight, cause the warmer air to pass more rapidly through the material, where it is cooled, dried, and disinfected, and in its turn fall down the conduit, being by its sides kept separate from the other air until it mingles with the lower strata, substantially as described for the purposes aforesaid."

There was, therefore, in this invention of Lyman, the open-bottom ice-box, and the partition open above and below, dividing the refrigerator into two apartments, in one of which the air passed downward only, and in the other upward only. This constituted all there was of the "endless passage or chamber" in the original Sanford patent, "so constructed that the air is compelled to circulate through the entire apartment or apartments." True, the partition was not vertical; and the apartments need not be of equal or of any particular proportionate size. Neither was this necessary, as has been seen in the Sanford patent. Each, however, called for the circulation of air, and each obtained it substantially by the same device. They each passed the air cooled in the ice-box through convenient openings downwards in one apartment, and upwards through the other. * * *

It being, then, certain that Lyman contrived a machine which would produce the desired circulation, and could be used for refrigeration in the ascending current, it remains only to consider, whether, if one desired to make use of the descending current for the same purpose, he could claim such use as a new invention.

It is no new invention to use an old machine for a new purpose. The inventor of a machine is entitled to the benefit of all the uses

to which it can be put, no matter whether he had conceived the idea of the use or not. * * *

In fact, the proof is abundant, that in his experiments, while perfecting his invention, Lyman did, in more cases than one, utilize the descending current. With both the inventors, the circulation by means of an ascending and descending current was the principal object to be obtained. One considered the greatest benefit for the purposes of refrigeration was to be derived from the use of the descending current, while the other had his attention directed more particularly to the advantages of the ascending. They each had both, and could utilize both. It is no invention, therefore, to make use of one rather than the other. * * *

All that can possibly be claimed for this amendment is a combination of the use of the descending current with the device for the circulation. There was no change in the machine, it was only put to a new use. If there was any change of construction suggested, it was only to increase its capacity for usefulness. It was "a mere carrying forward or new or more extended application of the original thought, a change only in form, proportions, or degree, doing substantially the same thing in the same way, by substantially the same means, with better results." This is not such an invention as will sustain a patent. We so decided no longer ago than the last term, in *Smith v. Nichols*, 21 Wall. 112. Clearly, we think, therefore, the invention of Sanford was anticipated by Lyman; and his patent is, on that account, void. * * *

91. *POTTS v. CREAGER*, 155 U. S. 597, 39 L. ed. 275, 15 Sup. Ct. 194 (1895).

[Patents Nos. 322,393, July 14, 1885 and 368,898, August 23, 1887, Potts valid and infringed.]

Brown J.: In defining the inventions, the court said:]

"The object of the Potts inventions was not to crush the clay, as had been previously done, but to disintegrate and pulverize it, leaving it in a loose condition, fitted to absorb the water readily. Their machines consisted substantially of a cylinder moving at a high speed, having longitudinal bars fixed in its periphery with sharp projecting corners, and a fixed abutment in close proximity thereto—in the first patent a swinging plate—in the second a smooth cylinder—and a positive feeding device by which the clay was forced between the main cylinder and the abutment. The longitudinal bars thus operated to strike the mass of clay, quick, sharp blows in rapid succession, and cut or shred small portions therefrom, which were deposited beneath the machine thoroughly mixed in their different strata, and with rough, torn, or ruptured edges—a condition best adapted to receive or absorb water, and be easily and thoroughly tempered."

[A number of patents from various arts were cited and much reliance was placed upon the exhibit known as the "Creager wood-polishing machine." It was a similar construction though having projecting strips or bars of glass where the Potts patents had similar parts of steel.

The court said:]

"Had this machine been used for an analogous purpose, it would evidently have been an anticipation of the Potts cylinder, since the substitution of steel for glass strips would not of itself have involved invention."

The court, in effect, held this machine to have been merely an abandoned experiment, but, independently of that question, held it not an anticipation of the Potts patents, reciting as an established rule of law the following much quoted conclusion:]

"As a result of the authorities upon this subject, it may be said that, if the new use be so nearly analogous to the former one, that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use, but if the relations between them be remote, and especially if the use of the old device produce a new result, it may at least involve an exercise of the inventive faculty. Much, however, must still depend upon the nature of the changes required to adapt the device to its new use."

[These patents again came before the Circuit Court and the Circuit Court of Appeals in the sixth circuit in *Potts v. Creager*, 38 C. C. A. 47, 97 Fed. 78 (1899), Sixth Circuit, Taft, Lurton and Thompson. In the statement of the case it is said:]

"Upon the coming down of the mandate and the entry of the interlocutory decree finding the issues for the complainant and directing a reference the defendant filed a petition for rehearing on the ground of newly-discovered evidence. The petition was allowed to be filed, and after an examination of the evidence the Circuit Court set aside the decree for the complainant and entered a new decree dismissing the bill. (71 Fed. Rep. 574; C. D. 1897, 521; 80 O. G. 186; 77 Fed. Rep. 454.) The complainant then had recourse to a proceeding in mandamus in the Supreme Court. (C. D. 1897, 342; 78 O. G. 2049.) On this application the Supreme Court held that the action of the Circuit Court in setting aside the decree entered in accordance with the mandate was irregular and void; that a petition for rehearing in such a case could properly be addressed only to the Supreme Court or to the Circuit Court after leave had been obtained from the Supreme Court to file such a petition in the Circuit Court and directed the writ to issue. Thereupon the Circuit Court restored the decree, which it had, without authority, set aside, and the defendants applied to the Supreme Court for leave to file a peti-

tion for rehearing on the same ground already irregularly presented to the Circuit Court. Leave was granted. A petition for rehearing was filed in the Circuit Court, and the Circuit Court, Judge Sage, presiding, upon a rehearing set aside the former decree and again dismissed the bill. The present appeal is from the second decree dismissing the bill upon the petition for rehearing."

[The court then proceeds to recite the patents which had been examined by Mr. Justice Brown in his opinion for the Supreme Court, referring to machines for grating apples, preparation of paper-pulp, grinding cylinder for paper-engines, rollers for grinding mills, cotton seed huller, grinding mill for general use amongst farmers, preparing wheat for grinding and clay pulverizers.

The court pointed out that the cited clay pulverizer was employed rather as a grinding machine than a disintegrating machine, and that such a machine would be inoperative, except, perhaps, where the clay was dry and of light consistency.

Reference is also made to patents for improvements in the making of bricks, straw-cutters, machines for pressing tobacco, pulp-engines, peat-machines, feed-boxes for roller mills, machines for removing hair from hides and the Creager wood-polishing machine.

It was then said, preceding a citation from the opinion of Mr. Justice Brown, that:]

"The Court then considered how far there might be the exercise of the faculty of invention in the transfer from one art to another of a device for accomplishing a different purpose and held that such a transfer might involve invention where the arts were not analogous or nearly related, the question being more or less dependent on the amount of change required to adapt the device as found in the one art to the other."

[It seems that the relation of the defendants to the complainant also had weight in this case. A quotation is made from a trade circular of the defendant advertising the advantages of their machine, which was substantially identical with complainant's machine, over machines which rolled the clay into sheets.

On the rehearing in the circuit court the defendants introduced many other prior patents. There were patents for granulating or disintegrating kernels of coconuts and other like substances, disintegrating devices for pulverizing clay for brickmaking, grinding mills, a prior use of an apple grinder and a clay disintegrator. The first named clay disintegrator was practically inoperative and the patent for it with many other patents were sold at auction for \$25.00. The second named disintegrator was used for about six months and then sold at auction for old iron, and another machine was substituted. In the same connection testimony respecting a third disintegrating machine was introduced but this machine was also discarded and replaced by other machines. The court of appeals said:]

“The operation of the Potts machine described by Mr. Justice Brown shows that it embraces the rapid revolution of the cylinder with longitudinal blades upon it arranged with reference to the mass of clay to be disintegrated, so that the knives upon the surface of the cylinder shall strike with hard blows the mass of clay and clip off or tear off from the mass presented to the cylinder bits of the clay and carry them into a receptacle below. In the first patent the element which fed the clay to the cylinder was a vibrating plate. In the second patent a slow-moving smooth roll was substituted for the vibrating plate, and this smooth roll slowly moved and fed the clay to be struck by the knives upon the rapidly-revolving cylinder. Now it may be that the other machines called ‘disintegrators’ accomplish the same result, but they accomplish it by the use of two cylinders, each armed with cutting, crushing, or disintegrating projections, which intermesh and which effect the disintegration in the same general method as crushing is effected by smooth rollers.”

[The court of appeals held that the Moore, Rossi and Watson disintegrating machines, while they may have effected disintegration, did not do it in the same way and upon the same principle seen and employed in the Potts device. The court then said:]

“Conceding that disintegration of the clay sufficiently complete to introduce it at once into the pugging-mill or the brick-machine without having recourse to the soak-pit was accomplished before the Potts invention, we are nevertheless of opinion that the operation of the Potts device is so different from that of the prior devices and is so much more efficient than they are shown to be that it is still entitled to the reward of a limited monopoly. It is difficult at first to distinguish between the pulverizing and crushing operation and that of disintegrating. In a wide sense ‘disintegration’ necessarily takes place in the operation of crushing and pulverizing. The Supreme Court uses the term, however, in the sense of tearing apart, piece by piece, or shredding. In no clay-machine but the Potts do we find this kind of disintegration.”

[Then passing upon the failure of the other machines to do the work, the court said that the Circuit Court had erred in the conclusion that the decision of the Supreme Court rested wholly on the pioneer or primary character of the Potts machine. In this case (as in others) is indicated the impression made upon the court by the fact that the defendant used the same structure, the court saying:]

“If, as contended by counsel for defendants, the Newell machine will disintegrate clay better with its intermeshing surfaces on the face of two rollers than the Potts machine, the defendants have the right to use the Newell machine.”

[The court also referred to the danger in such cases of re-hearing:]

“That the exigencies of the case may lead witnesses to round out evidence beyond that which exact truth would permit. Such evidence must be taken with great caution and weighed in the light of this danger.”

[Referring, then, to the sixth claim of the patent,—]

“In a clay-disintegrator, the combination with cylinder A, having a series of longitudinal grooves, of the scraping-bars c, and adjustably secured in said grooves, for the purpose specified,” it was said that the Supreme Court in its decision had treated this as a combination claim, “or at least to have held that it was for the element in the clay-disintegrating machine to be used in combination with the opposing and other elements necessary to secure disintegration of the clay by the methods specified in the patent.”

[Reference was also made to the intimation, in the opinion of the Supreme Court, that the substitution of the vibrating plate for a smooth roller did not involve invention.

The court then found the first patent valid and infringed and the second patent invalid because it showed no patentable improvement over the first. The effect of the decision, obviously, was to hold an infringement any machine in which the disintegration was accomplished by a cylinder having a series of longitudinal grooves, scraping bars adjustably secured in the grooves for the purpose of disintegrating the clay by the action of the armed cylinder in its rapid revolution clipping off or disintegrating piece by piece a mass of clay feed to the cylinder.]

92. BRIGGS v. DUELL, 93 Fed. 972, 36 C. C. A. 38 (1899, Second Circuit).
Lacombe, J.:

On July 26, 1887, a patent, No. 367,267, was granted to the complainant for new and useful improvements in apparatus for planing cakes of ice for storing. Upon this patent suit was brought against the Central Ice Company in the Northern District of New York to restrain infringement of its first claim. Judge Coxe, who heard the cause at circuit, held that there was no infringement. (54 Fed. Rep., 376.) An appeal was thereupon taken to this court. The claim there in question read as follows:

“1. The combination, with the cutter-head and the racks directly attached thereto, of the guides for both cutter-head and the racks, arranged perpendicularly to the plane of the elevator, the pinions mounted on said guides and engaging in said racks, and the levers or arms for operating said pinions, all constructed, substantially as described, so that the depth of the cut may be directly and positively regulated by means of the levers, as herein specified.”

This court reviewed the state of the art, including patents to Chaplin, No. 271,220, Smith, No. 310,093, and Loring and Giles,

No. 329,400, and finding in a patent to Butterfield, No. 24,076, dated May 17, 1859, for a wood-plane attachment the "same combination found in complainant's patent of cutter-head, guides, racks, pinions, and levers," held that in contemplation of law (of course in fact Briggs had never heard of Butterfield) the patentee "merely transported the devices of Butterfield into the old elevator and cut away the useless feed-roller." The conclusion was that the claim was invalid for lack of invention. (*Briggs v. Central Ice Co.*, 8 C. C. A., 480; 60 Fed. Rep., 87.)

The patentee thereupon applied for a reissue upon an application which contained several claims, of which the following only is now in controversy. For convenience of comparison the new matter inserted in the claim is italicized:

"3. The combination with the cutter-head and the racks directly attached thereto, of the guides for both cutter-head and the racks, arranged perpendicularly to the plane of the elevator, the pinions mounted on said guides and engaging in said racks, and the levers or arms for operating said pinions, *a cutter consisting of a number of points entering the ice in such a manner as not only to cut but to groove it at one operation and an ice-elevator adapted to positively force the ascending cakes of ice into contact with the cutter and groover*, all constructed substantially as described, so that the depth of the cut may be directly and positively regulated by means of the levers *and the ice at the same time properly grooved for storage.*"

It will be perceived that the phraseology of this claim calls for two elements not enumerated in the first claim of the original patent—the ice-elevator and the multipoint cutter and groover. It will be perceived from an examination of our former decision that the ice-elevator, although not specifically mentioned, was regarded as an element of the claim. It was also understood that some kind of a cutter was necessary to make the machine practically useful and to enable the operator to regulate the depth of the cut. In the proposed reissue the combination is restricted to a peculiar variety of cutter, which, however, was not in itself new. Briggs himself had shown it in the specification of his Patent No. 346,576, dated August 3, 1886, calling attention to the circumstance that such a cutter would groove the ice as well as cut it, and in the reissue of this earlier patent, Reissue No. 11,060, dated February 18, 1890, this double function of grooving and planing is made the subject of a specific claim.

The application for a reissue of No. 367,267, which application was filed July 16, 1894, was rejected by the patent office upon the authority of *Briggs v. Central Ice Co.*, supra, as appears from the opinions of the examiners-in-chief and of the Commissioner of Patents. The patentee thereupon appealed to the Court of Appeals

of the District of Columbia, which affirmed the decision of the Commissioner of Patents. (76 O. G., 169.) Thereupon he filed a bill in equity for this decree in accordance with the provisions of United States Revised Statutes, section 4915. The cause came before Judge Townsend upon pleading and proofs, the bill was dismissed, (*Briggs v. Duell*, 87 Fed. Rep., 479), and from decree of dismissal this appeal is taken.

The argument has taken a somewhat wide range, embracing practically a re-argument of questions passed upon in our opinion upon the original patent. Upon this branch of the subject it will be sufficient to say that we see no reason to modify the opinion heretofore expressed. It will be necessary only to examine the new facts upon which complainant relies to make out a case not covered, as he contends, by the former opinion.

First. Attention is called to the circumstance that when the former opinion of this court was handed down (February 27, 1894,) the Supreme Court had not decided *Potts v. Creager*, 1895 (155 U. S., 597.) It is not thought, however, that that case lays down any new principles of law, nor that it has overruled the earlier decisions which were cited in *Briggs v. Central Ice Co.* On the contrary, it indicates quite clearly that the question of so-called "double use"—whether, that is to say, the new use is so nearly analogous to the former one that the applicability of the device to its new use would occur to a person of ordinary mechanical skill—is one dependent upon the peculiar facts of each case. It would be difficult to find uses more analogous than we have here. If the apparatus for raising and lowering had in its earlier use been applied, for instance, to the movement of ore-buckets in a shaft, it might, perhaps, be urged that the analogy was imperfect; but here in both applications the apparatus moves a cutter (which is itself to remove surplus material) to the place where the operator wishes it to cut. It would seem to make little difference that the workmen who plane wood do not plane ice. In *Potts v. Creager* the Supreme Court approved their former decision in *Brown v. Piper*, (91 U. S. 40,) where a patent for preserving fish for food purposes was held to be without patentable novelty in view of an earlier patent for a "corpse-preserver" used in the undertakers' art. (See also *Stearns v. Russell*, 85 Fed. Rep., 218; *Rogers v. Fitch*, 81 Fed. Rep., 959.)

Second. It is next contended that the new matter introduced in the claim removes it from the operation of the opinion in *Briggs v. Central Ice Co.* As already pointed out, the express inclusion of the ice-elevator as an element involves no change. It was read into the claim in our former opinion. The addition of the peculiar cutter and groover of the patentee, which had already by his own act in taking out Patent No. 346,576 (Reissue No. 11,060) been made a part of the prior art, does not change the situation. It adds noth-

ing new to the combination, which remains a combination of old devices just as it was in the original patent.

Third. It is contended that undue weight was given to the Butterfield patent in our former opinion. The model which was filed with application for that patent and which was damaged by the fire which occurred in the patent office in 1877 has been found, and the experts on both sides have testified as to the inferences which they draw from it. It exhibits a hole in the frame of the machine and a slot in the knife-carrying frame. There is no reference to these in the specification, nor are they shown in the drawings, nor is there anything in the patent to indicate what purpose they were intended to subserve. Complainant's expert draws the inference that they were devised so that a set-screw might be used to clamp the knife-bearing frame after the racks and pinions had raised or lowered the knife to its desired position. Defendant's expert suggests that we may quite as fairly infer that they were adapted to receive "a rod or stop which might brace the frame, or hold the knife-frame from falling upon the rollers at the bottom." In the absence of any reference to a set-screw either in the specification, claims, or drawings we are not inclined to give much weight to either of these inferences, nor does the evidence satisfy us that the machine of Butterfield would be inoperative without a set-screw. And even if irregularities in the boards to be planed would at times destroy the adjustment of the knife (unless a set-screw were used), as complainant's expert claims, by reason of the increased pressure of the plank against the feed-roller, causing the latter to rise and carry the rest of the frame with it, that difficulty would disappear with the disappearance of the feed-roller, and, as was stated in *Briggs v. Central Ice Co.*, "it is obvious that the feed-roller would be unnecessary in an ice-planing machine," where the substance to be cut is fed forward by the moving base on which it rests.

The decree of the Circuit Court is affirmed, with costs.

93. *BROWN v. CRANE CO.*, 133 Fed. 235, 66 C. C. A. 676 (1904, Seventh Circuit, Patent No. 513,998).

Before Jenkins, Grosscup, and Baker, Circuit Judges:

Baker, Circuit Judge (after stating the facts as above). Cores were made by hand from the beginning to the introduction of appellant's machine. The machines, as we understand, are not used to manufacture cores for sale, but are themselves sold to foundries to supersede therein the hand-making of the required cores. Down to 1903 appellant placed about 350. The advantages of the machine method are not questioned.

As early as 1859 Tiffany produced a tile-making machine, the description of which may be read upon appellant's claim 3 as follows:

“A tile-making machine consisting of a hopper, F, located adjacent to and supplying material to a tube, D, having within it a worm, E, for forcing material out through the tube, D, and a wire, G, held in a fixed position and terminating beyond the end of said worm, E, for the purpose of forming the hole in the body of the tile.”

Neither Tiffany nor appellant's assignor specified the relative diameters of tube and wire. Some tiles have thicker walls and smaller internal diameters than others, but neither Tiffany nor another could claim invention in changing the relative diameters of tube and wire from those shown in Tiffany's drawings. Appellant's witnesses prove that appellant's machine makes holes in the cores larger than in hand-made cores, and that there is no fixed required relation between internal and external diameters, except that the walls shall be thick enough not to cave in of their own weight. Tiles are formed of clay in a plastic, cohesive condition. Cores are formed of a mixture of sand and flour in a plastic, cohesive condition. The difference in plasticity and coherence is one of degree only.

The machines, as machines, combinations of moving mechanical parts adapted to receive and to apply motion to produce mechanical results, are identical, element for element, function for function.

Are the arts analogous? Broadly, both relate to the shaping of tubular bodies. More closely, both cores and tiles are made from earthy substances, reduced by water to plastic, coherent conditions, then given their tubular shapes, and then baked to hardness for use. If closer analogy were required, it seems to us that nothing short of identity would suffice.

As a patent cannot rightfully be granted merely for a new use of an old machine, it matters not whether the intuitive flash came 35 years or 35 minutes after the disclosure of the original invention.

Grosscup, Circuit Judge (concurring). Two facts are undisputed. The first of these relates to the difference of purpose between rubber hose and clay tile, on one hand, and appellant's core on the other; as also the difference between the character of material out of which, respectively, they are made, and upon which the machines are meant to operate. The second fact is the existence of a commercial demand, during a long period, for machine made cores—a demand that the appellant was the first to supply.

The purpose of rubber hose and clay tile is to carry off fluids or gases, gathered from sources external to the tubes themselves. The purpose of the perforation through appellant's core is to carry off gases generated in its own sands by the hot surrounding iron. Rubber hose and clay tile, therefore, are tubes proper, performing the function of tubes; while the perforation through the core is a drainage opening only.

The material out of which rubber hose and clay tile are made, is firm and cohesive. The inventor, contemplating a machine to act on such material, was not concerned with the inquiry whether the material would collapse, or how collapse could be prevented. On the other hand, the material, out of which cores are made, is a sharp sand intermixed with flour, cohesive to a very small degree, fragile, and subject to collapse on slight jar or vibration. It was due to this quality of the material, perhaps more than to anything else, that before appellant's invention, no cores were actually made except according to the clumsy molding process. Thus it appears, that though the product of the core machine, and the product of the rubber hose and clay tile machines, are in form alike, varying chiefly in the diameter of the interior opening; and though the machines themselves operate mechanically much the same; the end to be subserved, and the material to be worked upon, are essentially different. To the mind seeking a way to make a core machine, a problem was presented essentially different from the problem presented to the minds that previously created the rubber hose and clay tile machines.

When, then, the second undisputed fact is also borne in mind—that though a real commercial demand existed for machine made cores, none appeared up to the time of appellant's invention—the real merit of appellant's claim to invention is made clear, viz.: That dealing with a material previously supposed to be insusceptible to manufacture into cores by machines, appellant discovered that a practical, efficient core machine could, in fact, be made; going to the allied arts, not for the generative thought, but for the mechanical means of carrying out the thought. Does not this constitute patentable invention?

The constitutional basis of the patent laws is to promote the progress of the useful arts by giving to him who creates something new and useful a property in the thing created; and, as I look at it, the life germ of any creation is not so much the mechanical form in which it finally becomes embodied, as the flash of inspiration that, out of the darkness in which it lay concealed, first revealed its possibility. The possibility of a thing once seen, it is of no great moment that a ready mechanical means of bringing it into form is at hand; nor that the mechanical means used are similar to those employed before in the allied arts; nor that any mind would have seen the adaptability, mechanically, of what already existed to what was now, for the first time, about to exist. The true inquiry is, Did any one before, in creative imagination, actually see this new thing? Did it not require invention to discern, in the first instance, that the new thing was possible? Is it not invention to bring out of what to others seems chaos the form and feasibility of the new and useful thing?

Invention is not, in my judgment, confined to the concrete mechanical form into which an idea ultimately evolves. Invention is the idea itself, the burst of new thought, the discovery; and patentable invention is the conjunction of these with appropriate and efficient mechanical means. Confessedly, an old idea, carried out mechanically in a new form, is patentable invention. To my mind a new idea, carried out mechanically in an old form, ought equally be regarded as patentable invention. To hold otherwise is to dethrone the head and enthrone the hands—to leave genuine genius unrecompensed, while placing the inventor's crown on mechanical skill.

But there is authority for the conclusion reached by the court, notably the recent case of *Kokomo Fence Machine Co. v. Kitzelman*, 189 U. S. 8, 23 Sup. Ct. 521, 47 L. ed. 689, and, expressing my dissent on principle, I am compelled to follow that authority, and concur in the judgment reached.

The decree is affirmed.

94. *MAST, ETC., CO. v. STOVER MFG. CO.*, 177 U. S. 485, 44 L. ed. 856, 20 Sup. Ct. 708 (1900, Patent No. 433,531).

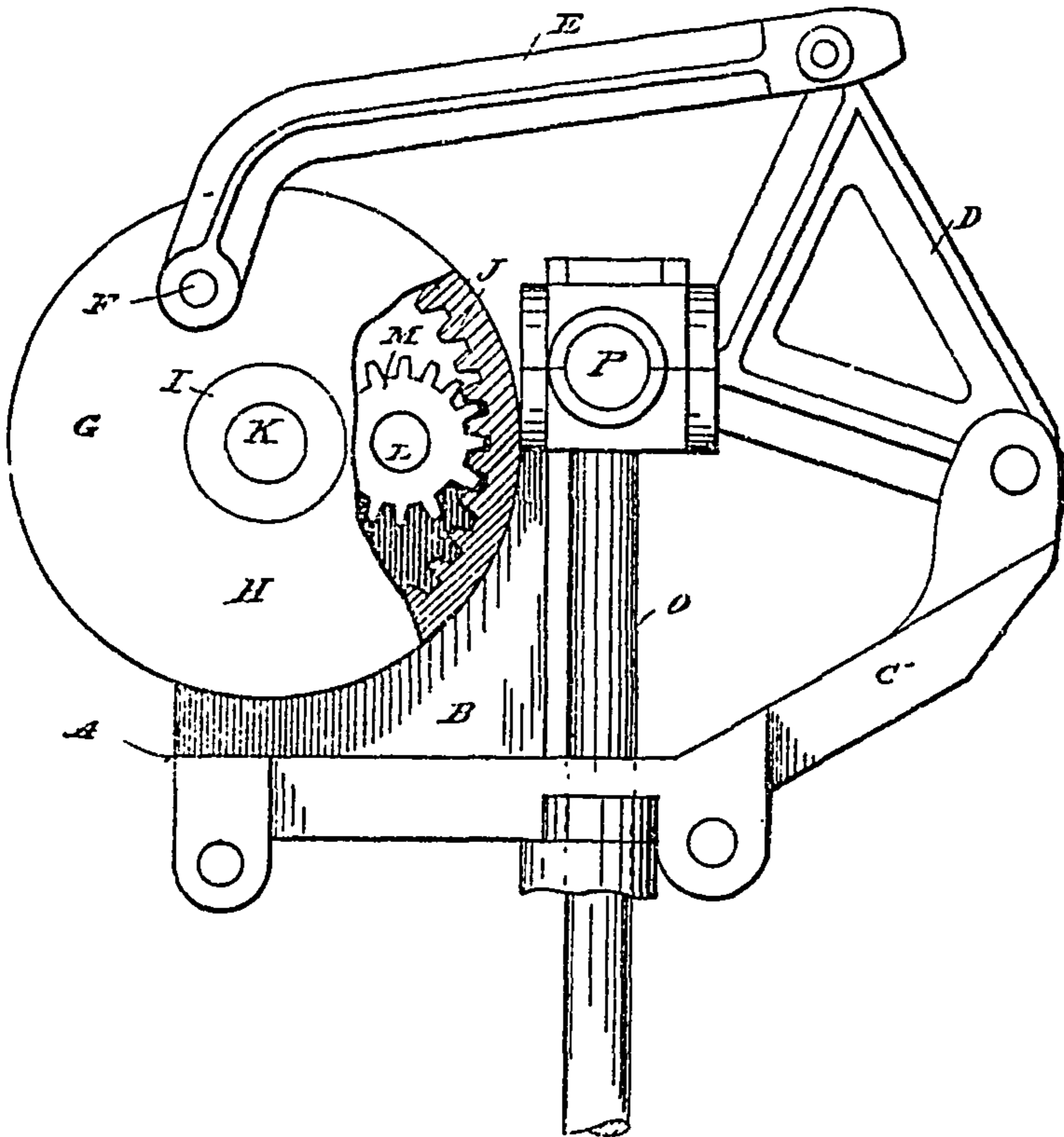
[The features of the drawing are thus described in the patent: "The letter A designates a cast frame or structure carried by the upper part of the turn-table of a windmill, of which B refers to one of the bearing-blocks and C to an arm, to which is pivoted the pitman D. This pitman is triangular and of the type on the market in windmills manufactured by my assignees of this invention. To one extremity of this pitman is attached a pitman-bar E, the other end of which bar is fitted upon a wrist-pin F, carried by the internal gear G. This gear may be of any approved type, so long as it is provided with internal teeth. In the present case it is constructed with a disk II, having a hub I and a rim J. It is mounted upon a stud or shaft K, carried by the bearing-block B.

On the main shaft L is placed an external toothed pinion M. It will be observed from the drawing that the pinion is within the circumference of the rim J and is intermeshed with the teeth of said rim. It will also be noticed that a plurality—three in the present instance—of the teeth of the pinion are engaged with the teeth of the gear-rim. This is due to the fact that the rim encircles the pinion. Thus it will be seen that when the main shaft is rotated with its pinion the internal gear-wheel G will also be rotated, though at a reduced speed, and as several of the teeth of the pinion are always engaged with the teeth of the rim no lost motion will occur as the wrist-pin passes the center, and the strains are changed from a pull to a push upon the pitman-bar

E. The actuating-rod O connects with the pitman D in any approved manner at P, and extends down from the tower to the appliances to be operated—say a pump.”

In the patent the inventor also briefly sums the invention and its advantages as follows:

“The invention consists, essentially, of an improved back-gear organization involving an external-toothed pinion and an internal-toothed spur-gear, the pinion being mounted on the wheel-shaft and the gear having formed on or connected with it the wrist-pin, to which the operating-pitman is attached, whereby



the speed of the main shaft as applied to the wrist-pin and pitman is reduced, and whereby, also, all pounding and lost motion is prevented as the pitman-connection passes over the center and changes from a pushing to a pulling action. This object is accomplished by the fact that a plurality of the pinion-teeth are always engaged with the internal spur-gear, resulting in giving

a perfectly uniform and smooth and noiseless reciprocating motion to the actuating-rod thereby prolonging the life of the machine by saving it from constant jarring and preventing wear and tear.

* * *

The freedom of the organization from lost motion and sudden jerks as the wrist-pin passes over the center renders the operation of the pump smooth and regular. This increases the effectiveness of the pump and prevents undue wear and tear.”]

Mr. Justice Brown delivered the opinion of the court.

* * *

The principal mechanism of an ordinary pumping-windmill is directed to the conversion of the rapid rotation of the wind-wheel into the perpendicular reciprocating movement of an ordinary pumping-shaft. This is accomplished in much the same way that the revolution of a water-wheel is made to operate an upright saw, namely, by means of a pitman—of different forms, but always with the object of converting one motion into another. In doing this the revolving wheel, during one-half of a complete revolution, pulls, and during the other half pushes, upon the pitman. This change from a pulling to a pushing motion is accompanied, as the pitman-rod passes over the center of motion by a pounding, which not only produces a peculiar noise, but a strain upon the mechanism, resulting in frequent breakages. These poundings naturally increase in force as the mechanism becomes worn, and are sometimes heavy enough to strip the cogs from the wheels. Before the Martin patent the device usually employed was a small external-toothed wheel or pinion mounted upon the shaft of the wind-wheel, the cogs of which interlaced with the teeth or cogs of a large spur-wheel, also externally toothed, and revolving at a greatly reduced speed, to which the pitman-bar was attached. As both wheels were fitted with teeth on the outer edge of the rim, the consequence was that as each wheel presented its convexity to the other, but one or two teeth of either wheel engaged with the corresponding teeth of its fellow, and fractures of the teeth were frequent. There was also a tendency of the two wheels to draw apart. Martin obviated this by providing the large or spur wheel with teeth fitted on the inner side of the rim, whereby the concavity of the rim was opposed to the convexity of the pinion, and a greater number of teeth on each wheel engaged with the corresponding teeth of the other, and the strain occasioned by the change of motion was greatly reduced. That the invention was a useful and popular one is shown by the fact that it went into immediate use, and over three thousand windmills containing the combination are said to have been manufactured and sold since 1890.

Prior to Martin's patent, windmills of this class had been driven

by externally-toothed spur-wheels, interlacing with externally-toothed pinions, and hence were subject to the pounding motion which proved so destructive to the mechanism, and which it was the object of the Martin patent to obviate. The defense to this case is largely based upon the fact that the prior art had shown a large number of instances of spur-wheels, provided with teeth on the inner side of the rim, operated by external-toothed pinions. They are shown to have existed as early as 1841, in a patent to Perry Davis, No. 2,215, for an improvement in windmills, in which cogs fixed upon the inner periphery of the rim, interlaced with an external-toothed pinion, although for a different purpose of keeping the wheel in the wind. They are shown in several numbers of other patents for harvesters, hay-tenders, churns, mowing and sewing machines, and other mechanical movements for the conversion of motion. It would appear from the opinion and dissenting opinion in the case against the Dempster Mill Manufacturing Company, (49 U. S. App., 508,) and from the opinion of the Circuit Court of Appeals in this case, that, while the combination of an external-toothed pinion and internal-toothed spur wheel was common in other mechanisms the only windmill patent in that case offered as an anticipation of Martin's was one granted to Edward Williams, September 19, 1876, No. 182,394, which showed a pitman actuated by two eccentric external-toothed gear-wheels; and that the majority of the court was of opinion that the transfer of the Martin device to windmills for the purpose named in the patent involved invention within the cases of the *Western Electric Co. v. LaRue*, 139 U. S. 601; *Crane v. Price*, *Web. Pat. Cas.* 393, and *Potts v. Creager*, 155 U. S. 597. In the present case, however, not only are there a large number of patents shown containing this combination, but several in which the combination is used for different purposes in the construction of windmills; for instance, in Patent No. 254,527, to George H. Andrews; in Patent No. 500,340, to S. W. Martin; in Patent No. 271,635, to William H. and Clifford A. Holcombe; in Patent No. 273,226, to Peter T. Coffield; in Patent No. 317,731, to Coleman and Turner; and in Patent No. 346,674, to Henry G. Newell, in all of which the system is employed for different purposes in connection with windmills—generally to keep the wheel in the direction of the wind.

It is admitted that in none of the instances in which an internal-toothed wheel is employed in windmills in connection with an external-toothed wheel, is the combination used for the purpose specified in the Martin patent of converting the revolving motion of the wind-wheel shaft into the perpendicular motion of the pump-shaft, though what is known as the *Williams mill* presents the closest analogy. This mill is shown, by the most reliable proof, to have been manufactured at Mishawaka, Ind. as early as 1885, and to have been

sold in considerable numbers. It does not appear to have been a pumping-mill; and the upright shaft, instead of having the reciprocating perpendicular movement of a pumping-shaft, revolved, and furnished, by means of a beveled gear at the lower end of the shaft, a revolving motion to a horizontal shaft used for various purposes upon farms. A large internal-toothed wheel was placed on the outer ends of the arms of the spider to which the wind-wheel arms were bolted, the internal gearing of which wheel engaged with a small gear-wheel or pinion placed on an independent shaft, at the other end of which shaft a beveled pinion was placed, interlacing with a corresponding bevel on the upper end of the upright revolving shaft. As there was no conversion or change of motion, the strain was uniform, and there was no interruption of a continuous motion or a pounding to be provided against. This is undoubtedly a different use from that to which the Martin combination was put; but the question is, whether there is not such an analogy between the several uses in which this combination was employed as to remove its adoption, in the use employed by Martin, from the domain of invention.

The case, then reduces itself to this: The Martin combination had previously been used in a large number of mechanical contrivances for the purpose of converting a rotary into a reciprocating motion, as is notably shown in Patent No. 421,533, to John Wenzin, for a reciprocating gearing; in Patent No. 399,422, to Edward Burke, for a means of converting motion; in Patent No. 89,217, to E. R. Hall, for a wood-sawyer; in reissued Patent No. 2,746, to Christopher Hodgkins, for a sewing-machine; in patent to Krum and Brokaw, for harvesters, and in what is known as Filer & Stowell Company's lath-bolter, a sketch of which is given in the record. The combination had also been used in windmills, but not for the purpose of converting rotary into reciprocating motion, although in the Perkins mill it was used in connection with the shaft of the wind-wheel to transfer power from a horizontal to an upright rotating shaft, which, at its lower end, transferred its own motion by a beveled gearing to another horizontal shaft. The combination of two externally-toothed wheels had also been used in windmills for the purpose of converting rotary into reciprocating motion.

Having all these various devices before him, and whatever the facts may have been, he is chargeable with a knowledge of all pre-existing devices, did it involve an exercise of the inventive faculty to employ this same combination in a windmill for the purpose of converting a rotary into a reciprocating motion? We are of opinion that it did not. The main advantage derived from it arose from the engagement of a large number of teeth in each wheel. This peculiarity, however, inured to the advantage of every machine in which the combination was used for the purpose of converting motion, al-

though the jar produced by the change of motion may not have been sufficient to endanger a small machine. So, too, a reduction of speed is involved wherever the cogs of a small wheel engage with the cogs of a large one. Martin, therefore, discovered no new function; and he created no new situation, except in the limited sense that he first applied an internal gearing to the old Mast-Foos mill, which was practically identical with the Martin patent, except in the use of an internal gearing. He invented no new device; he used it for no new purpose; he applied it to no new machine. All he did was to apply it to a new purpose in a machine where it had not before been used for that purpose. The result may have added to the efficiency and popularity of the earlier device, although to what extent is open to very considerable doubt. In our opinion this transfer does not rise to the dignity of invention. We repeat what we said in *Potts v. Creager*, (155 U. S. 597, 608)—

“if the new use be so nearly analogous to the former one that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use.

The line between invention and mechanical skill is often an exceedingly difficult one to draw; but in view of the state of the art as heretofore shown, we cannot say that the application of this old device to a use which was only new in the particular machine to which it was applied, was anything more than would have been suggested to an intelligent mechanic, who had before him the patents to which we have called attention. While it is entirely true that the fact that this change had not occurred to any mechanic familiar with windmills is evidence of something more than mechanical skill in the person who did discover it, it is probable that no one of these was fully aware of the state of the art and the prior devices; but, as before stated, in determining the question of invention, we must presume the patentee was fully informed of everything which preceded him, whether such were the actual fact or not. There is no doubt the patent laws sometimes fail to do justice to an individual who may, with the light he had before him, have exhibited inventive talent of a high order, and yet be denied a patent by reason of antecedent devices which actually existed, but not to his knowledge, and are only revealed after a careful search in the patent office. But the statute (sec. 4886) is inexorable. It denies the patent, if the device were known or used by others in this country before his invention. Congress having created the monopoly, may put such limitations upon it as it pleases.

The case in the Eighth Circuit was evidently decided upon a wholly incomplete showing on the part of the defendant. * * *

95. **STEARNS v. RUSSELL**, 85 Fed. 218, 29 C. C. A. 121 (1895, Sixth Circuit, Patent No. 389,485).

* * * Before Taft, Lurton, and Severens, Judges.

Taft, J., after stating the case as above, delivered the opinion of the court.

The first issue between the parties is whether the patent before us is to be regarded as a machine merely for lifting and holding pills or as an element of a larger mechanical combination of parts used in the process of pill-dipping. It seems to be the view of the defendant and appellee that other things required to be used in dipping pills can be implied as elements of the claims, and that thereby the novelty of the invention will become clear from the circumstance that no device of any form embodying the pneumatic principle of complainant's bar had ever before been used in combination with pills and a gelatin-bath. To imply as elements of a claim parts not named therein for the purpose of limiting its scope, so that it may be accorded novelty, is contrary to a well-settled rule of the patent law. It was proposed to limit a claim thus in *McCarty v. Railroad Co.*, (160 U. S. 110, 116.) The patent there under consideration was for a car-truck bolster. Mr. Justice Brown, in delivering judgment for the Supreme Court, said (p. 116.) * * * [See *infra*.]

But it is said that the claims of the patent in question here do contain a suggestion of such a combination in the opening words, "In pill-dipping mechanism." We think these words are only used to define the useful purpose to which the patentee intended his device to be devoted and cannot bear the construction by which all the other substances and parts used in dipping pills may be considered as making up the combination claimed.

There is a still more serious objection to such a view in the fact that the other elements which it is sought to introduce into the claims do not, when taken in connection with the specified device, in any proper sense constitute a mechanism or arrangement of mechanical parts that can be patented as such. The complainant's patent is for a pill-holding device and nothing else. It is a tool for manual use. To the extent that the pump or fan, the flexible tube, the chambered bar, and the tubes or nipples of the bar co-operate to hold the pills upon the tube or nipple ends against the force of gravity they form a mechanism or machine; but when considered in relation to the dipping process this machine is merely a tool, exactly as a pin would be a tool used by hand to impale a pill and to dip it into gelatin. The gelatin and its receptacle are not coacting parts of a mechanism of which the bar is also a part. There is no relation between them at all, except as it is initiated and maintained by the voluntary manual and continuously-guiding act of the human operator. It is no more proper to describe the dipping-bar as a

co-element in dipping mechanisms with the pill and the gelatin-bath than it is to describe the ax as a co-element of the log and the chopping-block in mechanism for splitting wood. Mechanism may be defined to be the arrangement and relation of the parts in a machine, and a machine is defined by Professor Robinson in his work on patents (sec. 173) to be—

“an instrument composed of one or more of the mechanical powers, and capable, when set in motion, of producing, by its own operation, certain predetermined physical effects.”

Again, he says (sec. 175) that—

“a machine differs from all other mechanical instruments in that its rule of action resides within itself.”

Within these definitions the chambered dipping-bar, with its pill-seats and the exhaust-pump, is a machine for holding pills, and the bar, the chamber, the pump, and the hollow pill-seats are parts of the mechanism forming the machine operating upon the pills; but when the hand of the operator is needed to turn the bar over and to carry it to the bath and to dip the attached pills into the bath the function of the bar, so far as it has relation to the bath and the dipping process, is that of a tool. Of course we do not mean to say that various mechanical steps taken by means of different tools or machines in operating upon a substance to transform it from one thing to another may not be the subject of a patent; but in such a case the patent is for a process and not for a machine. (*Cochrane v. Deener*, 94 U. S. 780, 787, 788; *Locomotive Works v. Medart*, 158 U. S. 68, 75, 76.) Whether such a process patent might have been valid for the steps in pill-dipping pointed out in complainant's specification we need not discuss, because the complainant as a condition of getting the patent in suit expressly abandoned and withdrew an application for just such a process patent, and he is thereby estopped from contending for any construction of his present patent which would, in effect, secure him the same thing. (*Sutter v. Robinson*, 119 U. S., 530, 541; *Shepard v. Carrigan*, 116 U. S., 593, 6 Sup. Ct., 493; *Leggett v. Avery*, 101 U. S., 256.) What we have to determine in this case, therefore, is whether complainant's chamber-bar was a new invention. First, was the bar itself new? Second, if not, did its use for holding pills involve the inventive faculty on the part of the complainant, who is conceded to have first conceived such use?

The Campbell machine for making buttons and the much earlier devices of Walsh for making heads for trunk-nails, clearly disclosed the method of lifting, holding, and moving small articles like pieces of metal, cloth, wood, and paper from one place to another by attaching them to the ends of hollow tubes connected with an exhaust-chamber, from which the air was withdrawn by a pump, fan, or other exhausting device. Such devices were part of a larger ma-

chine and discharged their functions automatically and at regular intervals. Although the principle of their action, so far as lifting and holding these articles against the force of gravity was concerned, was exactly the same as that embodied in complainant's bar, their form was not precisely the same. The same principle was used in another art—that of the printing-press—for lifting and delivering paper to the press, and in this art we find the complainant's dipping-bar complete, with hardly a variation. It appears satisfactorily that what is called the "tubular carrier" of the paper-delivering device of Sanford C. Cox, patented several years before complainant's application was filed, is substantially in the same form as complainant's bar, operates upon exactly the same principle, and if removed from the Cox machine, as it can be easily, will hold, carry, and dip pills in the same way. It appears that no change is necessary whatever in the Cox carrier to make it suited to pill-dipping, except it may be a reduction in the size of the tubes or pill-seats. Differences between the two bars or carriers are suggested. First, the exhaust-chamber of complainant's bar is connected by a swivel-joint to the flexible rubber tube leading to the air-exhausting machine. This swivel-joint is not in Cox's carrier; but the tube connected to the chamber of the carrier is flexible, and it is quite manifest that the flexibility of the tube, if sufficiently long, would permit the performance of the same function—that of enabling the tube to be turned over—which is the office of the swivel joint in complainant's bar. Again, it is said that the ends of the Cox carrier-tubes are not made of a semi-globular form to form the pill-seats and have rubber rings about them; but it clearly appears that the model made according to the Cox carrier will hold the pills without such seats, and this, too, with or without the rubber rings, which of course were used to make the connection with the paper sheet more close. The very triviality of the differences dwelt upon only emphasizes the substantial identity of the two bars. The Comly carrier for sheets of paper, which is a much earlier device, also quite nearly resembles complainant's carrier in form and principle of operation; but the resemblance is not so close as that of the Cox carrier, and we need not further notice it.

The remaining question is, did it require the inventive faculty to conceive the use of the Cox carrier for pill-dipping and to apply it to that art? It has long been settled that a mere use or function is not the subject of a patent, and also that—

"the inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he conceived the idea of the use or not. (*Roberts v. Ryer*, 91 U. S., 150, 157; *Goshen Sweeper Co. v. Bissell Carpet Sweeper Co.*, 37 U. S. App., 555; 19 C. C. A., 13, and 72 Fed. Rep. 67, and cases there cited.)"

It would seem to follow as a corollary to these two propositions that where it requires substantially no change in the old device to

adapt it to the new use such adaptation cannot be the subject of a patent, no matter how remote and unthought of the new use may be, provided no new force or mode of application be necessary in carrying on such use. Otherwise in case the device has been patented the right of monopoly of the prior patentee is invaded by excluding him from a use of a machine which by the rule stated and the authorities cited above he is entitled exclusively to enjoy. If, however, the adaptation of the old machine to the new use involves a change in its form or operation. it may by the changes and very newness of the use or function become either a new machine or an improvement on the old machine and be patentable as such, or the new use of the old machine may result in a new product which is itself patentable, or the use may be a step in a new and patentable process. The general rule, however, is stated by Mr. Justice Gray, in delivering the judgment of the Supreme Court in *Pennsylvania R. Co. v. Locomotive Engine Safety Truck Co.*, (110 U. S., 490, 494; 4 Sup. Ct., 220,) as follows:

“It is settled by many decisions of this court, which it is unnecessary to quote from or refer to in detail, that the application of an old process or machine to a similar or analogous subject, with no change in the manner of application, and no result substantially distinct in its nature, will not sustain a patent, even if the new form or result has not before been contemplated.”

Tested by this rule we cannot think that the device of the complainant was patentable. Cox's machine was applied to the lifting of sheets of paper by exhausting the air in the hollow points of contact with the paper. Its subject was the lifting of the paper against the force of gravity without hooking or sticking devices. The same principle had been theretofore applied in lifting small articles like buttons, nail-heads, and their component parts. Complainant's machine is a reproduction of Cox's, and its use is to lift pills and hold them against the force of gravity without hooking or sticking devices. There is no change in the manner of operating the machine, and the result is not substantially distinct in its nature, because it is in each case the holding of the article against gravity while it is being lifted from one place to another—in the Cox machine from the pile of paper to the press. in the complainant's machine from pill-magazine to the bath and thence to the drier. We cannot think that such a use is not an analogous use, although never until the complainant did it had such a device been applied to holding up pills while being dipped. There would be more ground for maintaining that the use was non-analogous if it were not that small articles quite like pills had been held up in the same manner. It is quite possible that the conception of the machine by the complainant was a real exercise of the inventive faculty on his part, because he did not know of the Cox or Comly devices or of the Campbell and Walsh

patents; but in judicially estimating the amount of invention in a patented device the court is bound to assume that the history of prior patents and machines having a bearing on the subject-matter was known to the patentee.

The case upon which complainant's counsel most rely is that of *Potts & Co. v. Creager*, (155 U. S., 597.) In that case the patentee had taken the cylinder of a wood-polishing machine, containing a series of glass bars fitted into longitudinal grooves in the periphery of the cylinder, and, discarding the glass bars, had substituted others of steel and provided the cylinder thus changed with an abutting roller and then used it, not for wood-polishing, but for disintegrating clay. The Supreme Court held the patent valid. * * *

In the case at bar it is true that the complainant's device has been very useful in the art of pill-dipping, and if that alone is to determine whether a use is analogous or non-analogous when an old device is used in another art the complainant's device must be sustained as patentable; but it will be observed that Mr. Justice Brown in this very carefully and cautiously worded discussion of the subject includes as very large elements to be considered in reaching a conclusion in any case the changes in the old device required to adapt the old device to the new use and remoteness of the new use. (*Schreiber Co. v. Grimm*, 43 U. S. App., 10, 19; 19 C. C. A., 67, and 72 Fed. Rep., 671.) In the case he was considering the changes were marked. The old device would have been wholly inoperative if applied as it was to disintegrating clay. In the case before us no change was necessary at all except simple disengagement from other parts of a larger machine and a mere reduction in size of the holes in the contact tubes. In *Potts & Co. v. Creager* the old use was polishing wood; the new was disintegrating clay. They were obviously totally different and distinct purposes. Here the old use was lifting and holding paper and small articles, and the new was lifting and holding pills. We are of opinion that, notwithstanding the utility and success of the new application of the device to pill-dipping, the circumstances that no change of form was necessary in the new application and that the functions or purposes new and old were not wholly different and distinct, but were substantially the same, make this a different case from *Potts & Co. v. Creager* and lead to a different result. In *Western Electric Co. v. La Rue*, (55 O. G., 571; 139 U. S., 601; 11 Sup. Ct., 670,) referred to by Mr. Justice Brown above, the invention was of a combination of parts making up a telegraph instrument, the novel element in which was a torsional spring. Such a spring took the place of elements which required the most delicate adjustment and were always getting out of order. The spring had never before been an element in such a combination and had never before discharged the same function. The case has no likeness to the one before us. In *Colgate v. Tele-*

graph Co. (15 Blatchf., 365; Fed. Cas., No. 2,995,) it was held that the use by the patentee of an electric wire covered with gutta-percha to insulate it was not a double use, though gutta-percha had been used for protecting from abrasion or injury from without a metallic wire which was not used to conduct electricity. Here the new use involved a new force. The wire and the covering each discharged new functions, and the invention was manifestly a different one from that involved in merely covering wire to protect it. The cases of *Williames v. McNeely*, (64 Fed. Rep., 766,) and *Williams v. Barnard*, (41 Fed. Rep. 356,) cited for appellee, throw little light on the case at bar, because in those cases the patents were sustained on the ground that ingenuity was shown in devising the mechanism needed to apply the principle of the old machine to the new use.

The cases in which it has been held that an old machine applied to a new purpose is not a new patentable machine are so numerous that it would take too much space to cite them all. In addition to those already cited may be mentioned *Howe v. Abbott*, (2 Story, 190; Fed. Cas., No. 6,766;) *Bean v. Smallwood*, (2 Story, 408; Fed. Cas., No. 1,173;) *Knapp v. Morss*, (15 U. S., 221; 14 Sup. Ct., 81;) *Aron v. Railway Co.*, (132 U. S., 85; 10 Sup. Ct. 24;) *Ansonia Brass & Copper Co. v. Electrical Supply Co.*, (144 U. S., 11, 18; 12 Sup. Ct. 601;) *Busell Trimmer Co. v. Stevens*, (137 U. S., 423; 11 Sup. Ct. 150;) *Dunbar v. Tack Co.*, (4 Ban. & A., 518; Fed. Cas., No. 4,127a; *Moffitt v. Rogers*, (8 Fed. Rep. 147;) *Miller v. Foree*, (116 U. S., 22; 6 Sup. Ct. 204;) *Lovell Manufacturing Co. v. Cary*, (147 U. S., 623; 13 Sup. Ct. 472;) *Kay v. Marshall*, (2 Web. Pat. Cas., 36;) *Harwood v. Railway Co.*, (11 H. L. Cas., 654.) The case of *Manufacturing Co. v. Cary* had some points of resemblance to the case before us. The patent there was for a process of restoring the resiliency of furniture springs by heating them to a great heat. The invention was said to have revolutionized the art; but it was held that the prior use of the same method for tempering wire clock-bells and blued hair-springs in marine clocks made the patented process only a double use, although the furniture and clock making arts would not seem to be very nearly allied. Following language used in *McClain v. Ortmyer*, (141 U. S., 419, 428; 12 Sup. Ct., 76,) the court said of the argument founded upon the extent to which the article had gone into use that—

“while in a doubtful case the fact that a patented article had gone into general use is evidence of its utility, it is not conclusive even of that, much less of its patentable novelty.”

See, to the same point, *Knapp v. Morss*, (150 U. S., 221; 14 Sup. Ct., 81.)

Professor Robinson, in his valuable work on patents, (sec. 269,) states the rule which he conceives to be applicable to a case like this as follows:

“Where an invention consists of a specific force applied in a specified manner, but without reference to specific objects, diversity of use may arise from a change of objects, the diversity being double use if the substituted object were already known as capable of substitution, but being a new invention if this susceptibility of that object were first discovered by its use.”

Even judged by this rule, which is certainly more liberal than that laid down in many of the authorities, we cannot see how any other conclusion than that already expressed can be reached in the case at bar. It was known that pills had the same susceptibility of being held up against the force of gravity by pneumatic pressure that other small articles and that paper sheets had. Of course pills had not been so held; but, assuming a knowledge that paper, buttons, small pieces of cloth, metal, cardboard, and nail-heads could be so lifted, there was nothing about a pill which would lead the ordinary observer to suppose that it was not equally susceptible to the same operation. Hence the use of the same device for holding pills was a double use and not a new invention.

A suggestion has been made that the pill, being rather soft and round, might suggest difficulties in the creation of a partial vacuum behind it that would be absent in hard bodies like buttons and nail-heads, because the latter would make a closer contact with the cupule or sucker-tube; but we cannot think that there is anything of substance in this suggestion. The question of a sufficient vacuum is only a matter of degree, and it was manifest that the difficulty, if any existed, might be obviated by a slight change in the form of the tubes at their ends and in the power of the suction. The conclusion we have reached makes it unnecessary to consider the question of infringement.

The decree of the Circuit Court is reversed, with directions to dismiss the bill.

96. *IN RE EASTWOOD*, 33 App. D. C. 291, 144 O. G. 821, 1909 C. D. 418 (1909).

* * * Robt., J.:

The patent office takes the position that one possessing the general knowledge of the use of a magnet to lift articles would easily see that he might lift a drop-weight as well with a magnet. This contention is met, however, by the affidavits of Clark and Burrell and by the dates of the references. Wellman's patent, covering the use of electromagnets for lifting articles, had been in force for ten years, while Wenrich's patent on a skull-cracker had been granted twenty-three years. If this was such an obvious thing to any one

having a knowledge of the use to which electromagnets had been put, it is somewhat remarkable, considering the utility and apparent demand for this device, that no one should have thought it worth while to construct it. While the skull-cracking art and the art of transporting finished iron products are somewhat analogous, it must be held, in view of the evidence in this record, that the combination of a metal or skull-cracking weight with a lifting-magnet and a traveling crane is new. * * *

"It is not sufficient," says Mr. Justice Brown, in *Topliff v. Topliff* (145 U. S., 161), "to constitute an anticipation that the device relied upon might, by modification, be made to accomplish the function performed by the patent in question, if it were not designed by its maker, nor adapted, nor actually used, for the performance of such functions."

It is a general rule that, if a new combination and arrangement of known elements is productive of a new and useful result, it is evidence of invention. (*Loom Co. v. Higgins*, 105 U. S., 580.) And, the argument advanced, after the combination has been effected and the new result obtained, that any one could have done the same thing ought not to receive great consideration in a case like this where ten years elapsed before the combination became an accomplished fact. Especially is this true when a material advance has been made in the art involved. Neither are we impressed with the argument that, because of the grant of a patent to appellant, no one possessing the right to use the lifting device of Wellman could use it as a skull-cracker. The obvious answer to this argument is that Wellman's device was neither designed for, nor used, as a skull-cracker. Indeed, without the co-operation of the weight it could not be used for that purpose.

Potts v. Creager, (155 U. S., 597), involved a patent covering a machine to disintegrate clay. The patent principally relied upon as anticipating the Potts patent was the one upon the device known as the "Creager wood-polishing machine." In that device there was a cylinder provided on its periphery with a series of projecting strips or bars of glass not materially differing in form from the scrapers on the Potts device. The Creager machine, however, was used for polishing boards. The court said: * * * [See Case No. 91.]

In this case the inventor has taken Wenrich's device and combined it with that of Wellman and has thereby produced a structure that will undoubtedly completely displace and supersede the device of the prior art. He has taken the cumbersome and expensively-operated device of the prior art and, by combining it with other devices in other arts, has added greatly to its efficiency, and at the same time materially reduced the cost of its operation. He has in fact as well as in law produced a new device, and it seems to us that the spirit and purpose of the patent laws will be subserved by

the grant of a patent to him for achieving this result. If the discovery was a trivial one following closely the issuance of patents upon the elements of the combination, we would view the case with less liberality, which is equivalent to saying that the facts of each case must control the decision upon the application.

Claims 3 and 4 include merely the form of the magnet disclosed in the prior Eastwood patent. If that patent is valid, appellant will be fully protected by the allowance of claims 1, 2 and 5. If it is invalid, it will add nothing to his protection to include claims 3 and 4 here.

For the reasons stated it is our opinion that the commissioner erred in rejecting claims 1, 2 and 5, and his decision to that extent is reversed; and the clerk of this court will certify this opinion and the proceedings in this court to the Commissioner of Patents, as required by law.

Mr. Chief Justice Shepard dissenting.

97. **TANNAGE PATENT CO. v. ZAHN**, 70 Fed. 1003, 17 C. C. A. 552 (1895, Third Circuit).

* * * Before Acheson, Dallas, and Butler, Judges.

Dallas, J.:

This suit was brought upon two patents (Nos. 291,784 and 291,785), granted to Augustus Schultz on January 8, 1884, for processes for tawing hides and skins. Each of these patents contains a single claim, as follows:

"No. 291,784: The within-described process for tawing hides and skins, said process consisting in subjecting the hides or skins to the action of compounds of metallic salts—such as a solution of bichromate of potash—and then treating the same with a compound containing hyposulphurous acid, (or, as it is otherwise called, 'thiosulphuric' acid), such as a solution of hyposulphite of soda or of potash in the presence of hydrochloric acid.

No. 291,785: The within described process for tawing hides and skins, said process consisting in subjecting the hides or skins to the action of a bath prepared from a metallic salt—such as bichromate of potash—and then to the action of a bath capable of evolving sulphurous acid—such as a solution of sulphite of soda—in presence of another acid—such as hydrochloric acid—substantially as described."

The defense mainly relied upon were, first, insufficiency of specification, and, second, want of novelty. The learned judge held the specifications to be sufficient, and his opinion amply supports that conclusion; but he dismissed the bill on the ground that the patents were invalid for lack of novelty of their subject-matter, and in this we think there was error. For the purposes of this case he properly treated the processes of the two patents as being "practically alike."

and directed his attention to determining "what was the exact discovery of Schultz." His understanding that it was of a process, of—"a mode of treating certain material to produce a given result," was undoubtedly correct; but we are unable to acquiesce in the view which he took of the process itself. It is not a process for the treatment of any material whatever to produce a varying or indefinite result. It is a process solely for "tawing hides and skins" by subjecting them to a chemical action, with the definite object of converting them into leather. It may be conceded that, abstractly considered—

"saturation with acid, and the converting of that saturating acid into oxide by chemical reduction, must * * * be always the same—"

chemical operation; but it does not follow that when that operation is applied to different materials to accomplish dissimilar results the process must be in every instance identical. The question is not whether the agents employed and their influence each upon the other are the same, but whether the same practical result, or a sufficiently related one, is produced in the one case as in the other. Tried by this test one class of the references relied on to show anticipation was clearly without relevancy. In "dyeing and printing on fabrics" and in the "treatment of wools" the end finally accomplished is not at all analogous to that of manufactured leather. The same ingredients may be used to reach the one result as the other; but they are not used for a like purpose. They do not affect the different materials in the same way, and the product evolved in the one case is wholly unlike the change effected in the other. The fact that hides are substituted for fabrics or wool and that the thing produced is leather and not dyed fabric or treated wool distinguishes the two processes. The art of dyeing and of leather-making are wholly unallied, and therefore the doctrine of double use has no pertinency. Some of the observations made by the Supreme Court in *Potts v. Creager*, (155 U. S., 606), are directly in point. It was there said:

"On the other hand, if the transfer be to a branch of industry but remotely allied to the other, and the effect of such transfer has been to supersede other methods of doing the same work, the court will look with a less critical eye upon the means employed in making the transfer. * * * Indeed, it often requires as acute a perception of the relation between cause and effect, and as much of the peculiar intuitive genius which is characteristic of great inventors, to grasp the idea that a device used in one art may be made available in another, as would be necessary to create a device *de novo*."

See, also, *National Cash Reg. Co. v. Cash Indicator Co.*, (156 U. S., 502.)

Of the remaining references it will suffice to mention the patent which was mainly discussed by the court below, and as to which

the defendant's expert testified that it more nearly resembles the process of the patent in suit than any other of the patents and publications referred to. The patent alluded to was granted December 15, 1856, to Joseph Wilson Swan for improvements in the treatment of gelatinous tissues of gelatine and gum and of compounds containing such substances. In his specification Swan said:

"My invention consists in the use of salts of sesquioxide of chromium, as, for example, sulphate of the sesquioxide of chromium, or the substance known in commerce as chrome-alum, as a means of rendering gelatine or gum (Senegal or Arabic), or compounds containing those substances, insoluble in water.

My invention is applicable to various uses, for example, to the fixing of pigments and dyes in printing and dyeing textile fabrics when the pigment or dye is thickened with gelatine or gum; to the tanning of skins and hides; to the fixing of photographs mounted with gelatine; to the fixing of prints produced in gelatinous ink; to the rendering insoluble of gelatine, used as a glaze or varnish, or for the purpose of waterproofing; to the production of sheets of insoluble gelatine, and to the preparation of photographic paper, sized with gelatine or gum.

* * *

In tanning I immerse the skins or hides in a solution containing about one per cent. of chrome-alum, or in a solution of chromate or bichromate of potash, or other suitable chromate or bichromate, and I decompose the said chromate or bichromate in the skin or hide by means of oxalic or other suitable acid, so as to produce by the decomposition and reduction of the said chromate or bichromate the required compound of chromic oxide."

Swan supposed that the process which he described might be applied to tanning, as well as to the other "various uses" which he enumerated; but it has been clearly proved that in this he was mistaken; and it is probable that he was led into this mistake by erroneously assuming that any treatment which would accomplish—what, apparently, was his primary and general object—the rendering of gelatine insoluble would also convert hides into leather; but leather never has been made by the Swan process, and it never can be, and this fact alone demonstrates its insufficiency as an anticipation, and of course indicates—as has, however, been independently shown—that the Swan process and that of the patents in suit are substantially different. Swan's description was not designed to suggest the Schultz method, and it certainly never did suggest it to any one.

As we have already said, we deem it unnecessary, as did the court below, to discuss the other patents which were introduced to defeat the patents of Schultz. Our examination of them has satisfied us that if the Swan patent was not an anticipation, and we are clearly of opinion that it was not, none of the others can be taken to con-

flict with the claims of Schultz or would justify the characterization of his performance as skillful merely and not inventive. To the art of leather-making he supplied a method which was new and highly useful, and which was far from being obvious.

The decree of the Circuit court is reversed.

98. TAYLOR v. SAWYER SPINDLE CO., 75 Fed. 301, 22 C. C. A. 203 (1896, Third Circuit, Patent 253,752).

Acheson, Wales, Green, Judges: * * *

The Cramer patent is only "a paper patent," and has never been put into practical use, and may be considered as an abandoned experiment. It belongs, however, to the same class as the other centrifugal machines which have been referred to as anticipations of the flexible devices of Atwood to show that the latter are only reproductions of the former. As we have seen, they are very different. The clamping-nut and rubber spring used by Cramer have little or no analogy to the spiral spring and the provision made for regulating its tension as described in the Atwood patent. The centrifugal machine must have a strong foundation to rest upon, and to which it is "securely and safely" fastened, while the spinning-spindle is sustained in mid-air by the rail on which it is loosely mounted; but, admitting the existence of a closer resemblance and analogy between the two classes of machines than have been shown, it by no means follows that the Atwood spindle would come within the rule of "a double use," and thus fall short of invention and patentability. In the recent case of Potts & Co. v. Creager, (155 U. S., 607,) Mr. Justice Brown, speaking for the Court, said:

"Indeed, it often requires as acute a perception of the relations between cause and effect, and as much of the peculiar inventive genius which is a characteristic of great inventors, to grasp the idea that a device used in one art may be made available in another, as would be necessary to create the device *de novo*. And this is not the less true if, after the thing had been done, it appears to the ordinary mind so simple as to excite wonder that it was not thought of before; but the decisive answer is that with dozens, and perhaps hundreds, of others laboring in the same field, it had never occurred to any one before. * * * As a result of the authorities upon the subject, it may be said that, if the new use be so nearly analogous to the former one that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use; but if the relations between them be remote, and especially if the use of the old device produce a new result, it may at least involve an exercise of the inventive faculty."

To the same effect are *Du Bois v. Kirk*, (158 U. S., 58,) and *Tannage Patent Co. v. Zahn*, (17 C. C. A., 552; 70 Fed. Rep., 1003.) In *Topliff v. Topliff*, (145 U. S., 156,) the Court held it—

"not sufficient, in order to constitute an anticipation of a patented invention, that the device relied upon might, by modification, be made to accomplish the function performed by that invention, if it were not designed by its maker, nor adapted, nor actually used, for the performance of such function." * * *

99. MODEL BOTTLING CO. v. ANHEUSER, 190 Fed. 573 (C. C. A. Eighth Circuit, 1911, Patent [mechanical] No. 607,304 and [process] No. 768,550).

Before Sanborn, Van Devanter Circuit Judges and Munger, District Judge:

Wm. H. Munger, D. J.:

* * *

We can perceive of no difference in the machine or apparatus of complainant and that of Leach, or in their operation, excepting that the receiving receptacle in Leach's is in form tubular, in which bottles would have to be placed horizontally, while in the complainant's apparatus the bottles can be placed perpendicularly. But such a change in form of the receptacle in these respects is one which would readily suggest itself to a person of ordinary mechanical skill.

The art of curing fish and pasteurizing beer to preserve it are analogous. *Brown v. Piper*, 91 U. S. 37, 23 L. ed. 200; *Roberts v. Ryer*, 91 U. S. 150, 23 L. ed. 267. Hence complainant's apparatus for pasteurizing beer is but a double use of Leach's apparatus for curing fish. For such reason, the first claim of complainant's patent No. 607,304, alleged to be infringed, is void. *Crescent Brewing Co. v. Gottfried*, 128 U. S. 158, 9 Sup. Ct. 83, 32 L. ed. 390; *Aron v. Manhattan Ry. Co.*, 132 U. S. 84, 10 Sup. Ct. 24, 33 L. ed. 272; *Thomson-Houston Electric Co. v. Rahway Electric L. & P. Co.* (C. C.) 95 Fed. 660; *W. F. Burns Co. v. Mills*, 143 Fed. 325, 74 C. C. A. 525; *American Brake Shoe & Foundry Co. v. Railway Materials Co.* (C. C.) 143 Fed. 540.

* * *

100. SEABURY v. AM ENDE, 152 U. S. 561, 38 L. ed. 553, 14 Sup. Ct. 683 (1894, Patent No. 181,024).

* * *

Mr. Justice Shiras delivered the opinion of the Court.

The specification and claim of the patentee were in the following terms:

"This invention has for its objects to combine the various advantages of cotton-fiber with those possessed by boracic acid and glycerine for preserving animal and vegetable matter from decay.

"Heretofore boracic acid has been used as a preservative agent in a fluid state, and also as a powder. In use, the matter to be pre-

served had to be immersed in the solution of boracic acid, or completely covered with the powder. In either case, a very large quantity of boracic acid was used.

“My present invention, which consists in saturating cotton-fiber with boracic acid and glycerine in a manner hereinafter described, enables me to apply a very small proportion of boracic acid and glycerine to the cotton-fiber with fully as good an effect as though the matter to be preserved were entirely embedded in large quantities of the solution or powder. It enables me, at the same time, to utilize the germ-filtering properties of the cotton, and its elasticity as a superior material for packing or covering delicate tissue.

“I produce my improved borated cotton as follows: I first prepare a solution of boracic acid in the usual manner, and add thereto a small proportion of glycerine. For the preservation of tender substances, such as veal, I may also add from ten to forty per cent. of soda or potash, never sufficient, however, to reach neutrality. The cotton, either in bulk or wadding, is next immersed in the solution until well impregnated therewith, and then pressed, to discharge all surplus solution, or so much thereof as may be required. The cotton is then dried and ready for use.

“When applied to the material to be preserved, either as a covering or as a wrapping or packing, the cotton will constitute a filter for keeping germs of putrefaction from passing through, and the boracic acid absorbed by the cotton will, at the same time, preserve the surfaces from decay, and counteract all injurious influences of germs, or other elements of destruction, already in contact with such surfaces.

“The glycerine is added to increase the preserving power of the borated cotton. It renders the cotton slightly hygroscopic, thus aiding in the diffusion of the acid and in the preservative effect of the prepared cotton.

“I have found that the impregnated fiber shows, even under a good microscope, no difference from a fiber not impregnated with boracic acid, and that, therefore, although a very thin film of acid may adhere to the exterior surface of the fiber, the main proportion of the acid is absorbed by and diffused within the fibers. In consequence, the acid can, in use, be but gradually released from the fiber, and will thus produce a constant and lasting effect.

“I claim—

“The borated cotton, being cotton fiber which is saturated with boracic acid and glycerine, substantially as herein shown and described.”

The first ground of defense relied on is that the patentee has failed to describe his invention in such full, clear, and exact terms as to enable persons reading the description of the invention to construct

and use it; and it is contended that the strength of the boracic-acid solution is not prescribed, nor the precise proportion of glycerine. In considering this objection it must be remembered that the description is addressed to persons skilled in the art to which it relates. The solution of boracic acid is referred to, not as anything new, but as an article well known to druggists and physicians, and when the patentee says that he "prepares a solution of boracic acid in the usual manner," he means as it has formerly and customarily been prepared. When he directs that a small proportion of glycerine shall be added, it is obvious that the quantity of the glycerine is to vary with the amount of cotton and boracic acid used, but that the merits of the invention will not depend on whether, in a given case, a little more or less glycerine is used. Such general directions are common in the arts, as appears in some of the very publications introduced by the defendant to show anticipation. Thus in the Druggists' Circular and Chemical Gazette it is stated that Doctor Edmunds had used "a solution of boracic acid;" and in the Journal de Pharmacie it is said that, in making his dressing, Professor Gubler saturated his wadding with "a certain quantity of glycerine," and his formula is thus given:

"It is only necessary to pour a small quantity of glycerine over the square sheet, etc."

We, therefore, agree with the court below in thinking that—"an intelligent chemist, setting out properly to combine the enumerated ingredients into which the cotton is to be immersed, and with which it is to be impregnated, could hardly go astray."

It is also to be observed that neither the defendant, in making the infringing article, nor the several witnesses of eminence in the medical profession, who testified to the practical value of the patented dressing, seem to have had any difficulty in understanding and applying the description contained in the patent.

In Webster Loom Co. v. Higgins, 105 U. S. 580, where the sufficiency of a description was in question, it was held that a specification in Letters Patent is sufficiently clear and descriptive when expressed in terms intelligible to a person skilled in the art to which it relates.

The next contention is, that as the plaintiffs' patented dressing was composed of materials whose specific virtues and modes of operation were well known, there was no invention shown in combining them in the manner described. It is, indeed, true that the patentee did not claim to have been the first to suggest the use of cotton-fiber as a means of excluding germs from wounds or from the article to be protected. Nor did he claim to have first discovered the antiseptic qualities of boracic acid or the hygroscopic property of glycerine. But the patentee was the first to perceive that by combining these articles, in the manner he pointed out, there would be formed a convenient and permanent dressing with the desirable qualities of the several constituents. The complainant's evidence

satisfactorily shows that, in such a dressing, the cotton acts as a screen to exclude germs and as a vehicle to hold the other ingredients; that the boracic acid possesses marked antiseptic qualities, but is liable, if used alone, to dry on the cotton and to form crystals, which impair the antiseptic qualities of the acid, and which mechanically scratch or irritate the sensitive surface of a wound; and that the glycerine, owing to its property of absorbing moisture from the atmosphere, keeps the boracic acid from hardening or crystallizing, and besides adds somewhat to the healing and preservative power of the dressing.

The merits of the complainant's invention received immediate and widespread recognition, and the article came into use, not only to protect animal substances for alimentary purposes, but, and chiefly, to protect wounds from infection and suppuration. It was introduced into hospitals and into the private practice of physicians, and, in fact, has become a staple article for medicinal purposes.

But it is further contended that there was no novelty in complainant's invention, because it had been anticipated by others. To sustain this contention the defendant put in evidence an article published in the American Journal of Pharmacy for November, 1871, at page 516, where it is stated that Professor Gubler, at a recent meeting of the Academy of Medicine, had exhibited some specimens of wadding prepared by saturating it with a certain quantity of glycerine, which he had found to render it permeable to all medicinal liquids, without causing it to lose any of its suppleness and lightness. Also, an article in the same journal, for March, 1867, at page 149, wherein Doctor Adolphus stated that—

“applied to suppurating surfaces which are painful and produce an ichorous pus, glycerine dressings change the abnormal condition by arresting the degenerating process, through its antiseptic and astringent properties.”

The defendant likewise put in evidence a copy of The Druggists' Circular and Chemical Gazette, for June, 1875, wherein there is an account of treatment by Doctor Edmunds, in the case of an amputated thigh, by a dressing of lint steeped in a hot solution of boracic acid, with most satisfactory results in preventing putrefactive discharge.

Undoubtedly this evidence shows that the specific qualities of glycerine and of boracic acid were known, and that those articles had been successfully used in the instances narrated. But we agree with the court below in thinking that—

“this evidence does not disclose that any one prior to Am Ende accomplished what he has described and claimed; that the fact that others had done something quite similar, and had used separately, or in different combinations, the ingredients of his claim, should not affect his patent. All that is described in the prior publications the

defendant may use with perfect immunity. They may use 'lint steeped in a hot saturated solution of boracic acid,' or 'wadding saturated with a certain quantity of glycerine,' or boracic acid dissolved in glycerine; but they should not be permitted to use cotton combined with a solution of boracic acid and glycerine in the manner described in the specification for that belongs to Am Ende." * * *

101. *GANDY v. MAIN BELTING CO.*, 143 U. S. 587, 36 L. ed. 272, 12 Sup. Ct. 598 (1892, Patent No. 228,186).

* * *

This was a bill in equity for the infringement of letters patent No. 228,186, issued June 1, 1880, to Maurice Gandy, for an improved belt or band for driving machinery, and an improved mechanical process of manufacturing the same. * * *

The machinery for manufacturing the belting is also set forth in the specification, but the only claim alleged to be infringed in this case was the second, which reads as follows: "(2) The improved article of manufacture consisting of a hard, even-surfaced, rigid, impervious, non-elastic belt, composed of cotton canvas or duck having its warp thread larger than the weft, both warp and weft being hard spun, the fabric tight-woven and folded, stitched, and saturated with linseed oil."

Mr. Justice Brown, after stating the facts in the foregoing language, delivered the opinion of the court. * * *

It is true that the language of this section (4886) contains no restriction as to the place or country wherein the public use is made of the invention; but taken in connection with section 4887, providing that no person shall be debarred from receiving a patent by reason of the invention being first patented abroad, "unless the same has been introduced into public use in the United States for more than two years prior to the application," we think that the public use or sale contemplated by section 4886 must be limited to a use or sale in this country. That this was the intent of congress is also manifest from section 4923, providing that whenever it appears the patentee believed himself to be the original and first inventor of the thing patented his patent shall not be held void "on account of the invention or discovery, or any part thereof, having been known or used in a foreign country before his invention or discovery thereof, if it had not been patented or described in a printed publication." So, also, in section 4920, providing what the defendant may plead under the general issue in actions for infringement, there is included the defense "that it had been in public use or on sale in this country for more than two years before his application for a patent, or had been abandoned to the public."

Taking all these provisions of the patent law together, we think it was manifestly the intention of congress that the right of the patentee to his invention should not be denied by reason of the fact that he had made use of it, or put it on sale abroad, more than two years before the application, provided it were not so used or sold in this country.

3. The questions of novelty and utility may properly be considered together. There is much testimony tending to show that Gandy believed himself to be the inventor of a belting made of hard-woven canvas, stitched and saturated with oil, and that the importance of having the warp stouter than the weft was not fully appreciated by him, and hence was not made an element of the claim of his original British patent. The testimony, however, shows that the canvas or duck ordinarily used for sails is made with the weft as stout, if not stouter, than the warp, and that such canvas was found to be impracticable for belting on account of its liability to stretch or to crack in passing around the smaller pulleys. His first belts, made of ordinary soft canvas, proved to be wholly impracticable, owing to their apparently endless capacity for stretching. He next experimented with hard-spun and tight-woven canvas, specially manufactured for this purpose. This did not stretch, but developed another fault, of wrinkling and cracking when running around pulleys. This he obviated by saturating it with linseed oil; but found another objection in the unequal strain on the several thicknesses when passing around the pulleys, which tended to break the stitching and permitted the plies to separate. He then conceived the idea that by decreasing the thickness of the belt, without diminishing its tensile strength, he would bring the diameter of the exterior plies more nearly level with the inner plies next the pulley, and thus more nearly equalize the strain on all parts of the belt, increasing its effective strength, and diminishing the tendency of the plies to separate or wrinkle. It is obvious, even to a non-expert, that, if the belting be made very thick, there is a much greater strain upon the exterior plies, when passing around a small pulley, than upon the inner plies, and that the effect must be both to unduly strain the exterior plies, rendering them liable to break, and to wrinkle the inner ones, subjecting them to the danger of cracking; and that the ideal belting would be made as thin as would be consistent with the requisite strength and inflexibility. In view of the fact that previous attempts, of which there appear to have been several, to make a practical canvas belt, had been failures, and that Gandy had been experimenting with the subject for several years before he discovered that a change was necessary in the structure of the canvas itself, we do not think his improvement is a change in degree only, or such a one as would have occurred to an ordinary mechanic, and our opinion is that it does involve an exercise of the inventive faculty. The change is such as would only have occurred

to one familiar, not alone with the impossibility of making a practical belt out of the ordinary canvas, but to one who had bestowed considerable thought upon the method of overcoming the difficulty. While some of the testimony would seem to indicate that there is no great advantage in this method of construction, we think the fact that it has been largely adopted by manufacturers, and that all the modern improved belting ordered or made by Gandy, and in general use both in this country and in Europe, is made in this way, is, for the purposes of this case, sufficient evidence of its utility. *Magowan v. Packing Co.*, 141 U. S. 332, 12 Sup. Ct. Rep. 71. * * *

102. ARLINGTON MFG. CO. v. CELLULOID CO., 97 Fed. 91, 338 C. C. A. 60 (1899, Third Circuit).

Before Dallas, Circuit Judge, and Buffington and Bradford, District Judges.

Bradford, District Judge. This is an appeal from an interlocutory decree sustaining letters patent No. 546,360, issued September 17, 1895, to Stevens & Harrison, and No. 542,452, issued July 9, 1895, to Thurber & Schaefer. Both patents are owned by the appellee. The defenses are lack of novelty and of invention and non-infringement. This appeal has twice been argued, by reason of the retirement of Judge Butler from the bench after the first hearing and before a conclusion was reached as to the disposition of the case.

The claims of patent No. 546,360 are as follows:

"1. The method of producing a pyroxyline compound in imitation of onyx, consisting, first, in forming the light-tinted parts in solidified strata; second, cutting through these strata across their edges; third, inserting coloring matter between the cut parts, and, fourth, solidifying the whole into blocks, shapes or masses, substantially as described.

"2. The method of producing a pyroxyline compound in imitation of onyx, consisting, first, in forming the light-tinted parts in solidified strata; second, cutting through these strata across their edges; third, inserting a pyroxyline composition of a different color between the cut parts, and, fourth, solidifying the whole into blocks, shapes or masses, substantially as described.

"3. A pyroxyline compound in imitation of onyx, consisting of two or more light tints in solidified strata with lines of a different color breaking through or crossing the edges of these light-tinted strata, substantially as described.

"4. A rod or sheet of pyroxyline composition in imitation of onyx, consisting of two or more light tints with streaks of a darker color breaking through or interspersed with the lighter tints, substantially as described."

This patent cannot be sustained on the ground merely that the production of a pyroxyline compound in imitation of onyx or its

production in the manner described in the specification was novel. It is necessary that such production should also have involved invention. As was said in *Thompson v. Boisselier*, 114 U. S. 1, 11, 5 Sup. Ct. 1047:

“It is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known, and that it shall be useful, but it must, under the constitution and the statute, amount to an invention or discovery.”

The properties and characteristics of celluloid and other pyroxyline compounds were understood long before the date of the alleged invention. It was known that they could be rendered plastic by heat and when in that condition moulded or pressed into such shapes or forms as might be desired. It was also known that by the introduction of coloring matter different colors or tints could be imparted to the finished product and that by subjecting, while plastic, two or more sheets or pieces of celluloid different in color or tint to a rolling or other kneading or mixing process the different colors or tints could be blended in such manner in the finished product as to present a variegated, veined, mottled or clouded appearance, and cause such product to imitate a variety of natural objects or substances. Indeed in the specification of the patent it is said:

“Solid or massive pyroxyline compounds, as is well known, owe their commercial importance largely to their susceptibility to coloring treatment and manipulation essential to the production of imitations of natural substances—like mottled amber, tortoise-shell, veined ivory, carnelian, etc. * * * Methods of coloring the pyroxyline compositions used are well known and it is unnecessary to describe the coloring-matter or pigments used.”

In view of the prior state of the art as disclosed in the record, we do not think that either the production or the method of production of the onyx base involved invention, but rather the exercise of judgment and skill in the selection and combination of colors and in the regulation of the amount of rolling or kneading which the plastic celluloid should undergo in order to effect the desired blending of tints and shades. Was there patentable novelty or invention in the cutting of the layers or strata of the celluloid and the insertion between the cut parts of coloring matter for the imitation of the streaks or veins of the natural onyx? It appears that the complainant and its predecessor, The Celluloid Manufacturing Company, as early as 1884 manufactured and have since continued to manufacture from celluloid imitation agate and carnelian by the method described and claimed in the France application for a patent for “Improvements in Manufacture of Pyroxyline Compounds, such as Pyralin, Celluloid, etc.” We quote from the application as follows:

"1. The method described for manufacturing pyroxyline compounds in imitation of agate and similar minerals, said method consisting in forming sheets of said compounds of suitable colors and mottling, attaching a colored veneer to the upper face of the upper sheets, cutting said sheets in strips, laying up said strips in the press with the veneers upon their edges and at suitable intervals, pressing the whole into a cake and cutting, or planing the finished sheets from said cake, substantially as described.

"2. The method described for producing pyroxyline compounds in imitation of agate, the same consisting in forming strips of said compound of suitable colors, attaching to a suitable number of such strips thin sheets of colored veneer, laying up said strips in a press with the veneers at stated intervals and arranged upon their edges, pressing the whole into a cake, and cutting the same into sheets, substantially as described.

"3. As a new article of manufacture, a sheet of pyroxyline compound in imitation of agate, consisting of suitably colored portions separated by lines of different colors, said lines being formed of thin portions of a similar compound of different color united in a homogeneous mass with the other parts, substantially as described."

By the method above described the veneer containing the coloring matter used for producing the veined or streaked effect in imitation agate is placed on and by pressure in the calendar rolls attached to the upper side of each alternate sheet of celluloid in a series of sheets from which the "cake" is to be formed. The sheets are then cut into strips and the latter are placed on edge in a press whereby substantially equal intervals are left between the veneering in the alternate sheets as contained in the strips. When the "cake" is thus formed the finished sheets are cut or planed from its top and disclose the veneer "as fine lines, or bands, of color running across the face of the sheet." By this method the veins are either lines substantially straight and parallel to each other or curved lines substantially corresponding in curvature and direction. The irregular veins or streaks in the natural onyx, it is true, cannot be imitated by this method. By the method of the patent in suit the imitation onyx base is formed before the insertion of the coloring matter representing the veins and streaks. By the France method the coloring matter representing the veins and streaks is applied before the formation of the imitation agate base. It is not necessary, however, to rest our conclusion that the Stevens & Harrison process lacks novelty and invention upon the France method alone. The specification in letters patent No. 211,860, dated February 4, 1879, issued to John A. Mehl- ing, for "Improvements in Artificial Stone Veneer," discloses a method of making artificial marble and other stone which in its relation to the production of imitation veins, streaks or bands, we think is substantially identical with the method of the patent in suit.

That the Mehling method relates to cement while that in question relates to celloid or other pyroxyline compounds is a wholly immaterial difference. The two methods cannot be distinguished from each other in their relation to the production of artificial veins, streaks or bands. In each the base is first formed. In each the base while plastic is then cut or has the required indentations stamped in it. In each the coloring matter is then inserted in the cuts or indentations, as the case may be, to produce the desired imitation. The solidification of "the whole into blocks, shapes or masses, substantially as described," after the insertion of the coloring matter in the cuts, clearly does not disclose either patentable novelty or invention. We feel constrained to hold that the presumption in favor of patent No. 546,360, has successfully been rebutted.

The Thurber & Schaefer patent, No. 542,452, relates to an "Improvement in Celluloid Articles and in the Process of Manufacturing the Same." The claims are as follows:

"1. The process of manufacturing articles of celluloid or similar material, consisting in, first, serrating, or otherwise irregularly forming, the edge of the blank, and then subjecting the said blank to the action of dies to form the flaring crinkled rim or border of the finished article, substantially as described.

"2. A finished dish or plate made of celluloid, or similar material, having a body and a flaring crinkled rim or border, the edge of said rim or border being serrated or otherwise irregularly formed, and having the same edge as that of the blank from which the dish or plate was formed, substantially as described."

The defendant as early as the summer of 1893 manufactured and sold celluloid boxes, baskets and trays with flaring and crinkled or fluted rims or borders. A sheet or blank of celluloid of the proper size was placed between the parts of a die, subjected to heat and rendered soft or plastic, and then pressed in the die, with the result that such portion of the sheet as was not in contact with the die became flaring and fluted or crinkled. The material upon cooling became hard and any superfluous material in the rim or border was trimmed off by the use of a knife or saw. By the method of the patent in suit the blank is given a serrated or irregular edge before it is placed and pressed in the die. By the defendant's former method whatever ornamentation or finishing was given to the edge was imparted after the action of the die upon the blank. In view of the prior state of the art we fail to discover invention either in the product or method of production claimed in patent No. 542,452. Exception is taken by the complainant to the first, second and third assignments of error as being too general, vague and indefinite. The nature of the decree appealed from is such as to render greater particularity unnecessary, if not impracticable. Having reached the conclusion that the patents in suit for the reasons given cannot be

sustained, no opinion is expressed on the contention by the defendant that the method described in claims 1 and 2 of patent No. 546,350, includes merely a series of mechanical manipulations and as such is not patentable. The decree below is reversed with costs.

103. THE INCANDESCENT LAMP PATENT, 159 U. S. 465, 40 L. ed. 221, 16 Sup. Ct. 75 (1895, Patent No. 317,676).

* * * Mr. Justice Brown delivered the opinion of the Court.

In order to obtain a complete understanding of the scope of the Sawyer and Man patent, it is desirable to consider briefly the state of the art at the time the application was originally made, which was in January, 1880.

Two general forms of electric illumination had for many years been the subject of experiments more or less successful, one of which was known as the arc light, produced by the passage of a current of electricity between the points of two carbon pencils, placed end to end, and slightly separated from each other. In its passage from one point to the other through the air, the electric current took the form of an arc, and gave the name to the light. This form of light had been produced by Sir Humphrey Davy as early as 1810, and by successive improvements in the carbon pencils and in their relative adjustment to each other, had come into general use as a means of lighting streets, halls, and other large spaces, but by reason of its intensity, the uncertain and flickering character of the light, and the rapid consumption of the carbon pencils, it was wholly unfitted for domestic use. The second form of illumination is what is known as the incandescent system, and consists generally in the passage of a current of electricity through a continuous strip or piece of refractory material, which is a conductor of electricity, but a poor conductor—in other words, a conductor offering a considerable resistance to the flow of the current through it. It was discovered early in this century that various substances might be heated to a white heat by passing a sufficiently strong current of electricity through them. The production of a light in this way does not in any manner depend upon the consumption or wearing away of the conductor, as it does in the arc light. A third system was a combination of the two others, but it never seems to have come into general use, and is unimportant in giving a history of the art.

For many years prior to 1880, experiments had been made by a large number of persons, in various countries, with a view to the production of an incandescent light which could be made available for domestic purposes, and could compete with gas in the matter of expense. Owing partly to a failure to find a proper material, which should burn but not consume, partly to the difficulty of obtaining a perfect vacuum in the globe in which the light was suspended, and partly to a misapprehension of the true principle of incandescent

lighting, these experiments had not been attended with success; although it had been demonstrated as early as 1845 that, whatever material was used, the conductor must be inclosed in an air-tight bulb, to prevent it from being consumed by the oxygen in the atmosphere. The chief difficulty was that the carbon burners were subject to a rapid disintegration or evaporation, which electricians assumed was due to the disrupting action of the electric current, and, hence, the conclusion was reached that carbon contained in itself the elements of its own destruction, and was not a suitable material for the burner of an incandescent lamp.

It is admitted that the lamp described in the Sawyer and Man patent is no longer in use, and was never a commercial success; that it does not embody the principle of high resistance with a small illuminating surface; that it does not have the filament burner of the modern incandescent lamp; that the lamp-chamber is defective, and that the lamp manufactured by the complainant and put upon the market is substantially the Edison lamp; but it is said that, in the conductor used by Edison, (a particular part of the stem of the bamboo lying directly beneath the silicious cuticle, the peculiar fitness for which purpose was undoubtedly discovered by him,) he made use of a fibrous or textile material, covered by the patent to Sawyer and Man, and is, therefore, an infringer. It was admitted, however, that the third claim—for a conductor of carbonized paper—was not infringed.

The two main defenses to this patent are, first, that it is defective upon its face, in attempting to monopolize the use of all fibrous and textile materials for the purpose of electric illumination; and, second, that Sawyer and Man were not in fact the first to discover that these were better adapted than mineral carbons to such purposes.

Is the complainant entitled to a monopoly of all fibrous and textile materials for incandescent conductors? If the patentees had discovered in fibrous and textile substances a quality common to them all, or to them generally, as distinguishing them from other materials, such as minerals, etc., and such quality or characteristic adapted them peculiarly to incandescent conductors, such claim might not be too broad. If, for instance, minerals or porcelains had always been used for a particular purpose, and a person should take out a patent for a similar article of wood, and woods generally were adapted to that purpose, the claim might not be too broad, though defendant used wood of a different kind from that of the patentee. But if woods generally were not adapted to the purpose, and yet the patentee had discovered a wood possessing certain qualities, which gave it a peculiar fitness for such purpose, it would not constitute an infringement for another to discover and use a different kind of wood, which was found to contain similar or superior

qualities. The present case is an apt illustration of this principle. Sawyer and Man supposed they had discovered in carbonized paper the best material for an incandescent conductor. Instead of confining themselves to carbonized paper, as they might properly have done, and in fact did in their third claim, they made a broad claim for every fibrous or textile material, when in fact an examination of over six thousand vegetable growths showed that none of them possessed the peculiar qualities that fitted them for that purpose. Was everybody then precluded by this broad claim from making further investigation? We think not.

The injustice of so holding is manifest in view of the experiments made, and continued for several months, by Mr. Edison and his assistants, among the different species of vegetable growth, for the purpose of ascertaining the one best adapted to an incandescent conductor. Of these he found suitable for his purpose only about three species of bamboo, one species of cane from the valley of the Amazon, impossible to be procured in quantities on account of the climate, and one or two species of fibers from the agave family. Of the special bamboo, the walls of which have a thickness of about three-eighths of an inch, he used only about twenty-thousandths of an inch in thickness. In this portion of the bamboo the fibers are more nearly parallel, the cell-walls are apparently smallest, and the pithy matter between the fibers is at its minimum. It seems that carbon filaments cannot be made of wood—that is, exogenous vegetable growth—because the fibers are not parallel and the longitudinal fibers are intercepted by radial fibers. The cells composing the fibers are all so large that the resulting carbon is very porous and friable. Lamps made of this material proved of no commercial value. After trying as many as thirty or forty different woods of exogenous growth, he gave them up as hopeless. But finally, while experimenting with a bamboo strip which formed the edge of a palm leaf fan, cut into filaments, he obtained surprising results. After microscopic examination of the material, he despatched a man to Japan to make arrangements for securing the bamboo in quantities. It seems that the characteristic of the bamboo which makes it particularly suitable is, that the fibers run more nearly parallel than in other species of wood. Owing to this, it can be cut up into filaments having parallel fibers, running throughout their length, and producing a homogeneous carbon. There is no generic quality, however, in vegetable fibers, because they are fibrous, which adapts them to the purpose. Indeed the fibers are rather a disadvantage. If the bamboo grew solid without fibers, but had its peculiar cellular formation, it would be a perfect material, and incandescent lamps would last at least six times as long as at present. All vegetable fibrous growths do not have a suitable cellular structure. In some the cells are so large that they

are valueless for that purpose. No exogenous, and very few endogenous, growths are suitable. The messenger whom he dispatched to different parts of Japan and China sent him about forty different kinds of bamboo, in such quantities to enable him to make a number of lamps, and from a test of these different species he ascertained which was best for the purpose. From this it appears very clearly that there is no such quality common to fibrous and textile substances generally as makes them suitable for an incandescent conductor, and that the bamboo which was finally pitched upon, and is now generally used, was not selected because it was of vegetable growth, but because it contained certain peculiarities in its fibrous structure which distinguished it from every other fibrous substance. The question really is whether the imperfectly successful experiments of Sawyer and Man, with carbonized paper and wood carbon, conceding all that is claimed for them, authorize them to put under tribute the results of the brilliant discoveries made by others.

It is required by Rev. Stats., sec. 4888, that the application shall contain—

“a written description of the device and of the manner and process of making, constructing, compounding, and using it in such full, clear, concise, and exact terms as to enable any person, skilled in the art or science to which it appertains or with which it is most nearly connected, to make, construct, compound, and use the same.”

The object of this is to apprise the public of what the patentee claims as his own, the courts of what they are called upon to construe, and competing manufacturers and dealers of exactly what they are bound to avoid. (*Grant v. Raymond*, 6 Pet. 218, 247.) If the description be so vague and uncertain that no one can tell, except by independent experiments, how to construct the patented device, the patent is void.

It was said by Mr. Chief Justice Taney in *Wood v. Underhill*, (5 How. 1, 5,) with respect to a patented compound for the purpose of making brick or tile which did not give the relative proportions of the different ingredients:

“But when the specification of a new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly it would be the duty of the court to declare the patent void. And the same rule would prevail where it was apparent that the proportions were stated ambiguously and vaguely. For in such cases it would be evident, on the face of the specification, that no one could use the invention without first ascertaining, by experiment, the exact proportion of the different ingredients required to produce the result intended to be obtained. * * * And if, from the nature and character of the ingredients to be used, they are not susceptible

of such exact description, the inventor is not entitled to a patent."

So in *Tyler v. Boston*, (7 Wall. 327,) wherein the plaintiff professed to have discovered a combination of fusel-oil with the mineral and earthly oils, constituting a burning fluid, the patentee stated that the exact quantity of fusel oil which is necessary to produce the most desirable compound must be determined by experiment. And the court observed:

"Where a patent is claimed for such a discovery it should state the component parts of the new manufacture claimed with clearness and precision, and not leave a person attempting to use the discovery to find it out 'by experiment.' "

See also, *Béné v. Jeantet*, (129 U. S. 683;) *Howard v. Detroit Stove Works*, (150 U. S. 164, 167;) *Schneider v. Lovell*, (10 Fed. Rep. 666;) *Welling v. Crane*, (14 Fed. Rep. 571.)

Applying this principle to the patent under consideration, how would it be possible for a person to know what fibrous or textile material was adapted to the purpose of an incandescent conductor, except by the most careful and painstaking experimentation? If, as before observed, there were some general quality, running through the whole fibrous and textile kingdom, which distinguished it from every other, and gave it a peculiar fitness for the particular purpose, the man who discovered such quality might justly be entitled to a patent; but that is not the case here. An examination of materials of this class carried on for months revealed nothing that seemed to be adapted to the purpose; and even the carbonized paper and wood carbons specified in the patent, experiments with which first suggested their incorporation therein, were found to be so inferior to the bamboo, afterward discovered by Edison, that the complainant was forced to abandon its patent in that particular, and take up with the material discovered by its rival. Under these circumstances, to hold that one, who had discovered that a certain fibrous or textile material answered the required purpose, should obtain the right to exclude everybody from the whole domain of fibrous and textile materials, and thereby shut out any further efforts to discover a better specimen of that class than the patentee had employed, would be an unwarranted extension of his monopoly, and operate rather to discourage than to promote invention. If Sawyer and Man had discovered that a certain carbonized paper would answer the purpose, their claim to all carbonized paper would, perhaps, not be extravagant: but the fact that paper happens to belong to the fibrous kingdom did not invest them with sovereignty over this entire kingdom, and thereby practically limit other experimenters to the domain of minerals.

In fact, such a construction of this patent as would exclude competitors from making use of any fibrous or textile material would probably defeat itself, since, if the patent were infringed by

the use of any such material, it would be anticipated by proof of the prior use of any such material. In this connection it would appear, not only that wood charcoal had been constantly used since the days of Sir Humphrey Davy for arc lighting, but that in the English patent to Greener and Staite of 1846, for an incandescent light, "charcoal, reduced to a state of powder," was one of the materials employed. So also, in the English patent of 1841 to De Moleyns, "a finely-pulverized box-wood charcoal or plumbago," was used for an incandescent electric lamp. Indeed, in the experiments of Sir Humphrey Davy, early in the century, pieces of well burned charcoal were heated to a vivid whiteness by the electric current, and other experiments were made which evidently contemplated the use of charcoal heated to the point of incandescence. Mr. Broadnax, the attorney who prepared the application, it seems was also of opinion that a broad claim for vegetable carbons could not be sustained because charcoal had been used before in incandescent lighting. There is undoubtedly a good deal of testimony tending to show that, for the past fifty or sixty years, the word "charcoal" has been used in the art, not only to designate carbonized wood, but mineral or hard carbons, such as were commonly employed for the carbon pencils of arc lamps. But we think it quite evident that, in the patents and experiments above referred to, it was used in its ordinary sense of charcoal obtained from wood. The very fact of the use of the word to designate mineral carbons indicates that such carbons were believed to possess peculiar properties required for illumination, that before that had been supposed to belong to wood charcoal.

We have not found it necessary in this connection to consider the amendments that were made to the original specification, upon which so much stress was laid in the opinion of the court below, since we are all agreed that the claims of this patent, with the exception of the third, are too indefinite to be the subject of a valid monopoly.

As these suggestions are of themselves sufficient to dispose of the case adversely to the complainant, a consideration of the question of priority of invention, or rather of the extent and results of the Sawyer and Man experiments, which was so fully argued upon both sides, and passed upon by the court below, becomes unnecessary.

For the reasons above stated the decree of the Circuit court is affirmed.

104. [Note—"The sharp distinction necessary to maintain in some cases between classes of invention is indicated in the cases of *Underwood v. Gerber*, 149 U. S. 224, 37 L. ed. 710, 13 Sup. Ct. 854, and *Brigham v. Coffin*, 149 U. S. 557, 37 L. ed. 845, 13 Sup. Ct. 939, in both of which cases the Supreme Court held that a claim for an article of manufacture could not

be given validity by the recitation of a composition of matter and that the composition of matter could be covered only by a claim directed to the composition itself. For example, it would not be invention to put a particular compound upon fly-paper even though the claim recited a compound which might be new. The composition itself, as a composition, would have nothing to do with the question of invention in the article of manufacture. That is, no more invention was required to put on one compound than another. These rulings have not, however, had a wide application and are generally confined to conditions according closely with those in these cases.]

105. [Note—There are certain classes of inventions which by their nature have presented a question of patentability under the statute. For example, in *Jacobs v. Baker*, 74 U. S. 295, 19 L. ed. 200, cited in *Fond du Lac v. May*, 137 U. S. 395, 34 L. ed. 714, 718—11 Sup. Ct. 98, it was held by the Supreme Court that certain improvements in the construction of a jail did not come under the denomination of a machine, manufacture, or composition of matter; and that it was doubtful whether such inventions could be placed under the term “art.”

Of the same class are the statements in *Fowler v. City of New York*, *infra*.

In *U. S. Credit, Etc., Co. v. American*, 59 Fed. 139, S. C. C. A. 49, patent No. 465,485, for preparing a sheet of paper with headings generally appropriate to classes of fact to be reported, was held invalid, the court saying that whatever peculiarity appeared in the patent resulted in the transactions themselves.

In *Berry v. Wynkoop, etc., Co.*, 84 Fed. 646, 28 C. C. A. 505, patent No. 268,988 for an arrangement of figures to operate as a safety check to be used in postal orders was held not to involve invention.

In *Hocks v. New York, etc., R. Co.*, 122 Fed. 467, 58 C. C. A. 627, patent No. 493,595, for an improved method of preventing and rectifying mistakes in railroad shipping, was held invalid as indicating only evidences of good business judgment upon the part of those experienced in the business.

In *Hotel Security Co. v. Lorraine*, 160 Fed. 467, 87 C. C. A. 451, patent No. 500,071, for a new and useful, and in fact popular, system of cash-registering and account checking, was held invalid for lack of patentability, especially in view of the elaborate and familiar systems of book-keeping in restaurants and hotels. The court stated that there has not been a direct opinion upon whether or not in the absence of any prior art such a system might be patentable.

In *Library Bureau v. Maey*, 148 Fed. 380, 78 C. C. A. 194, in discussing patents Nos. 623,857 and 624,597, the court in one case held that the arrangement of color signals was not invention but that the system of tabs upon the cards did involve invention.

In *John Kitchen Co. v. Levison* (C. C. A. 9th Cir. 1911) 188 Fed. 658, the court sustained reissue patent No. 12,005. Its subject-matter is sufficiently indicated by the following claim of the three in issue.

“(3) A manifold book comprising in order a double carbon sheet, and a plurality of recording sheets, the record sheets outside the stubs being divided into three substantially equal separable parts, and the carbon sheet extending the width of two of said parts, said recording sheets having stubs to which they are attached along lines of perforations, said stubs and one side of the carbon sheet being all bound together to form a book, substantially as described.”

See also No. 71, *infra*.

106. MITCHELL v. INTERNATIONAL TAILORING CO., 170 Fed. 91 (C. C. N. Y., 1909, Patent No. 861,747).

Ward, J.:

[The claim, which specifically describes the article, reads as follows:]

"1. The herein described advertising device comprising a cardboard sheet of substantially commercial letter paper form and size, scored transversely to form upper and lower flaps to fold upon the intermediate portion, the entire inner side of said sheet being adapted to bear a printed letter with proper letter head upon the upper flap portion and a signature at the bottom, one of said flap portions comprising a gift to be detached from the remainder, and means for sealing the free edges of the sheet, when folded for mailing, substantially as described."

[A demurrer to the bill was filed on the ground that the claim was invalid and void on its face for want of novelty and as for non-patentable subject-matter in view of common knowledge and information.

The court said:]

"The folded sheet seems to me to involve no invention; but the making of one of the folds a gift likely to preserve the name and address of the sender may do so. While the patent certainly seems very obvious, I cannot say, because of facts within common knowledge, that it is void on its face for lack of novelty or invention. *Butler v. Bainbridge*, (C. C.) 29 Fed. 142."

107. KUEHMSTED v. FARBENFABRIKEN, 179 Fed. 701, 103 C. C. A. 243 (Seventh Circuit, 1910, Patent No. 644,007).

* * *

Grosscup, J.:

The fact that the formulae are identical cuts little figure. A chemical formula is simply the symbolical expression of the composition or constitution of a substance; as the formula for water is H²O. (Webster's New Unabridged International Dictionary.) Customarily, chemists who intend to produce a combination of two substances write the formula of the product in advance of making it. (Professor Haines, expert for the appellant.) "Without doubt, processes have been described in chemical publications which give products differing somewhat in their chemical structure and name from those which the writer supposed would be produced," or which give the formulated product "only in conjunction with other substances so that the total product obtained at the end of the process is not correctly represented or entirely represented by the structural formula or chemical name given." (Haines.) "It is quite customary for chemists to predict the structural constitution

of substances which they endeavor to produce, and they are often surprised when the result of their prediction exhibits quite a different and totally unexpected constitution, or when the process which they have ingeniously contrived fails to produce any satisfactory result whatever. * * * The great chemist Perkin started out over fifty years ago to produce quinine synthetically and was surprised to find that, instead of producing quinine, he produced a beautiful purple dye stuff, mauve, which laid the foundation for the great coal tar industry, and other great developments which grew from it." (Dr. Chandler, expert for appellee.) And, assuming that the formula actually expresses the constitution of the substance chemically, the substance physically, and in consequence therapeutically, may be widely different, as, for instance, the water of the seas, differ, in its physical body, from the water of certain springs, though the chemical formula for "water," whether of sea or spring, is H^2O . That is to say, two substances, having the same chemical formula, may differ widely, as to impurities, upon qualitative analysis.

So much for identity of formula. What about Kraut's body responding to the tests laid down in the patent? Aspirin, when boiled with water, is readily split up, acetic and salicylic acid being produced, this being one of its characteristics. On the contrary, according to Kraut's statements, if the Kraut product is boiled with water, even for a long while, acetic acid is not produced. But appellant insists, that notwithstanding this statement of Kraut, he (appellant) can take the Kraut body, and by subjecting it to a process in which boiling in water intervenes (as distinguished from the entirely dry process described in the patent), obtain a product responding to the characteristics of aspirin. But how does he do this? Enlightened by the disclosures of the Hoffmann patent that the product is decomposed by boiling in water, he avoids, as far as possible, this effect by hastening the process—dissolving in water already boiling, rapidly cooling by artificial means, and by pouring off the supernatant liquid (still containing over fifty per centum of the product) in order to rescue the product already crystallized from further contact with the water. This process was repeated from three to five times, in addition to hastening dissolution by finely dividing the crystalline mass and by stirring. Appellant thereby obtained a substantially pure product, amounting to less than half the original crystalline mass, or less than half the amount obtainable under the Hoffmann process. This, to our minds, is not proof that Kraut's body is Hoffmann's body, but only that Kraut's body can be so treated, apart from the dry process pure and simple, that it will yield some portions corresponding to Hoffmann's body.

But assuming that the compounds, chemically, are not different—that the two bodies are analytically the same—Hoffmann's recrystallized product is therapeutically different from the Kraut and antecedent products in the following undisputed particulars: It was long known that salicylic acid was the best remedy for rheumatism, and was also anti-neuralgic and anti-pyretic; that when taken internally in a free state it was injurious to the stomachs of all patients, and particularly so to those the physiological action of whose stomachs were idiosyncratic; and that for a long time attempts were made to overcome this pernicious quality of salicylic acid and at the same time retain its beneficent effects, but without ultimate success until the discovery by Hoffmann of the resulting product of the patent in suit. In the Hoffmann product all the salicylic acid is held entirely in bond while passing through the stomach, where it would do harm, and is set free in the intestines, where its utility as a therapeutical agent is rendered effectual—the acetyl molecule or radical, unaffected by the acid fluids of the stomach, being split off or set free by the alkaline fluids of the intestines—thus making the Hoffmann product practically effective and safe in its therapeutical results as against what previously had been undesirable or unsafe, if effective at all, in therapeutics.

Hoffmann has produced a medicine indisputably beneficial to mankind—something new in a useful art, such as our patent policy was intended to promote. Kraut and his contemporaries, on the other hand, had produced only, at best, a chemical compound in an impure state. And it makes no difference, so far as patentability is concerned, that the medicine thus produced is lifted out of a mass that contained, chemically, the compound; for, though the difference between Hoffmann and Kraut be one of purification only—strictly marking the line, however, where the one is therapeutically available and the others were therapeutically unavailable—patentability would follow. In the one case the mass is made to yield something to the useful arts; in the other case what is yielded is chiefly interesting as a fact in chemical learning. *Merrill v. Yeomans*, 94 U. S. 569, 24 L. Ed. 235; *Badische v. Kalle*, 104 Fed. 802, 44 C. C. A. 201 (C. C. A. 2d Circuit); *Badische v. Klipstein* (C. C.) 125 Fed. 543.

Upon the question of infringement, appellant offered no explanation of how the product which he sold was obtained, but testified that he sold it as the same chemical product as aspirin and a substitute for aspirin. What the evidence before us shows is, that it is in chemical characteristics the exact article that appellee has patented. The fact that the "ear marks" showing this are chemical instead of physical, such as color, shape or the like, or some characteristic disclosed by taste, smell or the like, makes no difference. They are none the less, so far as the facts in this case have been

brought to our attention, true "ear marks" of aspirin—the product of appellee—and therefore, in the absence of explanation, at least, establish identity. In other words, aspirin stands, upon the facts before us, as a new article of manufacture produced by appellee's patent, and the product sold by appellant stands, upon the proof before us, as identical with it; wherefore, his sale of it is an infringement of appellee's product.

The decree of the Circuit Court is affirmed.

108. UNION CARBIDE CO. v. AMERICAN CARBIDE CO., 181 Fed. 104, 104 C. C. A. 402 (Second Circuit, 1910, Patent No. 541,138).

* * *

Before Lacombe, Coxe, and Noyes, Circuit Judges.

Noyes, Cir. J.:

The patentee states at the commencement of his specification:

"This invention relates to the production of a new form of crystalline calcium carbid.

Before my invention calcium carbid had existed in an amorphous condition, due either to the method of its preparation or the impurities contained in it.

By my invention herein described calcium carbid is produced in a new form, namely, in crystalline condition, having a bluish or purpiish iridescence. The carbid so existing is in a condition particularly applicable, on account of its purity, for conversion into other compounds."

The specification then describes the process followed to obtain the product. The patentee states, in substance, that he takes mechanically-powdered coke and lime in the proportion of 35 per cent. of coke and 65 per cent. of lime, thoroughly mingles them by mechanical means, and subjects them to the action of an electric current in a furnace. He further states that the action of the current upon the material is a smelting action, and that the fused calcium carbid when allowed to cool crystallizes, and, when broken, shows iridescent surfaces.

The patent contains but a single claim, which is as follows:

"As a new product, crystalline calcium carbid existing as masses of aggregated crystals, substantially as described."

* * *

Concededly the Woehler compound was the highest development of the prior art in calcium carbid, and so we recur to the question whether with that compound in the art—assumed to be amorphous for the purposes of the present discussion—there was patentable novelty in the crystalline form.

In determining the question of patentable novelty, there can be no hard and fast rule. Each case must be decided upon its own facts. Mere change of form in and of itself does not disclose novelty.

A new article of commerce is not necessarily a new article patentable as such. But patentable novelty in a case like the present may be founded upon superior efficiency; upon superior durability, including the ability to retain a permanent form when exposed to the atmosphere; upon a lesser tendency to breakage and loss; upon purity, and, in connection with other things, upon comparative cheapness. So, as supplementing other considerations, commercial success may properly be compared with mere laboratory experiments.

* * *

And, if we turn specifically to the Woehler product as it was made before the application for the patent in suit, we reach similar conclusions. The Woehler publication is meager. All that is said about the preparation of calcium is contained in a single sentence. No information is given concerning the proportions of the ingredients, their preparation, or other similar matters necessary to an understanding of the process. Still it seems that, whenever before the time of the present patent the compound was prepared in accordance with what information the article did furnish, the result was a black pulverulent mass. This powdery material was worthless commercially, and was never commercially used. It would be unfit for use in gas-generators, and we are satisfied would rapidly deteriorate when exposed to the air. The product of the patent is more durable. It is hard, compact, and so unlike the powdery mass as almost to amount to a new body. Moreover, we think the complainant correct on its contention that the iridescent surfaces of the crystalline carbide would protect it to some—although perhaps slight—extent from atmospheric action.

It is also quite clear that Woehler published a mere result of a laboratory experiment which was put to no practical use. Crystalline carbide, on the other hand, has been a great commercial success and has furnished the foundation for important industries.

Taking the Woehler compound as it was made before Willson applied for his patent, we are satisfied that the product of the patent marked a patentable advance over it. * * *

We find experimental uses of the product before that time. We find that Lord Kelvin in a foreign country put some of the carbide in water, and lighted the gas which was generated. We find that the patentee gave samples of the product to different persons for experimental purposes. But it is well settled that an inventor has the right to experiment in perfecting his invention and demonstrating its utility, and we are not satisfied that the patentee in this case did anything more. We think that the proof fails to establish that there was any public use of the invention more than two years prior to the application for the patent. * * *

109. **DUNBAR v. MYERS**, 94 U. S. 187, 24 L. ed. 34 (1876, Patent No. 16,965. Third Circuit).

Clifford, J.: * * *

Operators of machines for sawing lumber, whether with circular or vertical saws, have long known that some means were useful, if not absolutely necessary, to spread the two parts of the lumber behind the saw, so as to prevent the lumber as sawed from binding against the two faces of the saw to such an extent as to endanger the saw and impede the progress of the work without an increase of the motive power. Wedges, in early times, were used by the operator to accomplish the object, and various other devices were employed before the deflecting plate came into use, which, it seems, has had the effect to supersede all other devices previously known to effect the described function. Such machines for sawing lumber, constructed with one deflecting plate, were well known and in general use years before the patentees in this case made their application for a patent; and the evidence satisfies the court that for most purposes the machine will operate as well and as successfully with one deflecting plate as with two. Two deflecting plates may be better than one, where it is desired to split thin stuff into two parts of equal thickness, as in that case the saw kerf may be enlarged by deflecting the stuff on each side of the saw.

Grant that two such plates are in certain cases better than one used alone, still the question arises whether it involves any invention to add the second plate to a machine already constructed with one plate. Beyond doubt, every operator who had used a machine having one deflecting plate knew full well what the function was that the deflecting plate was designed to accomplish, and the reasons for placing it at the side of the saw are obvious to the understanding of every one who ever witnessed the operation of a circular saw. Ordinary mechanics know how to use bolts, rivets, and screws, and it is obvious that any one knowing how to use such devices would know how to arrange a deflecting plate at one side of a circular saw which had such a device properly arranged on the other side, it being conceded that both deflecting plates are constructed and arranged precisely alike, except that one is placed on one side of the saw and the other on the opposite side. Both are attached to the frame in the same manner; nor is it shown, either in the specification or drawings, that there is any thing peculiar in the means employed for arranging the deflecting plates at the sides of the saw, or in attaching the same to the frame. Both are alike, except that the outer end of the one on the same side as the strengthening plate projects farther from the saw than the inner end, and that the other is rather smaller in diameter, and that the ends project about an equal distance from the saw.

Expert witnesses were examined upon the point, whether it required invention to attach a second deflecting plate to such a machine; and one of the most intelligent and learned of his class testified to the effect that the deflecting plate on one side of the complainant's machine performs precisely the same duty as the plate upon the other side of the saw, and that it required no invention to apply a second plate in such a case to perform exactly the same duty as the one previously applied on the opposite side of the saw,—that such second application is a mere duplication of the first; and he supports his conclusion by apt examples, which are both persuasive and convincing. * * *

Invention or discovery is the requirement which constitutes the foundation of the right to obtain a patent and it was decided by this court, more than a quarter of a century ago, that unless more ingenuity and skill were required in making or applying the said improvement than are possessed by an ordinary mechanic acquainted with the business, there is an absence of that degree of skill and ingenuity which constitute the essential elements of every invention. *Hotchkiss v. Greenwood*, 11 How. 267.

Ten years later, a case came before this court, in which the plaintiff claimed certain improvements in the construction of a machine for sawing lumber with the circular saw, including the manner of affixing and guiding the saw by allowing end play to its shaft, in combination with the means of guiding the device by friction-rollers and other appliances. Mills for sawing logs with a circular saw had been well known long before the supposed invention; and, in construing the claim of the patent, this court said that the claim is for the precise organization of the old machine, namely, the manner of affixing and guiding the circular saw by allowing end play to its shaft, in combination with the means of guiding it by friction-rollers, so as to leave the center entirely unchecked; adding, that there is nothing new in the combination, and assigning as the reason for the conclusion, that the improvement had long been known and used in the circular saw for sawing timber of smaller dimensions than ordinary saw-logs.

Enough appears to show that the machine in that case was larger than those of the kind which had preceded it; but the court remarked that that circumstance did not afford any ground in the sense of the patent law for a patent, for the reason that the ordinary mechanic was doing the same thing every day in making a working machine from the patent model.

In order to reach invention, say the court in that case, the patentee must carry his improvement further; he must contrive the means of adapting the enlarged old organization to the new use, namely, the sawing of saw-logs, and claim, not the old parts,

but the new devices by which he has produced the new results. *Phillips v. Page*, 24 How. 167.

Decisions by this court of later date have been made to the same effect; as, for example, the court decided that the claim of the patentee for making the cases of door-locks and latches double-faced, or so finished that either side of the case may be used for the outside, in order that the same lock or cased fastening may answer for a right or left hand door, was void, because the patentee did not show that he was the original and first inventor of the improvement, and intimated very strongly that the making of such a case, with two faces, just alike, and so finished off in point of style that either side was fit to be presented outwards, was not a matter which could be patented, even if no locks with such cases had ever before been made. *Jones v. Morehead*, 1 Wall. 162.

Patented improvements which are not new and useful, or which did not require any invention or discovery to make the same, as compared with what existed or was in use before, may be declared invalid by the court in an equity suit. *Stimpson v. Woodman*, 10 id. 121.

Mere change in a machine of one material for another, as wood or wood strengthened with iron for iron alone, is not invention in the sense of the Patent Act, and therefore is not the subject of a patent. *Hicks v. Kelsey*, 18 id. 670.

Old processes are sometimes applied to new subjects, and where that was so, in a case which did not require the exercise of the inventive faculty, and without the development of any idea which could be deemed new or original in the sense of the patent law, it was held that the supposed improvement was not the subject of a patent, and that courts of justice may take judicial notice of a thing in the common knowledge and use of the people throughout the country. *Brown v. Piper*, 91 U. S. 38.

Proof of the state of the art is admissible in equity cases, without any averment in the answer touching the subject, and in actions at law, without giving the notice required when evidence is offered to invalidate the patent. It consists of proof of what was old and in general use at the time of the alleged invention; and may be admitted to show what was then old, or to distinguish what is new, or to aid the court in the construction of the patent.

Meritorious inventors are entitled to protection; but it is settled law that a mere carrying forward of an original patented conception, involving only change of form, proportions, or degree, or the substitution of equivalents, doing the same thing as the original invention by substantially the same means, is not such an invention as will sustain a patent, even though the changes of the kind may produce better results. *Smith v. Nichols*, 21 Wall. 115.

Effective support to the proposition that nothing but invention or discovery will entitle an applicant to a patent is also found in the reported decisions of the circuit courts, as appears from the following citations. Judge Story held, many years ago, that the mere application of an old process, machine, or device to a new use was not patentable,—that there must be some new process or some new machinery to produce the result, in order that the supposed inventor may properly have a patent for the alleged improvement. *Howe v. Abbot*, 2 Story 194; *Bean v. Smallwood*, 2 id. 411; *Glue Co. v. Upton*, 6 Off. Gaz. 842; 7 id. 648.

Conclusive support to the proposition that an applicant for a patent is not entitled to the public protection, unless the supposed improvement involves actual invention or discovery, is found in the oft-repeated decisions of all the English courts having jurisdiction in such cases; and it is safe to remark, that the courts of that country apply the rule more readily, and with a much closer scrutiny, than do the courts of this country exercising the like jurisdiction. *Ralston v. Smith*, 11 H. L. C. 223; *Harwood v. Railway Company*, 11 id. 654; *Jordan v. Moore*, Law Rep. 1 C. P. 624; *Kay v. Marshall*, 8 Cl. & Fin. 245; *Bush v. Fox*, 5 H. L. C. 707; *Tetley v. Easton*, 2 C. B. n. s. 706; *Horton v. Mabon*, 12 id. 437; *Ormson v. Clarke*, 14 id. 475; *Parkes v. Stevens*, Law Rep. 8 Eq. 358; s. c. Law Rep. 5 Ch. App. 36; *Envelope Company v. Seymer*, 5 C. B. n. s. 164; *White v. Toms*, 17 Law Times, n. s. 319; *Ralston v. Smith*, 11 C. B. n. s. 471; *Ormson v. Clarke*, 13 id. 337; *Ralston v. Smith*, 9 id. 117; *Saunders v. Aston*, 3 Barn. & Ad. 881; *Seed v. Higgins*, 8 El. & Bl. 743.

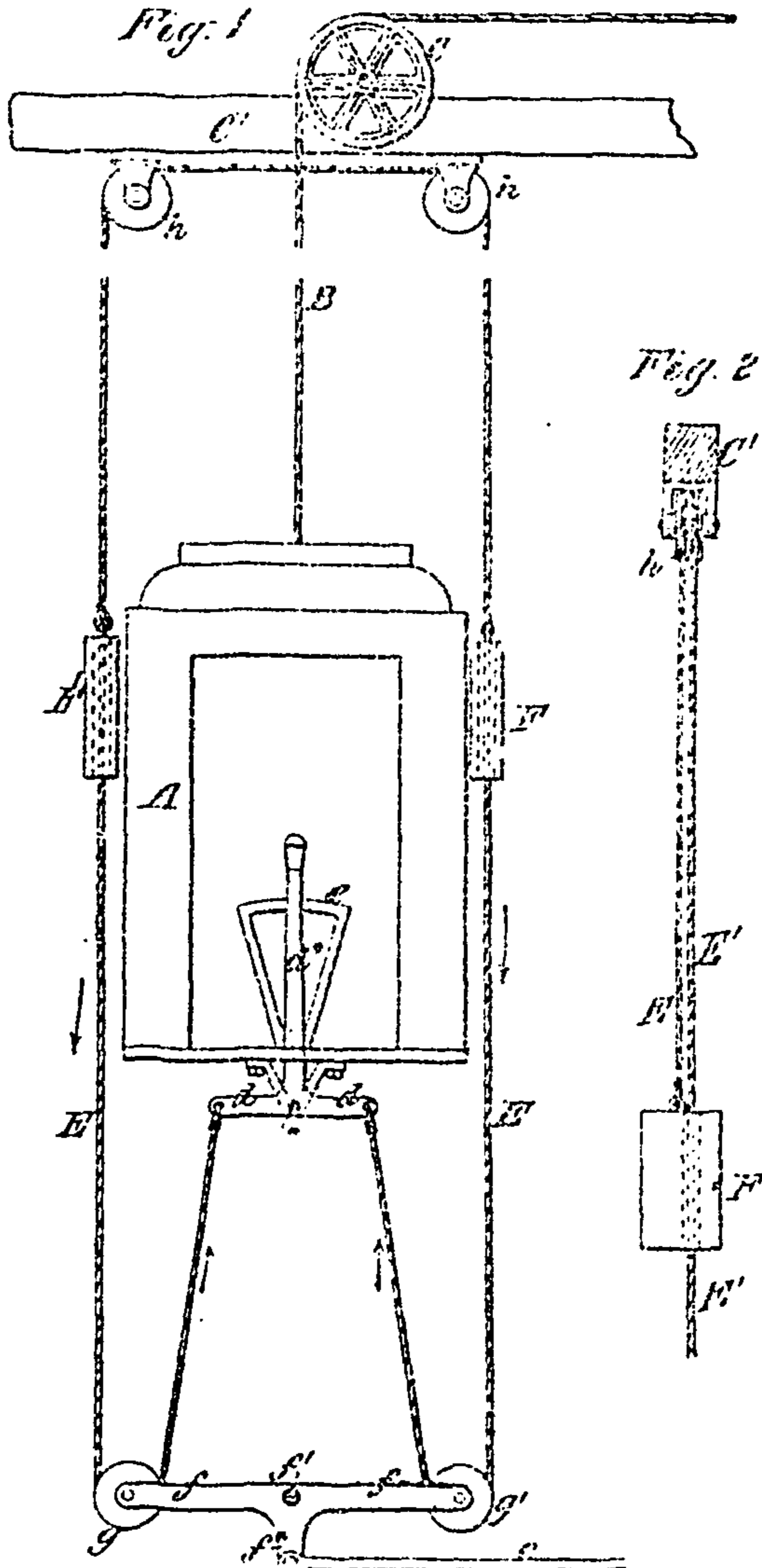
For these reasons, we are all of the opinion that the claim of the improvement described as the employment or use of two deflecting plates, one placed on each side of the circular saw, for the purposes set forth in the specification, is void, because it does not constitute a patentable invention. * * *

110. *NATIONAL CO. v. BELCHER*, 71 Fed. 876, 18 C. C. A. 375 (1896, Third Circuit).

[The invention in this case is thus set forth in the statement of invention and claims of the patent in suit, No. 317,202:

“My invention is applicable to the devices or hand-gear whereby the operation of the change or reversing valve in elevators is controlled by the attendant in the car or cab, and is applicable to hydraulic or steam elevators in which these devices are connected with and serve to shift the main change or reversing valve directly, and also to those hydraulic elevators in which the said devices are connected with an auxiliary or pilot valve, and by shifting the latter control the admission of water or other fluid to and its exhaust from a controlling cylinder or cylinders con-

taining a piston or pistons, on which the water or liquid acts to move the main valve.



“My invention relates to elevators in which the movement of the valve is accomplished by shifting a lever or hand gear, which is arranged on the car and which occupies a stationary position relatively to the car as the latter rises and falls.

1. The combination, with the car or cab and its controlling-valve, of a lever or hand gear on the car or cab, and occupying a stationary position relatively thereto as it travels, sheaves $g g'$, and bearings therefor arranged at the bottom of the shaft and adapted to move upward and downward, other sheaves, $h h$, at the top of the shaft, flexible connections passing around these sheaves from the top to the bottom of the shaft and connected at their one end with the said lever or hand gear on the car or cab, and connections between the valve and the movable bearings for the sheaves $g g'$ at the bottom of the shaft, through which the movement of the lever or hand gear on the car and the rising movement of one or other of the sheaves $g g'$ will effect the shifting of the valve, substantially as herein described.

2. The combination, with the car or cab, and its controlling valve, of a beam fulcrumed at the bottom of the elevator-shaft, connected with said valve and provided with sheaves $g g'$, sheaves h at the top of the elevator-shaft, a lever or hand gear occupying a stationary position on the car or cab as it travels, and flexible connections attached at their one end to said lever or hand gear and thence passed downward under the sheaves $g g'$, then upward over the sheaves hard weighted at their other end, substantially as herein described.”]

Before Acheson, Circuit Judge, and Butler and Wales, District Judges.

Butler, District Judge. The suit was brought to recover compensation for the infringement of seven patents; three of them being Nos. 317,202, 456,122 and 458,917, granted to George H. Reynolds, another, No. 183,055, granted to Philip Hinkle, and another, No. 228,107, granted to Charles R. Otis, all for improvements in elevators and the means of operating them. The claim based on two other patents included was withdrawn.

The Circuit Court sustained the suit as respects the patent to Otis, and dismissed it as respects the others named. An appeal was taken to so much of the decree as relates to the three Reynolds patents. * * *

In considering the question of validity it is unnecessary to enter upon a description of elevators, the means employed to operate them or a historical review of the art to which they belong. Prior to the Reynolds patent No. 317,202, the operating devices employed consisted in some instances of a single stationary cable with its attachments, in others of two separate stationary cables with their attachments, and in others of a single traveling cable with the necessary attachments. None of these devices secured complete control of the car; and the object of Reynolds was to accomplish this important object. He sought to do it through the introduction of an additional traveling cable combined and worked in harmonious conjunction with the old one, by the means and in the manner he describes. That he was the first to introduce a double cable device,

describes. That he was the first to introduce a double cable device, so combined and arranged as to make the action of the one counterbalance and harmonize with that of the other, is, we think, clear. It is not seriously contended that such a device was ever used until he applied it. Two stationary independent cables, as before stated, and a single traveling cable, had been used, but neither device bore any material resemblance to Reynolds' either in arrangement or operative effect. There is no justification for the assertion that Baldwin's device, with a duplication of his cable, would anticipate Reynolds'. The duplication without the addition of Reynolds' lever and other elements of his device, would be useless. The value of Reynolds' invention arises from the unification of the cables and their harmonious and counterbalancing action, secured by the connecting device he employs. Baldwin himself acknowledged the novelty and superiority of Reynolds' device, in the interference proceedings referred to in the record; and while we do not attach much importance to this acknowledgment, we are satisfied that it was correct. It is urged, however, that a German patent granted to one Lampe describes Reynolds' invention. This patent shows a device with a single traveling cable; and suggests that it may be duplicated. A duplication would result, however, in two independent devices simply, just as would a duplication of Baldwin's device. He does not suggest a combination or any means of making one. In so far as appears the suggestion to duplicate was of no value; no one ever acted upon it; indeed, it does not appear that Lampe's device itself was ever used. It is earnestly contended, however, that any competent mechanic in carrying out the suggestion would combine the two cables as Reynolds has done, and thus produce a device identical with his. To sustain this contention the respondent relies on the testimony of his witness Noble, who says that by following Lampe's directions he made a device which is identical with Reynolds'. The device is before us, and it is substantially identical with that of Reynolds. Of course if the witness is accurate the respondent's contention is sustained. This evidence is somewhat startling; and should not be accepted lightly. If a valuable patent might be overthrown in this manner by the testimony of an expert, without careful inquiry into and virtual demonstration of its correctness, the rights of patentees would rest upon the testimony of such witnesses rather than the judgment of the court. Of course, as before remarked, if Noble is entirely accurate there is no escape from his conclusion. We cannot, however, accept his statements, notwithstanding their positiveness. We do not mean to cast doubt on his honesty; but it seems manifest from the face of Lampe's patent that it does not describe such a device as that produced; that the witness has not adhered to its terms, either in letter or spirit, but has introduced the suggestions of his own mind. He is a trained mechanic and an intelligent expert, familiar with the art involved.

It is difficult, at least, to believe that he was not aware of Reynolds' device, notwithstanding what he says on the subject. It cannot well be supposed that he was not abreast with the progress of this art; and being so it was quite natural that in duplicating Lampe's device he should unite the parts so as to make them co-operate and work as he knew they could be made to do. It is clear that if he did not follow Reynolds with knowledge of what Reynolds had done, he invented the parts which he has added to Lampe's device. Reynolds' lever, an essential element to his device, as well as other parts of his combination, shown in Noble's model, are not suggested in Lampe's patent; nor is any union, or means of uniting the duplications suggested. Of course it may justly be said that Lampe intended them to be united; but he suggests no way of doing it. In the light of our present knowledge on the subject it is easy to see how it should be done; and it was this knowledge, we believe, that guided Noble and induced him to follow Reynolds. If he had made his model before the date of Reynolds' patent it is improbable that the parts would be united as they are, and made to co-operate as they do. Skilled mechanics and inventors were then industriously working on the problem: How can the control of elevators be rendered more perfect? It was very imperfect, and the use of elevators was consequently unsafe; accidents were common and sometimes very serious. The most important step in solving the problem was that taken by Reynolds when he introduced the second cable and so connected it with the first that the two should combine, co-operate with, and counterbalance each other, in action, as he describes. Lampe's patent had been before the public for years, and yet no one of the numerous inventors engaged on the problem saw in it what Mr. Noble thinks he found.

What has been said applies as well to the subject of patentable novelty, as to priority.

111. GOSS PRINTING PRESS CO. v. SCOTT, 108 Fed. 253, 47 C. C. A. 302. (1901, Third Circuit.)

Before Dallas and Gray, Circuit Judges, and Buffington, District Judge.

Buffington, District Judge: The bill in this case charges infringement of claim 6 of patent No. 410,271, granted to Joseph L. Firm on September 3, 1889, for a rotary printing machine; of claim 7 of No. 415,321, to said Joseph L. Firm on November 19, 1889, for a rotary printing press; and of claims 11, 12, and 13 of patent No. 529,680, to Joseph L. Firm, assignor to the Goss Printing Company on November 20, 1894, for a printing machine. These patents relate to web-perfecting presses. * * *

We are then brought to the question whether the combination here shown was novel, useful, and patentable. That it was novel,

the court below found, and our research in the art leads us to the same conclusion. Was it useful? That it was not alone useful, but useful to a marked degree, the weight of the testimony, and a consideration of the practical results attained, show. Indeed, the contest waged in this case, its extent, expense, and warmth, are in themselves a reasonable measure of the opinion of all parties in that regard. It is improbable that men will render themselves liable to actions for infringement unless infringement be useful. And the fact that a patent has been infringed by a defendant is, as against such infringer, sufficient to establish its utility. *Lehnbeuter v. Holthaus*, 105 U. S. 96, 26 L. ed. 939; *Vance v. Campbell*, 1 Fish. Pat. Cas. 483, Fed. Cas. No. 16,837. Moreover, we regard the change made by Firm as both novel and useful to a marked degree. The defendant's own proofs show that, in estimating the product of printing presses, about 25 per cent. must be deducted for delays, and that one of the two principal causes of stoppage is web-breaking. When a web-break occurs, the sheet winds around the roller, the press must be stopped, and the web torn off the rolls and rethreaded. The serious results incident to such stoppage will appear when we realize that these presses are speeded to 200 revolutions a minute, and that a delay of five minutes means many thousand less papers, varying according to the press capacity. The marked tendency to print larger papers, to issue greater editions, and to sell the papers for less money, necessitates the use of a cheaper paper, and cheaper paper means greater liability to web-breaks. After a most careful examination and analysis (the details of which need not here be set forth) of the testimony of the witnesses, and with a due regard to the opportunities different witnesses had for observing presses in regular work, we have reached the opinion that web-breaks are much more frequent on angle-bar than on straight-line presses, and that inferior grades of paper, which could not be safely used on angle-bar presses, can be used on straight-run ones. The data given from actual observation in these respects is not only convincing, but is wholly in accord with our everyday observation, that, if the pull is evenly distributed over an entire sheet of paper, its tensile strength is much greater than when the strain is on one edge. It is, to our mind, clearly proven that Firm, by eliminating angle-bars, made an important improvement in lessening web-breaking. But this was not all. In dispensing with angle-bars, we are satisfied he lessened power requirements,—a fact which is not controverted in the proofs produced,—and made possible a simpler and more desirable type of mechanism; one in which there was less liability to break. A direct, forward, straight-line action from start to finish is mechanically preferable to a deflected, tangent-carried power. In addition to this, the facts proven show that straight-line presses can be built to occupy less

floor space than angle-bar machines,—an important feature in mechanism and appliances in city manufactories, on account of the value of city sites generally, and in newspaper plants especially so, from the fact that they are always located in the most prominent parts of a city, and where ground is much more valuable.

Such being the facts, does this device involve invention? In support of its patentability, we have the *prima facies* arising from the grant of the patent. *Lehnbeuter v. Holthaus*, 105 U. S. 94, 26 L. ed. 939. We have the fact that the device has gone into extensive use,—an element entitled to regard. *Smith v. Vulcanite Co.*, 93 U. S. 486, 23 L. Ed. 952. It is contended the changes made by Firm were merely mechanical, and that in reality he but took the presses which he found standing side by side, and banked them one upon another; that the change involved was mere reconstruction, rearrangement, duplication. It is to be noted, however, that printing-press construction is mechanically a highly-developed industry. The complex and intricate details of these great presses; the calls upon them for speed, strength, and product; the constant demand upon builders for improvement; and the keen rivalry existing among such builders and the users of the presses,—are factors which brought the art to this high mechanical standard. The very fact that, with all these stimulating considerations, insuring the most rapid strides in mechanical advance, no such step as Firm's was taken in duplex presses, shows that Firm's change was not in the line of mechanical progress, but in the original, inventive sphere. Granted the change consisted in banking one press upon another, yet the two, when so combined, and in their new relation, so co-acted as to dispense with angle-bars, with a web-deflected course, and made possible a straight-line duplex press. A single straight-line press in itself was no novelty, so far as the straight-line printing of an individual web is concerned; but, when the product of two such presses were united, it was only through angle-bar agency. Firm's device, by placing the two in new relations, eliminated the angle-bar, did away with the tangent-turning webs, and thus secured valuable results. The test in such cases is not whether duplication exists, but whether duplication produces, not mere duplication of product or function, but a new unitary, additional result, and not the mere aggregate of prior, separate mechanism. The mere elements of the combination are immaterial. In their individual relations they may be old, may be mere duplicates; but the test is not the character of the combining elements, but the result flowing from their being combined. "Duplication producing a new and a useful result, as it was here produced, may be patentable. It is often the material part of a discovery, because it may be that which renders useful what was previously useless." *Parker v. Hulme*, 1 Fish. Pat. Cas 44, Fed Cas. No. 10,740. Consideration of

another feature of the Globe-Democrat press referred to above will also show that the change Firm made was more than mechanical. As we have seen, that press was made up of a main duplex press, already described, and a second part used for printing a half-width web. When it was desired to make a 12-page paper, the main press was used to print 8 pages in the manner heretofore described, and the other 4 were printed in the supplemental press. In it but one pair of form and impression cylinders were used. These, however, were of such lengths as to carry four plates abreast on each semi-circumference. The plates at one end contained the matter for the outside, and those at the other for the inside, of the 4-page sheet. A two-plate width web passed between the plates at one end of the cylinder, and was printed on one side. It then, by means of rollers, passed down, over, across, and upward over a turner or angle-bar, which reversed the web and transferred it laterally a distance equal to its own width. The web was then made to pass between the form and impression cylinders at the other end, where its other side was printed. By this means the supplemental web was transferred from its own initial vertical plane, and brought into the vertical plane of the associated halves of the main web, and, by means not necessary to detail, was brought upward and run between these two associated halves, and in register with them. The three then pass together to the folding, cutting, and delivery mechanism. It is curious to note, but, in the light of subsequent development of the art, be it observed, that this machine might have been modified and re-created so as to embody Firm's device. If the supplemental press had been equipped with two sets of form and impression cylinders, it is quite clear the web could have been started on the same initial vertical line occupied by one-half of the web in the other or main press. This would have given straight-line work in both presses, where the supplemental press and one side of the main press alone were used. And, if the other side of the main press were banked above its fellow, all three would have been straight-line presses. But the all-sufficient answer to an imaginary machine such as this being an anticipation is the fact that no one either changed the Globe press, or suggested the possibility of such change. Its resemblance to Firm's device, and its use for several years without any one suggesting such a modification, make it all the more apparent that it required more than mechanical advance to make a straight-line press out of the doubly angled-barred Globe-Democrat press. It is not nearness to an unsolved problem, but a solution of it, that secures practical results, and benefits the public to the extent of earning the grant of a patent in return.

* * *

112. [Note.—In the celebrated and much quoted case of *Reckendorfer v. Faber*, 92 U. S. 347, 23 L. ed. 719, the Supreme Court had before it the familiar pencil with the rubber eraser fitted into a socket in the head of

the pencil, patent No. 19,783. The court held this an aggregation of two instruments having each the same purpose in the patented article which it had previously served. The court cited *Hotchkiss v. Greenwood*, 11 How. (U. S.) 248, 13 L. ed. 683 (*infra*), a case which involves substitution of material; *Stimpson v. Woodman*, 10 Wall. (U. S.) 117, 19 L. ed. 866, a case involving the engraving or stamping of a figure upon the surface of a roller for pebbling leather by pressure, a question of mechanical skill; *Hailes v. Van Wormer*, 20 Wall. (U. S.) 353, 22 L. ed. 241, holding the bringing together of old selected parts of stoves in one stove not invention; *Rubber-Tip Pencil Co. v. Howard*, 20 Wall. (U. S.) 498, 22 L. ed. 410, holding an aggregation only involved in putting the familiar round rubber cap about the top of a pencil; *Smith v. Nichols*, 21 Wall. (U. S.) 115, 22 L. ed. 566, on the suspender fabric, a mere "carrying forward" of previous inventions; *Hicks v. Kelsey*, 18 Wall. (U. S.) 670, 21 L. ed. 852, the substitution of an iron wagon reach for a wooden one, and also *Seymour v. Osborne*, 11 Wall. (U. S.) 516, 20 L. ed. 33, stating that case to be no exception. This case, *Reckendorfer v. Faber*, is not given the prominence here that it has had by way of citation because in recent years much doubt has been thrown upon the correctness of the decision in view of the admitted novelty and utility of the article which was the subject of the patent.]

113. *PICKERING v. McCULLOUGH*, 104 U. S. 310, 26 L. ed. 749 (1881).
Opinion by Mr. Justice Matthews:

This is a bill in equity, filed by the appellants, to restrain the appellees from infringing reissue letters patent No. 6166, dated December 8, 1874, to George Nimmo, for an improvement in moulding crucibles, and for an account, the patent having been reissued to the complainants as assignees of Nimmo, the inventor and original patentee.

The original patent, No. 49,140, granted to him, bears date August 1, 1865.

The subject of the alleged invention is an improvement in the manufacture of moulding crucibles and pots, made of a plastic material, composed of plumbago, or so-called black-lead and fire-clay, used principally in the manufacture of steel. They were formerly made by hand, on a common potter's wheel, the hand and eye of the skilled workman building them up in the desired shape, as the material revolved upon the wheel. It is recited in the original patent to Nimmo that they had also been made in a mould, by a pressing instrument, for which reference is made to letters-patent, granted October 26, 1852, to John Akrill. It is stated also by Nimmo, in the specification to his original patent, that "difficulty has heretofore been experienced in removing the crucibles from the mould, in consequence of the adhesive nature of the black-lead compound or mixture employed for such crucibles. The amount of water, also, that is required to make the mixture sufficiently plastic causes the material frequently to crack and break in shrinking as it dries."

The following is the description of the invention, as contained in the specification, referring to the drawing accompanying it:—

“The nature of my said invention consists in the manufacture of crucibles in a plaster mould, which gives shape to the pot externally and absorbs the moisture from the pot, causing it to dry uniformly and at the same time shrink away from the mould, preventing the air acting on the outside of the pot until after the moisture has been mostly absorbed, and prevents the pot from splitting or cracking from unequal contraction in drying. I mount my plaster mould in a revolving chuck, and employ a rib attached to a lever for spreading the plastic crucible material on the inside of the mould, and at the same time hardening, consolidating, and polishing the crucible on the inside by means of said rib.” * * *

There is, however, no doubt whatever that Salvetat describes the operation of a rib, by means of a mechanism which directs it in the formation of the interior of a vessel, while in motion on a revolving wheel, and guides it when the vessel is formed, even when it has a bilge, so that, by bringing it into a proper relation with the axis of revolution, it can be withdrawn from the side of the vessel which it has shaped, and lifted through its mouth or top, without touching and injuring its sides. This is conceded by the appellants, and is admitted in the patent itself. It is also confessed that the use of the mould for supporting the ball, while the rib or former presses it on the inside, and thus shapes its corresponding outside, is old, and is not of itself claimed as the invention of Nimmo. The alleged invention, then, consists merely in supplying to the apparatus described by Salvetat a mould for supporting the ball and giving shape externally to the crucible. * * *

In Nimmo's apparatus, it is perfectly clear that all the elements of the combination are old, and that each operates only in the old way. Beyond the separate and well-known results produced by them severally, no one of them contributes to the combined result any new feature; no one of them adds to the combination anything more than its separate independent effect; no one of them gives any additional efficiency to the others, or changes in any way the mode or result of its action. In a patentable combination of old elements, all the constituents must so enter into it as that each qualifies every other; to draw an illustration from another branch of the law, they must be joint tenants of the domain of the invention, seized each of every part, *per my et per tout*, and not mere tenants in common, with separate interests and estates. It must form either a new machine of a distinct character and function, or produce a result due to the joint and co-operating action of all the elements, and which is not the mere adding together of separate contributions. Otherwise it is only a mechanical juxtaposition, and not a vital union.

In the case of this apparatus the mould was known, and a rib or former was known, and their use in combination was known. Salvetat described a rib, so arranged that, after it had performed its function in shaping the interior of the vessel, it could be withdrawn, through the top of the vessel, so as not to produce injury by striking against its side. This rib Nimmo substituted for the old one in the same combination. And this is the whole of the invention. Upon the principle stated, there is no invention in it.

We are also of opinion that the invention claimed for Nimmo, as described in the reissued patent, is covered by the prior patents to Wise and to Smith.

Undoubtedly they both embody the principle of a former used in combination with a mould, for the purpose of manufacturing crucibles, connected so that the former can be withdrawn in the case of vessels having a bilge, without injury.

It is objected, however, that the machines described in these patents are mere paper machines, not capable of successful practical working. But on examination it sufficiently appears, we think, that the objections can be sustained only as to minor matters of detail in construction, not affecting the substance of the invention claimed, and could be removed by mere mechanical skill, without the exercise of the faculty of invention. In this view, the Wise and Smith patents are not rendered inefficient as defenses in this suit, by reason of the alleged imperfections of the machines described in them.

The bill of the appellants was dismissed by the court below, on the ground of the prior knowledge and use of the alleged invention at Kier's works in Pittsburgh. We are of opinion that the testimony sustains that finding. Decree affirmed.

114. DOUBLE-POINTED TACK CO. v. TWO RIVERS MFG. Co., 109 U. S. 117, 27 L. ed., 877, 3 Sup. Ct. 105, (1883).

* * *

Blatchford, J.: This is a suit in equity brought in the Circuit Court of the United States for the eastern district of Wisconsin, for the infringement of letters patent No. 147,343, granted February 10, 1874, to the plaintiff, the Double-pointed Tack Company, as assignees of Purches Miles, the inventor, for an "improvement in bail-ears." * * *

The gist of the invention set forth in the descriptive part of the specification, so far as the first claim is concerned, is to cut the two penetrating ends of the wire diagonally, and in such a way that, while the staple is being driven, the cut faces will both of them be on the lower side, and the two penetrating ends will both of them incline upwardly. It is shown to have been commonly known

that the effect of a bevel or a diagonal cut on a penetrating point was to force the point, in being driven, in a direction away from the bevel or cut. Double-pointed staples, with a diagonal cut on each point, but the diagonal cut on one point on the upper and outer side, and on the other point on the lower and outer side, as the staple was driven, were old. * * * In view of this state of the art, there was no patentable invention, and nothing more than mechanical skill, in putting the diagonal cuts or bevels on the same side of each leg of the staple, so as to give both points, in driving, an inclination in the same direction, that direction being one away from both bevels, and in using the device to fasten a bail. * * *

The second claim is for the washer in combination with the staple of the first claim. This is not a patentable combination. There is only an aggregation of parts when the staple is used with the washer. * * * It would have the same effect if it were fastened in some other way than by having the leg of the staple pass through it, and the staple would in such case have the same operation which it now has.

The decree of the Circuit Court is affirmed.

115. THATCHER HEATING CO. v. BURTIS, 121 U. S. 286, 30 L. ed. 942, 7 Sup. Ct. 1034 (1887.)

Matthews, J.: This is a bill in equity filed December 13, 1875, by the appellants, as assignees of John M. Thatcher, to restrain the alleged infringement of letters patent No. 104,376, dated June 14, 1870, granted to John M. Thatcher for certain new and useful improvements in fire-place heaters. There was a decree below dismissing the bill, from which the complainants prosecute the present appeal. * * *

Thatcher makes no claim in his patent for the fuel magazine, as long prior to the date of his application such a magazine was in common use in what are known as base-burning stoves. In construction and in position, with relation both to the burning mass in the pit of the stove and to the outer casing through which it opened, either on the top or at the side of the stove itself, the fuel magazine of the outstanding stove is the same as the fuel magazine when placed in the fire-place heater according to Thatcher's patent. It is admitted that what Thatcher did, and all that he did, was to transfer this well-known fuel magazine from its use in an outstanding base-burning stove to a fire-place heater, equally well known and in common use as to its arrangement, construction, position, and mode of operation. When this fuel magazine was thus transferred from one kind of stove to another, in its new situation it performed precisely the same function, with respect to the fuel and the fire, as it had always been accustomed to perform in its

old place, and the fire-place heater into which it was thus newly placed, so far as the generation and transmission of heat and heated air are concerned, operated precisely as it had habitually done before.

It is true that such a fire-place heater, by reason of the fuel magazine, was a better heater than before, just as the outstanding stove, with its similar fuel magazine, was a better heater than a similar stove without such a fuel magazine. But the improvement in the fire-place heater was the result merely of the single change produced by the introduction of the fuel magazine, but one element in the combination. The new and improved result in the utility of a fire-place heater can not be said to be due to anything in the combination of the elements which compose it, in any other sense than that it arises from bringing together old and well-known separate elements, which, when thus brought together, operate separately, each in its own old way. There is no specific quality of the result which can not be definitely assigned to the independent action of a single element. There is therefore no patentable novelty in the aggregation of the several elements, considered in itself.

If, however, to adapt these separate elements to each other, so that they can act together in one organization, required the use of means not within the range of mere mechanical skill, then it would be true that the invention of such means for effecting a mutual arrangement of the parts would be patentable. If, in the present case, owing to the necessary form, size, structure, and situation of a fire-place heater as ordinarily made and used, there were ascertained difficulties in uniting such a fuel magazine as Thatcher adopted from its known use in outstanding base-burning stoves, and those difficulties were overcome by something more than mere mechanical ingenuity, he might have been entitled to a patent, not for the combination, however made, of the fuel magazine and the fire-place heater, but for the means which he had invented for effecting it. Nothing of that, however, appears in this case. The invention described is not of any such device for effecting the combination; no claim is made of that character. The claim made is for the combination, no matter how or by what means it is or may be effected.

In this view of the case, it is impossible to distinguish it, so far as the rule of decision is concerned, from the cases of *Hailes v. Van Wormer*, 20 Wall. 353; *Heald v. Rice*, 104 U. S. 737, 754; *Pennsylvania R. Co. v. Locomotive Truck Co.*, 110 U. S. 490; *Morris v. McMillin*, 112 U. S. 244; *Hollister v. Benedict Manuf'g Co.*, 113 U. S. 59; *Thompson v. Boisselier*, 114 U. S. 1; *Beecher Manuf'g Co. v. Atwater Manuf'g Co.*, 114 U. S. 523; *Gardner v. Herz*, 118 U. S. 180.

There is no escape, we think, from the conclusions reached by the Circuit Court. Its decree is therefore affirmed.

116. NATIONAL CASH REGISTER CO. v. AMERICAN CASH REGISTER CO., 53 Fed. 367, 3 C. C. A. 559, (1892, Third Circuit).

Appeal from the Circuit Court of the United States for the Eastern District of Pennsylvania.

In Equity. Bill by the National Cash Register Company, Michael Campbell, and Maria G. Wellbrock against the American Cash Register Company for infringement of a patent. The Circuit Court, following the decision of the Circuit Court for the district of Massachusetts in *National Cash Register Co. v. Boston Cash Indicator & Recorder Co.*, 45 Fed. Rep., 481, held that there was no infringement, and dismissed the bill. 47 Fed. Rep. 212. Complainants appeal. Reversed.

Before Dallas, Circuit Judge, and Wales and Buffington, District Judges.

Dallas, Circuit Judge. This is an appeal from a decree dismissing a bill for alleged infringement of patent No. 253,506, for an improvement in cash registering apparatus, granted to Michael Campbell, and dated February 14, 1882. The only claim involved is:

“(3) In a cash registering apparatus, a series of keys to designate certain amounts, combined with the drawer, the drawer holder, D, mediately connected with said keys, and the spring to throw the drawer open when released by the drawer holder, substantially as described.”

The defenses are that this claim is invalid, and that, even if valid, it is not infringed. It is insisted that it discloses no patentable invention whatever, but that, if it should be sustained, and as for a combination, the appellee's machine would not be an infringement, because it not only does not contain any of the specific devices of the appellants' apparatus, but also does not employ the combination alleged. The appellants, on the other hand, admit that all the specific devices were old, singly and in other combinations, but assert that what Campbell invented and claimed is a combination and nothing else. Accordingly, their counsel contend that the claim in question is valid, as disclosing a patentable invention of a new and useful combination, and that the appellee's machine is an infringement, not because of any real or supposed identity or equivalence of elements, but because it accomplished the same result as is accomplished by the Campbell machine, by substantially the same mode of operation. We have, then, no issue as to novelty or infringement of details, and therefore the only questions to be considered are: First. Is the claim for a combination, supported by invention? Second. Has the appellee infringed?

1. The claim is, in terms, for mechanism "combined with" other mechanism. It is true that certain particular mechanism is mentioned, but it does not necessarily result that the patentee intended to limit the claim to any special devices, or that the law will so restrict it. The question is one of construction; and as we are of opinion, upon grounds to be hereafter stated, that Campbell's invention was a primary one, it follows that the language of this claim should be as liberally interpreted as its fair import will allow, to the end that his conception shall be justly protected to its true extent, and in its broad and actual scope. The invention, says the specification, "relates to a cash registering apparatus to be employed in connection with a cash drawer," and the claim is for (in such apparatus) a series of keys to designate different amounts, combined with a drawer for receiving cash; a drawer holder, for holding the drawer closed against the tension of the spring, (presently mentioned); a mediate connection (of some kind, not designated) between the series of keys and the drawer holder, by which the latter will be disengaged from the drawer upon the operation of any one of the keys; and a spring to throw the drawer open when so disengaged. By this contrivance the cash drawer, which when closed is always locked, is, by the operation of any one of the keys of the series, thrown open by the spring; and none of the devices by which this object is accomplished, so far as they are designated in the third claim, were new. The series of keys, the cash drawer, and the spring were unquestionably old; and the drawer holder is but a pivot lever, differing from other levers of the same class in nothing but in form, and in the use to which the patentee applied it. Of any particular mechanism of mediate connection, nothing need be said at this point. None is specifically mentioned in the claim with which, alone, we are concerned; and for the present purpose it may be taken for granted that none which was new was contemplated. It is clear, then, that so to construe this claim as to confine it to specific details would be to invalidate it for lack of novelty: A consequence which certainly ought not to be accepted when, according to the natural and ordinary meaning of its language, it plainly appears to be a claim for a new combination of old devices,—a well known series of keys combined with the other familiar mechanism mentioned, and mediately connected, in some way not mentioned, with the drawer holder included in that mechanism. It cannot be restricted to all or any of the devices used in the mediate connection between the series of keys and the drawer holder, not only because they are not even specified in the third claim, but also because they are expressly claimed in the second claim, which is:

"(2) In a cash registering apparatus, a series of keys to designate certain amounts, a pawl-carrying bar, c, and a series of toggle

levers, x, intermediate between each key and the said pawl-carrying bar, the toggle lever, b, actuated by the bar, c, combined with the drawer holder, D, and drawer, C, substantially as described."

There is nothing upon this record which would warrant us in attributing to the patentee the folly of having presented, and to the patent office the improvidence of having allowed, two claims for the same thing. The distinction between them must be maintained, that both may be given effect.

The court, whose decree is the subject of this appeal, expressed no independent opinion, but merely followed the decision of the Circuit Court for the district of Massachusetts in a suit in which the same claim had been in controversy. *National Cash Register Co. v. Boston Cash Indicator & Recorder Co.*, 45 Fed. Rep. 481-485. The course pursued in this regard was in conformity with the rule, well established in this circuit, to follow, unless under extraordinary circumstances, a prior judgment of any other of the circuit courts of the United States, wherever the patent, the question, and the evidence are the same in both suits. We do not question the propriety of this practice, as it has heretofore prevailed; but it cannot be extended to this court. The decisions of the several Circuit Courts, whenever pertinent, will be attentively considered by this tribunal; but because they are subject to appeal, and for other manifest reasons, it is not admissible for a court of review to accord them controlling effect. Accordingly, we have in this instance carefully examined the opinion of the learned circuit judge of the first circuit; but, though regarding it with sincere respect, we find ourselves unable to concur in it. This claim, as we read it, is, distinctly, exclusively, and broadly, for a new combination; and we know of no authority or principle of law which, so reading it, would warrant us in converting it, by construction, into a claim for details merely.

Thus far we have assumed that the actual invention was of a new and useful combination, and also (perhaps without necessity) that it was a primary one. We will now state the reasons by which these assumptions are supported. Whether or not the "connecting mechanism" between the drawer holder and the keys was new with Campbell is, in our opinion, apart from the question. That mechanism, or any part of it, was not, as we have shown, covered by the claim in controversy. The complainants' bill was not founded upon it; and this court is not called upon to deal with it, but solely with an alleged combination, which it is asserted, but denied, was invented by Campbell. Directing our investigation, therefore, to this distinct issue, we have, upon full examination of the proofs, become entirely satisfied that Campbell was in fact the original and first inventor of the combination claimed in his third claim. It is unnecessary to refer in detail to the several exhibits which were

introduced to show the prior state of the art, or to enter upon a discussion of the testimony. It is enough to say that, upon all the evidence, we do not doubt that Campbell was the first person who combined a series of keys with any other mechanism whatever, so as to attain the object which he proposed and accomplished. It nowhere appears that a combination of a series of keys with a drawer holder and other mechanism had ever before been conceived, by means whereof each key of the series, when and as operated, would or could unlock a drawer in a cash registering apparatus, and permit a spring to open it. This Campbell effected, not by new mechanism, but by a new combination, and in doing this he made a patentable invention.

We have not overlooked the suggestion of appellee's counsel that Campbell's conception and arrangement were merely of an aggregation of known elements, not amounting to a true combination, and that, therefore, he was not entitled to a patent for anything. This suggestion is based upon the allegation that each of the elements associated by Campbell does not qualify every other of them; but this is true only in the sense that each does not modify or change the characteristic mode of action, or method of operation, of the others. In doing its appointed share towards effecting the single result achieved by the co-operation of all, each element acts, of course, according to the law of its own being; but though of necessity so acting, it is still, none the less, combined with the others, and does "qualify" each and all of them, (not their distinctive methods of operation), in the sense that each is, by the co-operation of the others, capacitated to contribute, by acting in its own peculiar way, to the common end, which, without the co-operation of each and every other of the co-ordinated elements, it would be powerless to accomplish or advance. Some of the language used by Mr. Justice Matthews in delivering the opinion of the Supreme Court in *Pickering v. McCullough*, 104 U. S. 310, has been pressed upon our attention, as indicating, it is claimed, that in a patentable combination of old elements all the constituents must so enter into it that each changes the mode of action of every other, and that each element must not merely perform its own part in the combination, but must also, in some way, be directly and immediately concerned in the performance of their respective parts by every other of the elements. No such doctrine as is thus claimed to be deducible from the opinion in *Pickering v. McCullough* appears to have been essential to the judgment in that case, nor do we think it necessary to attribute to the particular language referred to (104 U. S. 318) the meaning ascribed to it by counsel. If, instead of an extract, the whole opinion be read, in connection with the authorities which are cited in it, it may be readily perceived that the substance of the doctrine intended to be

affirmed is that a combination, to be patentable, must produce a new and useful result, as the product of the combination, and not a mere aggregate of several results, each the complete result of one of the combined elements. There must be a new result produced by their union. That Campbell's invention was of a combination, as thus defined, we entertain no doubt; and that Mr. Justice Matthews should be understood as holding that no combination is patentable which does not fulfill the requirement which appellee's counsel insists is requisite, we cannot suppose. If it were essential to a valid patent for any combination whatever that the mode of action of every element included in the combination should be changed by each of the others, it would have been impossible to sustain several combination patents which have in fact been upheld, as, indeed, it would be difficult to conceive of any mechanical combination which would be both possible and patentable. A screw or a lever can act only in one way, yet a screw and a lever may so act in combination as to produce, in consequence of their combination, a single, new, and useful result. Moreover, there is no intimation in the opinion in *Pickering v. McCullough* of a purpose to overrule the earlier decisions with which (upon the view taken of it by counsel) it would appear to conflict, nor has it in later cases (which, of course, are to be followed) prevented the Supreme Court from declaring the law of this subject in accordance with our understanding of it. *Blake v. Robertson*, 94 U. S. 728; *Parks v. Booth*, 102 U. S. 96; *Loom Co. v. Higgins*, 105 U. S. 580; *Clough v. Barker*, 106 U. S. 166, 1 Sup. Ct. Rep. 188; *Lake Shore & M. S. Ry. Co. v. National Car Brake Shoe Co.*, 110 U. S. 229, 4 Sup. Ct. Rep. 33; *Lock Co. v. Sargent*, 117 U. S. 536, 6 Sup. Ct. Rep. 934.

Campbell's invention was a primary one. The proofs abundantly establish that he was the first person who succeeded in effecting in any manner or form whatever, the opening of an automatically locked cash drawer, in a cash registering apparatus, upon the operation of any one or other of the keys of its series. In doing this he did not merely improve upon something which had been done before. What he produced was absolutely and entirely new. The result which he achieved was a distinct and single one, which had not, by any means, been previously attained. He entered upon barren territory in the domain of invention, and was the first to occupy and appropriate it. He was a pioneer. *Machine Co. v. Lancaster*, 129 U. S. 263, 273, 9 Sup. Ct. Rep. 299. That Campbell's invention was useful, we are also fully persuaded. The evidence of this is so complete as not to require detailed discussion. Indeed, the ocular proof of its practical utility, manifested by the operation of the apparatus in our presence, would of itself be suffi-

cient to require us to conclude that it does not lack this essential of patentability.

2. But little need be added with especial reference to the matter of infringement. In *National Cash Registering Co. v. Boston Cash Indicator & Recorder Co.*, supra, it was held that the mechanism specifically designated in the third claim was old, but that the mechanism of mediate connection, which was not designated, was new, and that there was no infringement of the patent, because the defendants used a connecting mechanism which differed from that used by the plaintiffs. As we, however, have been constrained to view this claim as for a combination, the question of infringement must necessarily be considered by us as related to a subject quite distinct from that to which the same question was directed in the decision of the case to which we have referred. The correct inquiry, from our point of view, is not whether this appellee uses, in its mechanism of mediate connection, the same devices which are used by the appellants, or equivalents thereof, but whether the mediate connection employed by the appellee is not itself an equivalent of the mediate connection of the Campbell combination. It may be conceded that there are marked differences in the details by which this connection is made, and its purpose accomplished, in the one apparatus and in the other; but the manifestly well-founded expert testimony is that "a mediate connection," not the details thereof, is included among the elements of the Campbell machine. This element, as well as all others of the patented invention, are found in the appellee's apparatus. We attach no importance to the fact that in the appellants' machine the drawer is released upon downward pressure of the key, while in that of the appellee it is released as the finger leaves the key to which the pressure is applied. In both, the drawer is opened by what is substantially one and the same act,—the operation of a key of the series. Though some of the corresponding parts of the machinery are not the same, and, separately considered, could not be regarded as identical or conflicting, yet, having the same purpose in the combination and effecting that purpose in substantially the same manner, they are the equivalents of each other in that regard. *Cochrane v. Deener*, 94 U. S. 780. We are of opinion that the combination here claimed is infringed by the apparatus used by the appellees.

The decree of the Circuit Court is reversed, with costs, and it is ordered that this cause be, and the same is hereby, remanded to the said Circuit Court for further proceedings to be there taken in pursuance of this determination and judgment of this court, and in conformity with this opinion.

117. ANTISDEL v. CHICAGO CO., 89 Fed. 308, 32 C. C. A. 216, (1898, Seventh Circuit, Patent No. 486,113).

Woods, Showalter, Baker.

* * *

In answer to the objection that the patent is for an aggregation, it is insisted that the doctrine of aggregation does not apply because the patent is not for a machine, which has a law of action, but is for an article of manufacture, patentable for its peculiarities of construction "if each enters into the structure in such a way as to make it a new and useful device as a whole." Even by this rule the cabinet in question was not patentable, because it contains many old features or parts which in no way contribute to the novelty of the device as a whole, and whatever novelty there is in it is confined to one or two features of construction. But the proposition that the doctrine of aggregation is restricted in its application to machines as distinguished from articles of manufacture does not seem to be sustained by the decided cases. *Hailes v. Van Wormer*, 20 Wall. 353; *Reckendorfer v. Faber*, 92 U. S. 347; *Trimming Co. v. Welling*, 97 U. S. 7; *Slawson v. Railroad Co.*, 107 U. S. 653; *Bussey v. Manufacturing Co.*, 110 U. S. 146, 4 Sup. Ct. 38; *Hill v. Wooster*, 132 U. S. 693; *Rob. Pat.* §§ 154, 182, 185, note 1. See, also, *Campbell v. Bayley*, 11 C. C. A. 284, and 63 Fed. 463, and cases there cited.

Aside from the question of aggregation, this patent is invalid for the other reason urged that the device described is not an invention or discovery. To repeat the language used in *Campbell v. Bayley*, *supra*:

"Whether, within the meaning of the patent law, a device should be deemed a manufacture or a machine, in order to be patentable it must be novel; and by the decided cases the test of novelty would seem to be essentially the same in the one instance as in the other. 'Nothing short of invention or discovery will support a patent for a manufacture, any more than for an art, machine, or composition of matter,' said Justice Clifford, in *Milligan & Higgins Glue Co. v. Upton*, 4 Cliff. 237, 251, Fed. Cas. No. 9,607; and the same expression is repeated in *Collar Co. v. Van Dusen*, 23 Wall. 530, 563, in context with the following pertinent statement: 'Articles of manufacture may be new in the commercial sense when they are not new in the sense of the patent law. New articles of commerce are not patentable as new manufactures, unless it appears in the given case that the production of the new article involved the exercise of invention or discovery beyond what was necessary to construct the apparatus for its manufacture or production.'"

This patent perhaps shows some features not before combined in exactly the same way, but "it is not enough that a thing shall be new in the sense that in the shape or form in which it is produced it shall

not have been before known, and that it shall be useful, but it must, under the constitution and the statute, amount to an invention." *Thompson v. Boisselier*, 114 U. S. 1, 11, 5 Sup. Ct. 1042.

It is suggested that the margin of invention is certainly as great in this as in the recent case of *Williams v. Wrapper Co.*, 30 C. C. A. 318, 86 Fed. 641, decided by this court. But it is only necessary to refer to the opinion there delivered for the clear distinction between the cases. It was there said of the Williams' invention, but cannot be said of the device now in question:

"It is different from anything before it, and is not an obvious or natural suggestion of what had preceded it in the art. * * * Simple as it is, it was a happy thought, and we hold it to have been a patentable discovery, because it was not directly suggested by anything which preceded it in the art to which it belongs, and was not fairly or logically deducible from any or all of the prior forms of construction."

These expressions were carefully framed, and are believed to embody an accurate statement of the general rule by which, in respect to novelty, the patentable and the unpatentable are to be distinguished.

The decree below is reversed, with direction to dismiss the bill.

118. WESTERN ELECTRIC CO. v. NORTH ELECTRIC CO., 135 Fed. 79, 67 C. C. A. 553, (1905, Sixth Circuit, Patent No. 552, 5793).

Lurton, Severens, Richards.

* * *

Nothing in the prior art is shown to us which anticipates these claims. We might properly repeat the observations we have made regarding the conditions existing at the date of the other patents as correctly stating the conditions existing at the date of this invention; that is to say, no such combinations of means are to be found in the prior art. All three of these patents may well stand upon the rule which has several times been affirmed in this court, namely, that while the mere assembling in a new organization of parts of old structures to perform the same function in their new place that they did in the old is not invention, yet where they are so taken and are organized in a new and useful manner, so as to produce a more beneficial result, there may be invention; and when the combination displays the exercise of intuitive skill and genius beyond that possessed and exercised by those well skilled in the practice of their art, and the discovery is of something new and useful, invention should be recognized. As we have already indicated, we think that each of these patents shows a distinct advance in the progress of the art with which it is concerned. And the number of patents relating to this subject which had been taken out is strong evidence

that the results which had already been reached had already exhausted the common skill and learning of the craft.

119. DUNBAR v. EASTERN ELEVATING COMPANY, 81 Fed. 201. 26 C. C. A. 330, (1897, Second Circuit, Patent Reissue No. 10,521).

* * *

Before Wallace, Lacombe and Shipman, Judges.

Wallace, J. This appeal presents the question of the patentable novelty of the apparatus described and claimed in reissued Letters Patent No. 10,521, dated September 16, 1884, to Robert Dunbar. The subject of the patent is a portable elevator adapted for use in connection with an ordinary grain-elevator for unloading grain from vessels.

* * *

Concededly Dunbar is entitled to the credit of originating the conception of using a second elevator as an adjunct of the ordinary grain-elevator, which could be moved so as to reach the different hatches of the vessel and discharge into the main elevator; but his right to a patent cannot rest upon this conception alone. It must rest upon the novelty of the means which he contrived to embody the conception and to carry it into practical application. He effected a new organization of a portable elevator; but if this did not involve invention, but was that which could have been done by the skilled mechanic by selecting known devices, applying them to their appropriate uses, and introducing such modifications of detail to fit them for the new environment as would be dictated by experience and good judgment, the patent cannot be sustained.

It is manifest from what has been said of the prior state of the art that what Dunbar did was to adapt well-known devices to the special purpose to which he contemplated their application. The elevator, with all its equipment for reaching, raising, and transferring grain, was at hand. Various forms of portable elevators carried by wheels and moved upon tracks were at hand. To adapt his elevator to the new occasion, it was necessary that a track should be located in such relation to the warehouse that the elevator could be moved upon it back and forth to reach vessels lying at the dock and discharge their contents into the warehouse. The devices known to builders and in common use for moving similar structures were at hand, and it was only necessary for him to select them with reference to the particular structure to be moved. It was necessary to select a more powerful windlass and a stronger cable if he proposed to move an elevator of large size and weight than would be required to move one of smaller size and weight. It was necessary that appropriate fastening devices should be selected to secure the elevator to the warehouse when doing its work of discharging from the vessel, and these were at hand in great variety of forms. It

was also necessary that a receptacle for the grain at the warehouse should be provided which could be reached by the discharging-spout of the elevator.

We are unable to doubt that all these things were within the range of ordinary mechanical skill, and that they could have been suggested and constructed by any competent builder, and that what Dunbar did was merely to exercise the common skill of the calling in locating his track and selecting his moving and fastening devices and in arranging the proportions and subsidiary features of his portable elevator to correspond with those of the warehouse. The fastening devices which he employed have no special novelty, if, indeed, they are of any utility except when the movable elevator is a tall one. Hooks would have answered as well, and upon the tall elevator of the defendants hooks are used. Any intelligent man would have known that if a tall elevator were to be used it would be expedient to attach the structures together at the upper part. The trough which he placed along the front of the warehouse was the receptacle most obviously convenient and in common use in the grain-elevators for distributing the grain to different parts of a building. It certainly did not involve inventive skill to place it on the outside of the building, within reach of the spout of the portable elevator.

We are not unmindful of the advantages which have resulted from the new organization of the elevator described in the patent, but we are unable to doubt that the improvements of Dunbar were but the work of an intelligent builder. When in the evolution of grain-elevator construction their desirability became manifest, it did not require genius or inventive faculty to create them. As was said in *Atlantic Works v. Brady*, 107 U. S. 192: 2 Sup. Ct. 225, the process of development—

“creates a constant demand for new appliances, which the skill of ordinary head workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development.”

The learned judge who decided the cause in the court below said:

“Unquestionably, the methods adopted by the inventor to carry out his conception, considered separately, were old, but the combinations were new. Wheels, tracks, spouts, windlasses, troughs, and guy-ropes were undoubtedly well known, but no one had ever assembled them in congeries producing a movable elevator-tower.”

The circumstance that the same congregation of devices has never been assembled in a new location is not controlling and is often of little value in determining the question of patentable novelty. Their assemblage may be nothing but another instance of a double use, and when they require special adaptation to the

new arrangement and occasion it still remains to inquire whether this has required invention.

“It rarely happens that old instrumentalities are so perfectly adapted for a use for which they were not originally intended as not to require any alteration or modification. If these changes involve only the exercise of ordinary mechanical skill, they do not sanction the patent, and in most of the adjudged cases where it has been held that the application of old devices to a new use was not patentable there were changes of form, proportion, or organization of this character which were necessary to accommodate them to the new occasion. (Aron v. Railway Co., 132 U. S. 90.)

We conclude that the patent is void for want of novelty and that the decree should be reversed, with costs, and with directions to dismiss the bill.

120. RICHARDS v. CHASE ELEVATOR CO., 158 U. S. 299, 39 L. ed. 991, 15 Sup. Ct. 831.

* * *

Mr. Justice Brown delivered the opinion of the Court.

While patent cases are usually disposed of upon bill, answer and proof, there is no objection, if the patent be manifestly invalid upon its face, to the point being raised on demurrer, and the case being determined upon the issue so formed. We have repeatedly held that a patent may be declared invalid for want of novelty, though no such defense be set up in the answer. (Dunbar v. Myers, 11 O. G. 35; 94 U. S. 187; Slawson v. Grand Street R. R. Co., 24 O. G. 99; 107 U. S. 649; Brown v. Piper, 10 O. G. 417; 91 U. S. 37.)

The patent in question is for the combination of, first, a fixed or stationary building; second, two railway-tracks; third, an elevating apparatus; fourth, elevator hopper-scales, having a fixed or stationary hopper, provided with a valve or slide in its bottom; fifth, a discharge-spout, arranged for discharging the grain directly from the hopper into a car.

The second claim has the same combination duplicated, with the addition of a horizontal conveyer; the chutes J J having therein doors or valves, and the slides or doors O O.

It is not claimed that there is any novelty in any one of the elements of the above combination. They are all perfectly well known, and if not known in the combination described, they are known in combinations so analogous that the Court is at liberty to judge of itself whether there be any invention in using them in the exact combination claimed. We do not feel compelled to shut our eyes to a fact so well known as that elevators have, for many years, been used for transferring grain from railway-cars to vessels lying alongside, and that this method involves the use of a railway-track,

entering a fixed or stationary building; an elevator apparatus; elevator hopper-scales for weighing the grain; and a discharge-spout for discharging the grain into the vessel. There is certainly no novelty in using two railway-tracks instead of one, or in discharging the grain into a second car, instead of a storage-bin or a vessel. Unless the combination accomplishes some new result, the mere multiplicity of elements does not make it patentable. So long as each element performs some old and well known function, the result is not a patentable combination, but an aggregation of elements. Indeed, the multiplicity of elements may go on indefinitely without creating a patentable combination, unless by their collocation a new result be produced. Thus, nothing would have been added to the legal aspect of the combination in question by introducing as new elements the car from which the transfer was made; the engine that drew such car; the steam-shovel; the engine that operated the shovel and the elevator; as well as the locomotive which drew the loaded car from the building, though these are all indispensable features, since each of them is an old and well-known device, and performs a well understood duty.

Suppose, for instance, it were old to run a railroad track into a station or depot for the reception and discharge of passengers, it certainly would not be patentable to locate such station between two railroad tracks for the reception of passengers on both sides, and to add to the accommodations a ticket-office, a newspaper-stand, a restaurant, and cigar-stand, or the thousand and one things that are found in buildings of that character. It might as well be claimed that the man who first introduced an elevator into a private house, it having been previously used in public buildings, was entitled to a patent for a new combination.

Not a new function or result is suggested by the combination in question. The cars run into the building on railway-tracks, as they have done ever since railways were invented. The building is fixed and stationary, as buildings usually are. It is no novelty that it should contain an elevating device, and that the latter should raise the grain to the hopper-scale, and should discharge it either into a bin or a vessel, or into another car. In principle it makes no difference which.

In fact, the combination claimed is a pure aggregation, and the decree of the court dismissing the bill is, therefore, affirmed.

[Rehearing denied, 159 U. S. 477, 40 L. ed. 225.]

121. FOWLER v. NEW YORK, 121 Fed. 747, 58 C. C. A. 113, (1903, Second Circuit).

Before Wallace and Coxe, Circuit Judges.

Coxe, Circuit Judge: This is an equity action for the threatened infringement of letters patent, No. 570,451, granted November 3,

1896, to Benjamin F. Carpenter for a "bitransit railway system." The specification contains five double-column pages of description and ten claims. It explains with painstaking elaboration and minuteness the difficulties encountered in providing rapid transit in large cities and the remedies proposed by the patentee for overcoming these difficulties.

The defendants demurred upon the ground that the patent upon its face discloses an entire lack of patentable novelty and that the claims are not for combinations but for aggregations merely. The demurrer was sustained and the bill dismissed. The complainant appeals.

The first proposition argued is that the patent cannot be considered for the reason that it is not set out in extenso in the bill or attached thereto. [Overruled.] * * *

After describing generally what he proposes to accomplish the patentee says:

"From the above description it will be perceived that my invention furnishes a new method of handling the passengers to secure quick delivery at various points between the ends of an express route."

In other words, the patent describes a new plan for handling the large number of passengers who patronize the public vehicles provided for rapid transit in large cities. It is argued that this is patentable as a "machine" under the language of the statute just quoted.

If a scheme for handling the traveling public in congested districts can, for patent purposes, be regarded as a machine, it is by no means easy to perceive why a new plan for reorganizing the police force, or mobilizing the army or manipulating the guests at crowded public functions, may not also be aptly described as a machine and patented as such.

Conceding, arguendo, that a plan such as is disclosed in the Carpenter patent may, if new and useful, be patented as a machine, it is manifest that no mere abstraction, no idea, however brilliant, can be the subject of a patent irrespective of the means designed to give it effect.

* * *

After giving careful consideration to the arguments advanced on behalf of the complainant we find it impossible to discover any ground for sustaining the patent. The rapid transit problem has been for years a most serious one, especially in the city of New York where the principal obstacles have been lack of space and lack of money to complete such a tremendous undertaking as a suitable subway. Given a four-track road devoted wholly to the transportation of passengers and any competent railroad engineer would know at once how to manage it. He would know where to locate the

stations, loops and switches, and he would assuredly arrange for the ingress and egress of passengers so that they would not be compelled to cross the tracks at grade. To plan all these details would undoubtedly require ability of a high order, but not inventive genius. The organizer of such a system would have all the materials ready at his hand with nothing remaining but to adapt them to the new environment.

The court will take judicial knowledge of the fact that for a quarter of a century, at least, it has been customary for travelers living at small towns to take local trains to large cities, remain at the station and, upon the arrival of the express, cross the platform and board it. Even if it be true that, prior to 1895, the trains on either side of island platforms ran in opposite directions, it surely did not involve an exercise of the inventive faculties to run these trains in the same direction. As before pointed out the reason why this was not done before is that there was no necessity for it. The moment that a four-track passenger railroad was projected the wisdom of such an arrangement was obvious.

The case of *Richards v. Chase Elevator Co.*, 158 U. S. 299, 15 Sup. Ct. 831, 39 L. ed. 991, is directly in point. The alleged invention consisted in apparatus for transferring grain from one car to another. The court held the patent void on demurrer and, in order to emphasize the absurdity of the complainant's contention, used language which seems almost prophetic of the "bitransit system." The court says:

"Suppose, for instance, it were old to run a railroad track into a station or depot for the reception and discharge of passengers, it certainly would not be patentable to locate such station between two railroad tracks for the reception of passengers on both sides, and to add to the accommodations a ticket office, a newspaper stand, restaurant, and cigar stand, or the thousand and one things that are found in buildings of that character."

Compare this language with the following quotation from the Carpenter patent:

"Safe and convenient access to the transfer platforms is then effected by extending staircases upward or downward to the street (as the case may be), and the platforms thus furnish not only the shortest and easiest means of transfer between the cars of the slow and fast trains, but may, when required, afford means of access to and from the street and accommodations for station purposes with ticket office and waitingroom."

We have considered each of the claims separately and find that the same difficulty is applicable to all, namely an entire lack of patentable novelty.

We are of the opinion that the decree of the Circuit Court is right and should be affirmed, with costs.

122. PELTON WATER WHEEL CO. v. DOBLE, 190 Fed. 760, (C. C. A.) (1911, Ninth Circuit).

Before Gilbert and Morrow, Circuit Judges, and Hanford, District Judge.

Gilbert, C. J.:

* * * It is contended that the claims of the Doble patent cover a mere aggregation of elements, and not a true combination. An aggregation is the mere assembling of separate elements without changing their respective separate functions or accomplishing any result other than the added results of those functions. In order to be patentable, a combination of elements must in their correlation produce a different force, or effect, or result, from the sum of that which is produced by their separate parts. *Reckendorfer v. Faber*, 92 U. S. 347, 23 L. ed. 719. It is not necessary that each element in performing its own function shall also modify the function performed by the others. *Hailes v. Van Wormer*, 20 Wall. 353, 22 L. ed. 241. It is generally sufficient if there be such co-action that a result is produced which is new, and the result is new if it is substantially a better result than that which has been accomplished by other combinations. *Loom Co. v. Higgins*, 105 U. S. 580, 26 L. ed. 1177.

The fact that there is novelty in one of the elements, as in the present case in the change of the plane of the nozzle pivot, does not justify a claim to a combination of the elements; unless there is co-action between them to produce a new result, and a combination is not unpatentable merely because the result might have been accomplished by other combinations. The claims of the patent in suit cover a hydraulic apparatus consisting of an impact wheel with buckets, a nozzle pipe of double curved form for directing a stream of water upon the buckets, means for varying the amount of water discharged from the nozzle, and a supply pipe to which the nozzle is pivoted on an axis in the plane of its sinuosity, and substantially parallel to the axis of the wheel. We think there can be no question that the elements so described co-operate to produce a single result, which is the perfect regulation of the jet, together with the greatest practical economy of water. The means for varying the amount of water discharged from the nozzle is the needle valve, and this not only controls the volume of the jet, but through the action of the governor it also controls the direction of the jet. The nozzle pivoted to the pipe line in a plane at right angles to the plane of its curvature renders the nozzle sensitive to the deflecting power of the governor. The result is a successfully working combination, one that marks a distinct improvement upon any prior combination. This result would not be produced by the elements in their separated state, or as assembled in a mere aggregation without co-operation and functional relations to each other. In the oral argument coun-

sel for the appellant laid stress upon the fact that the needle valve does not act automatically, and contended that the necessity for manual operation thereof to increase or decrease the flow of water through the nozzle indicates lack of co-action of all the elements of the patented combination. It is the opinion of the court, however, that this is not a reliable test of a patentable combination applicable to this case, since the needle valve does by its action, in the combination, contribute to the production of the desired result.

* * *

123. ATLAS CEMENT CO. v. SANDUSKY CEMENT CO., 196 Fed. 385, 398 (C. C. A.) (1912, Seventh Circuit.)

Before Grosscup, Baker and Kohlsaas, Circuit Judges.
Baker, Circuit Judge:

* * *

Hurry and Seaman were the first to burn powdered coal with commercially successful results in rotary kilns. So were the patentees in *Westinghouse v. Boyden*, 170 U. S. 537, 18 Sup. Ct. 707, 42 L. ed. 1136, *Kokomo Co. v. Kitselman*, 189, U. S. 8, 23 Sup. Ct. 521, 47 L. ed. 689; *Cimiotti v. Fur. Co.*, 198 U. S. 408, 25 Sup. Ct. 697, 49 L. ed. 1100, and many other cases, the first to achieve their disclosed results. But that fact is not sufficient to shut off the public from using the common knowledge and the common skill in adapting other devices to produce the same result by a different principle of operation, especially where every underlying concept is old and has been fully disclosed. The decree is affirmed.

124. COFFIN v. OGDEN, 85 U. S. 120, L. ed. 821. (Patent Reissue No. 1390.)

Opinion by Mr. Justice Swayne:

* * * The appellant was the complainant in the court below, and filed this bill to enjoin the defendants from infringing the patent upon which the bill is founded. The patent is for a door lock with a latch reversible, so that the lock can be applied to doors opening either to the right or the left hand. It was granted originally on the 11th of June, 1861, to Charles R. Miller, assignee of William S. Kirkham, and reissued to Miller on the 27th of January, 1863. On the 10th of June, 1864, Miller assigned the entire patent to the complainant. No question is raised as to the complainant's title, nor as to the alleged infringement by the defendants. The answer alleges that the thing patented, or a material and substantial part thereof, had been, prior to the supposed invention thereof by Kirkham, known and used by divers persons in the United States, and that among them were Barthol Erbe, residing at Birmingham, near Pittsburg, and Andrew Patterson, Henry Masta, and Bernard

Brossi, residing at Pittsburg, and that all these persons had such knowledge at Pittsburg. The appellees insist that Erbe was the prior inventor, and that this priority is fatal to the patent. This proposition, in its aspects of fact and of law, is the only one which we have found it necessary to consider.

Kirkham made his invention in March, 1861. This is clearly shown by the testimony, and there is no controversy between the parties on the subject.

It is equally clear that Erbe made his invention not later than January 1st, 1861. This was not controverted by the counsel for the appellant; but it was insisted that the facts touching that invention were not such as to make it available to the appellees, as against the later invention of Kirkham and the patent founded upon it. This renders it necessary to examine carefully the testimony upon the subject.

* * *

There is no proof that Erbe made any locks according to his invention here in question but those mentioned in his testimony. He applied for a patent in 1864, and failed to get it. Why, is not disclosed in the record.

The appellants called no witnesses at Pittsburg or elsewhere to contradict or impeach those for the appellees. Brossi was subjected to a rigorous cross-examination, but, in our judgment, it in nowise diminishes the effect of his testimony in chief. The counsel for the appellants asked with emphasis, in the argument here, why the defendants had not called Jones, of the firm of Jones, Wallingford & Co.? The question was well retorted, why was he not called by the other side? He does not appear in a favorable light. He prevented Erbe, who was in his employ from going to New York to testify in behalf of the defendants, and avowed a determination to prevent, if it were possible, their obtaining the testimony of Brossi, Masta, and Patterson. It is difficult not to regard him with a feeling akin to that which attends the presumptions *in odium spoliatoris*. We entertain no doubt that the testimony of all these witnesses is true in every particular, including the statement of Brossi as to putting the lock on the door. If that were false, doubtless Jones would have been called to gainsay it. His hostility to the defendants is a sufficient reason for their not calling him for any purpose.

The case arose while the Patent Act of 1836 was in force, and must be decided under its provisions. The sixth section of that act requires that to entitle the applicant to a patent, his invention or discovery must be one "not known or used by others before his invention or discovery thereof." The fifteenth section allowed a party sued for infringement to prove, among other defenses, that the

patentee "was not the original and first inventor of the thing patented, or of a substantial and material part thereof claimed to be new."

The whole act is to be taken together and construed in the light of the context. The meaning of these sections must be sought in the import of their language, and in the object and policy of the legislature in enacting them. The invention or discovery relied upon as a defense, must have been complete, and capable of producing the result sought to be accomplished; and this must be shown by the defendant. The burden of proof rests upon him, and every reasonable doubt should be resolved against him. If the thing were embryotic or inchoate; if it rested in speculation or experiment; if the process pursued for its development had failed to reach the point of consummation, it cannot avail to defeat a patent founded upon a discovery or invention which was completed, while in the other case there was only progress, however near that progress may have approximated to the end in view. The law requires not conjecture, but certainty. If the question relate to a machine, the conception must have been clothed in substantial forms which demonstrate at once its practical efficacy and utility. The prior knowledge and use by a single person is sufficient. The number is immaterial. (*Beford v. Hunt*, 1 Mason 302). Until his work is done, the inventor has given nothing to the public. In *Gayler v. Wilder*, the views of this court upon the subject were thus expressed: "We do not understand the Circuit Court to have said that the omission of Conner to try his safe by the proper tests would deprive it of its priority; nor his omission to bring it into public use. He might have omitted both, and also abandoned its use and been ignorant of the extent of its value; yet if it was the same with Fitzgerald's, the later would not, upon such grounds, be entitled to a patent; provided Conner's safe and its mode of construction were still in the memory of Conner before they were recalled by Fitzgerald's patent." Whether the proposition expressed by the proviso in the last sentence is a sound one, it is not necessary in this case to consider.

Here it is abundantly proved that the lock originally made by Erbe "was complete and capable of working." The priority of Erbe's invention is clearly shown. It was known at the time to at least five persons, including Jones, and probably to many others in the shop where Erbe worked; and the lock was put in use, being applied to a door, as proved by Brossi. It was thus tested and shown to be successful. These facts bring the case made by the appellees within the severest legal tests which can be applied to them. The defense relied upon is fully made out.

125. BRUSH v. CONDIT, 132 U. S. 39, 33 L. ed. 251, 10 Sup. Ct. 1 (1889).

* * *

Blatchford, J.: This is an appeal by the plaintiffs, Charles F. Brush and the Brush Electric Company, in a suit in equity brought by them in the circuit court of the United States for the southern district of New York, against C. Harrison Condit, Joseph Hanson, and Abraham Van Winkle, from a decree dismissing, with costs, their bill of complaint, so far as it relates to reissued letters patent No. 8,718, granted May 20, 1879, to Charles F. Brush, one of the plaintiffs, for "improvements in electric lamps," on an application for a reissue filed April 14, 1879, the original letters patent, No. 203,411, having been granted to said Brush, May 7, 1878, on an application filed September 28, 1877. The rights of the plaintiffs were finally rested upon an alleged infringement of claims 1, 3, 5, and 6 of the reissue. Another patent was sued on in the case, but at the final hearing the bill in regard to it was dismissed with costs, on motion of the plaintiffs. * * *

In this automatic arrangement the electric arc is established, and then, as the electrodes are consumed, the arc is regulated by causing the strength of the current and the length of the arc mutually to control each other. There is no clock-work or other extraneous power, but the action of the electric current alone effects the necessary movements. The electrodes tend to move towards each other at all times, and this tendency is opposed by the electro-magnetic action, which tends to separate them. These opposing forces are designed to be in equilibrium when the electrodes are at such a distance from each other as will produce the maximum development of light with a given electric current. It was to an electric arc lamp of this character that the invention of Brush was to be applied. * * *

Claims 1, 3, 5 and 6 of the reissue, on which alone recovery is sought, read as follows, there being eight claims in all in the reissue as granted: "(1) In an electric lamp, the combination, with the carbon holder and core, of a clamp surrounding the carbon holder, said clamp being independent of the core, but adapted to be raised by a liiter secured thereto, substantially as set forth." "(3) In an electric lamp, the combination of the core or armature, C, the clamp, D, and adjustable stop, D¹, or their equivalents, whereby the points of the carbons are separated from each other when an electrical current is established,—prevented from separating so as to break the current,—and gradually fed together as the carbons are consumed, substantially as described." "(5) In an electric lamp, the combination, with a carbon holder, of an annular clamp surrounding the carbon holder, said clamp adapted to be moved, and thereby to separate the carbon points by electrical or magnetic action, substantially as herein set forth. (6) In an electric lamp, an annular clamp adapted to grasp and move a carbon holder, substantially as shown."

What is called in these claims "the clamp, D," is the ring of metal which surrounds the rod or carbon holder. The specification of the reissue, as granted, contained the following paragraphs: "I do not limit myself narrowly to the ring, D, as other devices may be employed which would accomplish the same result. Any device may be used which, while a current of electricity is not passing through the helix, A, will permit the rod, B, to move freely up and down, but which, when a current of electricity is passing through the helix, will, by the raising of the core, C, operate both to clamp and to raise the rod, B, and thereby separate the carbon points, F, F', and retain them in proper relation to each other." * * *

"Two facts are manifest: (1) That the Hayes clamp was the clamp of the Brush patent; and (2) that it became, after September 16th, a disused piece of mechanism in connection with carbon points. The question then is, was it a perfected and publicly known invention, the use of which was abandoned prior to the date of the Brush invention, or was its use merely experimental, which ended in an abandoned experiment on September 16th?" * * *

"But the facts that the anticipatory device was the device of the patent, and did do practical work, and was put to ordinary use, and that it does not appear that the Hayes clamp was the cause of the neglect with which Wallace & Sons treated the Hayes lamp, seem to me to outweigh the doubts which arise from the shortness of its existence, and its permanent disappearance from a carbon pencil lamp. The case is that of the public, well-known, practical use, in ordinary work, with as much success as was reasonable to expect at that stage in the development of the mechanism belonging to electric arc lighting, of the exact invention which was subsequently made by the patentee; and although only one clamp and one lamp were ever made, which were used together two and one-half months only, and the invention was then taken from the lamp, and was not afterwards used with carbon pencils, it was an anticipation of the patented device, under the established rules upon the subject. With a strong disinclination to permit the remains of old experiments to destroy the pecuniary value of a patent for a useful and successful invention, and remembering that the defendants must assume a weighty burden of proof, I am of the opinion that the patentee's invention has been clearly proved to have been anticipated by that of Hayes. *Coffin v. Ogden*, 18 Wall. 120; *Reed v. Cutter*, 1 Story 590; *Pickering v. McCullough*, 104 U. S. 310; *Curt. Pat. §§ 89-92*. The bill, so far as it relates to the clamp patent, is dismissed."

We have examined carefully the evidence, in this case, relied upon by the plaintiffs to show that the clamp arrangement of Hayes was not a perfected invention, but was merely an abandoned experiment, and we have arrived at the conclusion that Judge Shipman's

views on the subject are correct. They are well and accurately expressed, and we could not add to their force by a prolonged discussion of what is purely a question of fact. The cases of *Coffin v. Ogden* and *Pickering v. McCullough*, cited by Judge Shipman, are enforced by the case of *Hall v. Macneale*, 107 U. S. 90, 97. This latter case meets, also, the objection made by the appellants that the mechanism of the Hayes clutch was concealed from view, and the further objection that it would not operate as perfectly as that of the Brush invention. * * *

It is contended by the appellants that, notwithstanding the prior existence of the Hayes apparatus as a perfected invention, claims 5 and 6 of the reissue are sustainable, because each of them is limited to an "annular clamp." It is urged that the clamp of the patent is a ring which surrounds a cylindrical rod, and that the rod in the Hayes apparatus was square or rectangular, and was surrounded by a rectangular clamp. But it is quite apparent that claims 5 and 6 of the reissue would, if the patent were valid, be infringed by the manufacture and use of the patented apparatus with a rectangular carbon rod surrounded by a rectangular clamp. Such an apparatus might be inferior in perfection and utility to the cylindrical rod with the ring clamp, but it would still embody the principle of the invention, carried out by equivalent means. The improvement, if any, in the use of the circular clamp over the rectangular clamp was only a question of degree in the use of substantially the same means. We are of the opinion that the decree of the circuit court must be affirmed, and it is so ordered.

126. NATIONAL CASKET CO. v. STOLTS, 157 Fed. 392, 85 C. C. A. 300, (1907, Second Circuit, Patent No. 619,567).

Before Lacombe, Coxe, and Ward, Circuit Judges.

Coxe, Circuit Judge: The patent has been so thoroughly discussed in all aspects in the opinions heretofore delivered that it is unnecessary to review the testimony at length. Any one interested in the subject will find the salient features of the prior art, as it existed in the suit pending before Judge Hazel, described in his opinion together with a succinct statement of his reasons for holding the patent invalid. The opinion of Judge Ray presents the argument in favor of patentability briefly and clearly.

We are convinced that the evidence of prior use, presented for the first time in the case at bar, establishes the invalidity of the Hamilton patent. The claim is as follows:

"The combination with a burial casket, of a face-plate comprising a stretched sheet of transparent non-brittle gauze fabric."

The material may be "some comparatively transparent yielding non-brittle fabric, such as silk or wire gauze." The cover of the casket may be of any ordinary form and the face-plate may be at-

tached to the cover by a sliding connection or otherwise. It is manifest, therefore, that a face-plate of transparent non-brittle gauze fabric, whether of silk, cotton or wire, irrespective of the color of the fabric, the fineness of the mesh or the method of attachment, will infringe the claim, and such a structure, if found in the prior art, will anticipate.

Charles H. Magie, Charles Sutton, Knut Nelson, Aaron B. Riggins, William H. Estwick, Lottie Hallock, John D. Ripson and others, testify to having seen such structures long prior to the date of the application. Although the record in the former suit is not before us, it would seem that this testimony was taken for the first time in the present action. We understand the appellant's brief so to state, and the dates when the above named witnesses were sworn were, in each instance, subsequent to the former decision. It is unnecessary to review this testimony in its entirety, as that of Aaron B. Riggins clearly presents the prior use by Taylor & Co. which will serve as a sufficient illustration.

Riggins was sworn March 29, 1906. He was then 48 years old and his business was that of sexton of the Marble Collegiate Church, Fifth avenue, New York. He was also an undertaker, having been in that business over 20 years. He was first employed by Taylor & Co. in 1886 and remained till 1903. From 1886 to 1892 Taylor & Co. occasionally used illusion as a face covering. It was used by being tacked at one end and laid over the opening in the casket, and occasionally it was tacked all the way over the opening. The illusion used was black and white, cotton and silk. The caskets in which black silk illusion was stretched over the face opening and tacked all around were elliptic end caskets, three quarters of the frame being cut out. The cover was not in one piece but was cut through. The black silk illusion was drawn as perfectly smooth as it could be and was tacked all around, over the opening. This was done many times between 1886 and 1892. A small model, consisting of an infant's casket which is clearly within the claim, was presented to the witness and he testified that it showed the illusion tacked over the face opening, head, end and both sides, as in the caskets he had prepared from 1886 to 1892. The witness was subjected to a long and able cross-examination but we are unable to find that his testimony was shaken in any important particular. Unquestionably he swears to numerous instances of prior use. The question for us to determine is, are we warranted in rejecting his testimony as perjury; for there seems to be no middle course. We are clearly of the opinion that such a rejection would be unjustifiable for the following reasons:

First: The witness is a man occupying an important position in which mendacity would not be countenanced, and, so far as the record shows there is no stain upon his character.

Second: He is in the prime of life, of sound mind and memory,

and, therefore, likely to remember the important details of a business in which he has been engaged for over twenty years.

Third: He was a disinterested witness and when he imparted to Mr. Taylor his knowledge of the use of illusion as a face-plate in the past, he did not know of the pendency of this action.

Fourth: In view of the undisputed fact that long prior to the patent silk illusion, or veiling, had been tacked at the head of the casket and laid loosely over the face and upper part of the body, it does not appear at all extraordinary that, when occasion arose, the tacking should have extended to the sides and end; it seems the natural thing to have done.

Fifth: This is not the case, which so frequently occurs, where a witness, having no knowledge of the art in question, testifies as to the minute details of a complicated machine or a complex chemical process which he saw years before. We are now dealing with a witness, concededly familiar with the art, who narrates acts of his own, so simple in character that he can hardly be mistaken regarding them. A carpenter's description of a compound wound dynamo seen by him ten years before might well be received with grains of allowance, but if the question were whether a bookcase built by him at that time was provided with glass doors or curtains, his statement would probably be received without cavil. So it would seem that an undertaker who swears that he tacked silk illusion in a casket as a face-plate, cannot be laboring under a misapprehension. Either the face-plate was attached as he testifies or he is guilty of a deliberate falsehood. As before stated, we regard the latter supposition as an impossible alternative.

Sixth: Riggins is corroborated by a number of witnesses whose testimony though relating to different instances is, substantially, to the same effect as his.

Seventh: The only criticism of his testimony found in complainant's brief is, that he was unable to state definitely how the weave of the illusion used by him compared with that used by the complainant—a sample being shown him. He answered: "I could not testify that it was as fine a weave as that." We believe Riggins to be an honest truthful man, and we cannot resist the conclusion that the defense of prior use has been proved beyond a reasonable doubt.

It follows that the decree is reversed with costs and the cause is remanded to the Circuit Court with instructions to dismiss the bill.

127. McFARLAND v. SPENCER, 23 Fed. 150 (1885, C. C. N. Y.).

Coxe, J.: The complainants are the owners of letters patent No. 76,491, issued to William McFarland and John H. Campbell, April 7, 1868, for a metal tenon for blind-slats. The object of the invention is to provide tenons for blind-slats when the original tenons are broken off or injured so as to become inoperative. * * *

The advantages of the invention are economy, simplicity, symmetry, and durability. It is much cheaper to use the metal tenon than to remove the slat. A person possessed of a pocket-knife and a very limited amount of mechanical skill can make the repair. Prior to the invention, it was necessary to take down the blind, separate the frame, remove the broken slat, substitute the new slat, attach it to the hand-rod which operates the series of slats, and readjust the frame. All this required time and skill, was expensive and inconvenient, and when the work was done it was found almost impossible to make the new slat correspond in color with the old ones. The device is an exceedingly simple and unpretending one,—so simple that, to one who sees it now, the wonder is that it did not occur to some one long before the date of the patent. But it never did. Criticism that an invention is so plain that it must be perceived by all, comes with poor grace from those who did not themselves perceive it.

The answer is confined to specific denials of the allegations of the complaint; no affirmative defense is pleaded. The defendants introduced in evidence a patent granted to George R. Clark, March 5, 1867, for an "improved metallic blind-slat, clasp, and pivot." It consists of a metal cap, carrying a tenon, which fits on the end of the slat. The merits claimed for it are that it prevents longitudinal splitting, and furnishes a pivot of great durability for the slat to turn on. Should a tenon become broken, the frame must necessarily be dismembered, precisely as in the case of the wooden tenon, in order to repair it. The Clark device is wholly dissimilar from that of the complainants'. The defendants also, under objection, introduced testimony showing that in 1837 or 1838, 200 tenons were made, to fill a special order, out of 16-gauge strap-iron, the strap being bent so as to grasp the slat on both sides, and a pivot to swivel the slat being riveted to the bent end. These tenons could not be used for purposes of repair, except by taking the frame apart. It required mechanical skill to apply them, and they could be made only on special order, as it was necessary that they should exactly fit the slat. The defendants also proved that between 1849 and 1851 the iron shutter of a building on Reade street, New York, was repaired with a tenon like the complainants'; also that in 1844 and 1846, in Germany, similar tenons were used in the original construction of iron shutters, and that for 300 years shutters so made had been used in the tower of the church at Wittemberg, to the front door of which Martin Luther nailed his theses. It will be seen that even had the defendants pleaded prior use, as required by section 4920 of the Revised Statutes, there is nothing in this testimony which anticipates the complainants' invention. There is no allegation that the inventor or other persons here had knowledge of the alleged prior use in Germany; but in any view the evidence is wholly inadequate to defeat the patent. As showing the state of the art, the testimony, though

involved in obscurity and doubt, may be admissible, and, were the question one of infringement, such proof might require the narrow construction of a broad claim; but it is obvious that it cannot avail the defendants where they deal in the identical contrivance covered by the patent. No one, so far as the record shows, ever used, prior to the patent, tenon like the complainants', on wooden blind-slats, for the purposes of repair. This is what the invention covers.

There should be a decree for the complainants for an injunction and an account, with costs.

128. **ELIZABETH v. AMERICAN PAVEMENT CO.**, 97 U. S. 126, 24 L. ed. 1000 (1878, Patent Reissue No. 2748).

Bradley, J.:

* * *

The next question to be considered is, whether Nicholson's invention was in public use or on sale, with his consent and allowance, for more than two years prior to his application for a patent, within the meaning of the sixth, seventh and fifteenth sections of the act of 1836, as qualified by the seventh section of the act of 1839, which were the acts in force in 1854, when he obtained his patent. It is contended by the appellants that the pavement which Nicholson put down by way of experiment, on Mill-dam Avenue in Boston, in 1848, was publicly used for the space of six years before his application for a patent, and that this was a public use within the meaning of the law.

To determine this question, it is necessary to examine the circumstances under which this pavement was put down, and the object and purpose that Nicholson had in view. It is perfectly clear from the evidence that he did not intend to abandon his right to a patent. He had filed a caveat in August, 1847, and he constructed the pavement in question by way of experiment, for the purpose of testing its qualities. The road in which it was put down, though a public road, belonged to the Boston and Roxbury Mill Corporation, which received toll for its use; and Nicholson was a stockholder and treasurer of the corporation. The pavement in question was about seventy-five feet in length, and was laid adjoining to the toll-gate and in front of the toll-house. It was constructed by Nicholson at his own expense, and was placed by him where it was, in order to see the effect upon it of heavily loaded wagons, and of varied and constant use; and also to ascertain its durability, and liability to decay. Joseph L. Lang, who was toll-collector for many years, commencing in 1849, familiar with the road before that time, and with this pavement from the time of its origin, testified as follows: "Mr. Nicholson was there almost daily, and when he came he would examine the pavement, would often walk over it, cane in hand, striking it with

his cane, and making particular examination of its condition. He asked me very often how people liked it, and asked me a great many questions about it. I have heard him say a number of times that this was his first experiment with this pavement, and he thought that it was wearing very well. The circumstances that made this locality desirable for the purpose of obtaining a satisfactory test of the durability and value of the pavement were: that there would be a better chance to lay it there; he would have more room and a better chance than in the city; and, besides, it was a place where most everybody went over it, rich and poor. It was a great thoroughfare out of Boston. It was frequently traveled by teams having a load of five or six tons, and some larger. As these teams usually stopped at the toll-house, and started again, the stopping and starting would make as severe a trial to the pavement as it could be put to."

This evidence is corroborated by that of several other witnesses in the cause; the result of the whole being that Nicholson merely intended this piece of pavement as an experiment, to test its usefulness and durability. Was this a public use, within the meaning of the law?

An abandonment of an invention to the public may be evinced by the conduct of the inventor at any time, even within the two years named in the law. The effect of the law is, that no such consequence will necessarily follow from the invention being in public use or on sale, with the inventor's consent and allowance, at any time within two years before his application; but that, if the invention is in public use or on sale prior to that time, it will be conclusive evidence of abandonment, and the patent will be void.

But, in this case, it becomes important to inquire what is such a public use as will have the effect referred to. That the use of the pavement in question was public in one sense cannot be disputed. But can it be said that the invention was in public use? The use of an invention by the inventor himself, or of any other person under his direction, by way of experiment, and in order to bring the invention to perfection, has never been regarded as such a use. Curtis, Patents, sec. 381; Shaw v. Cooper, 7 Pet. 292.

Now, the nature of a street pavement is such that it cannot be experimented upon satisfactorily except on a highway, which is always public.

When the subject of invention is a machine, it may be tested and tried in a building, either with or without closed doors. In either case, such use is not a public use, within the meaning of the statute, so long as the inventor is engaged, in good faith, in testing its operation. He may see cause to alter it and improve it, or not. His experiments will reveal the fact whether any and what alterations may be necessary. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inven-

tor to discover whether his purpose is accomplished. And though, during all that period, he may not find that any changes are necessary, yet, he may be justly said to be using his machine only by way of experiment; and no one would say that such a use, pursued with a *bona fide* intent of testing the qualities of the machine, would be a public use, within the meaning of the statute. So long as he does not voluntarily allow others to make it and use it, and so long as it is not on sale for general use, he keeps the invention under his own control, and does not lose his title to a patent.

It would not be necessary, in such a case, that the machine should be put up and used only in the inventor's own shop or premises. He may have it put up and used in the premises of another, and the use may inure to the benefit of the owner of the establishment. Still, if used under the surveillance of the inventor, and for the purpose of enabling him to test the machine, and ascertain whether it will answer the purpose intended, and make such alterations and improvements as experience demonstrates to be necessary, it will still be a mere experimental use, and not a public use, within the meaning of the statute.

Whilst the supposed machine is in such experimental use, the public may be incidentally deriving a benefit from it. If it be a grist-mill, or a carding-machine, customers from the surrounding country may enjoy the use of it by having their grain made into flour, or their wool into rolls, and still it will not be in public use, within the meaning of the law.

But if the inventor allows his machine to be used by other persons generally, either with or without compensation, or if it is, with his consent, put on sale for such use, then it will be in public use and on public sale, within the meaning of the law.

If, now, we apply the same principles to this case, the analogy will be seen at once. Nicholson wished to experiment on his pavement. He believed it to be a good thing, but he was not sure; and the only mode in which he could test it was to place a specimen of it in a public roadway. He did this at his own expense, and with the consent of the owners of the road. Durability was one of the qualities to be attained. He wanted to know whether his pavement would stand, and whether it would resist decay. Its character for durability could not be ascertained without its being subjected to use for a considerable time. He subjected it to such use, in good faith, for the simple purpose of ascertaining whether it was what he claimed to be. Did he do anything more than the inventor of the supposed machine might do, in testing his invention? The public had the incidental use of the pavement, it is true; but was the invention in public use, within the meaning of the statute? We think not. The proprietors of the road alone used the invention, and used it at Nicholson's request, by way of experiment. The only

way in which they could use it was by allowing the public to pass over the pavement.

Had the city of Boston, or other parties, used the invention, by laying down the pavement in other streets and places, with Nicholson's consent and allowance, then, indeed, the invention itself would have been in public use, within the meaning of the law; but this was not the case. Nicholson did not sell it, nor allow others to use it or sell it. He did not let it go beyond his control. He did nothing that indicated any intent to do so. He kept it under his own eyes, and never for a moment abandoned the intent to obtain a patent for it.

In this connection, it is proper to make another remark. It is not a public knowledge of his invention that precludes the inventor from obtaining a patent for it, but a public use or sale of it. In England, formerly, as well as under our Patent Act of 1793, if an inventor did not keep his invention secret, if a knowledge of it became public before his application for a patent, he could not obtain one. To be patentable, an invention must not have been known or used before the application; but this has not been the law of this country since the passage of the act of 1836, and it has been very much qualified in England. *Lewis v. Marling*, 10 B. & C. 22. Therefore, if it were true that during the whole period in which the pavement was used, the public knew how it was constructed, it would make no difference in the result.

It is sometimes said that an inventor acquires an undue advantage over the public by delaying to take out a patent, inasmuch as he thereby preserves the monopoly to himself for a longer period than is allowed by the policy of the law; but this cannot be said with justice when the delay is occasioned by a *bona fide* effort to bring his invention to perfection, or to ascertain whether it will answer the purpose intended. His monopoly only continues for the allotted period, in any event; and it is in the interest of the public, as well as himself, that the invention should be perfect and properly tested, before a patent is granted for it. Any attempt to use it for a profit, and not by way of experiment, for a longer period than two years before the application, would deprive the inventor of his rights to a patent. * * *

129. *EGBERT v. LIPPMANN*, 104 U. S. 333, 26 L. ed. 755 (1881, Patent Reissue No. 5216).

Woods, J.:

* * *

The question for our decision is, whether this testimony shows a public use within the meaning of the statute.

We observe, in the first place, that to constitute the public use of an invention it is not necessary that more than one of the pat-

ented articles should be publicly used. The use of a great number may tend to strengthen the proof, but one well-defined case of such use is just as effectual to annul the patent as many. (*McClurg v. Kingsland*, 1 How. 202; *Consolidated Fruit-Jar Co. v. Wright*, 94 U. S. 92; *Pitts v. Hall*, 2 Blatchf. 229.) For instance, if the inventor of a mower, a printing-press, or a railway-car makes and sells only one of the articles invented by him, and allows the vendee to use it for two years, without restriction or limitation, the use is just as public as if he had sold and allowed the use of a great number.

We remark, secondly, that, whether the use of an invention is public or private does not necessarily depend upon the number of persons to whom its use is known. If an inventor, having made his device, gives or sells it to another, to be used by the donee or vendee, without limitation or restriction, or injunction of secrecy, and it is so used, such use is public, even though the use and knowledge of the use may be confined to one person.

We say, thirdly, that some inventions are by their very character only capable of being used where they cannot be seen or observed by the public eye. An invention may consist of a lever or spring, hidden in the running gear of a watch, or of a ratchet, shaft, or cog-wheel covered from view in the recesses of a machine for spinning or weaving. Nevertheless, if its inventor sells a machine of which his invention forms a part, and allows it to be used without restriction of any kind, the use is a public one. So, on the other hand, a use necessarily open to public view, if made in good faith solely to test the qualities of the invention, and for the purpose of experiment, is not a public use within the meaning of the statute. *Elizabeth v. Pavement Co.*, 97 U. S. 126; *Shaw v. Cooper*, 7 Pet. 292.

Tested by these principles, we think the evidence of the complainant herself shows that for more than two years before the application for the original letters there was, by the consent and allowance of Barnes, a public use of the invention, covered by them. He made and gave to her two pairs of corset-steels, constructed according to his device, one in 1855 and one in 1858. They were presented to her for use. He imposed no obligation of secrecy, nor any condition or restriction whatever. They were not presented for the purpose of experiment, nor to test their qualities. No such claim is set up in her testimony. The invention was at the time complete, and there is no evidence that it was afterwards changed or improved. The donee of the steels used them for years for the purpose and in the manner designed by the inventor. They were not capable of any other use. She might have exhibited them to any person, or made other steels of the same kind, and used or sold them without violating any condition or restriction imposed on her by the inventor.

According to the testimony of the complainant, the invention was completed and put to use in 1855. The inventor slept on his rights for eleven years. Letters-patent were not applied for till March, 1866. In the meantime, the invention had found its way into general, and almost universal, use. A great part of the record is taken up with the testimony of the manufacturers and venders of corset-steels, showing that before he applied for letters the principle of his device was almost universally used in the manufacture of corset-steels. It is fair to presume that having learned from this general use that there was some value in his invention, he attempted to resume, by his application, what by his acts he had clearly dedicated to the public.

“An abandonment of an invention to the public may be evinced by the conduct of the inventor at any time, even within the two years named in the law. The effect of the law is that no such consequence will necessarily follow from the invention being in public use or on sale, with the inventor’s consent and allowance, at any time within two years before his application; but that, if the invention is in public use or on sale prior to that time, it will be conclusive evidence of abandonment, and the patent will be void.” *Elizabeth v. Pavement Company*, supra.

We are of opinion that the defense of two years’ public use, by the consent and allowance of the inventor, before he made application for letters-patent, is satisfactorily established by the evidence.

Decree affirmed.

Mr. Justice Miller, dissenting. * * *

130. *HALL v. MACNEALE*, 107 U. S. 90, 27 L. ed. 367, 2 Sup. Ct. 73 (1883, Patent 67,046).

Blatchford, J.:

* * * Within the meaning of sections 7 and 15 of the act of 1836, as modified by section 7 of the act of 1839, the invention covered by claim 3 of the patent in suit was in use and on sale more than two years before the appellant applied for that patent, and such use and sale were, also, with the consent and allowance of the appellant, and the use was a public use. It is contended that the safes were experimental, and that the use was a use for experiment. But we are of opinion that this was not so, and that the case falls within the principle laid down by this court in *Coffin v. Ogden*, 18 Wall. 120. The invention was complete in those safes. It was capable of producing the results sought to be accomplished, though not as thoroughly as with the use of welded steel and iron plates. The construction and arrangement and purpose and mode of operation and use of the bolts in the safes were necessarily known to the workmen who put them in. They were, it is true, hidden from view, after the safes were completed, and it required a destruction of

the safe to bring them into view. But this was no concealment of them or use of them in secret. They had no more concealment than was inseparable from any legitimate use of them. As to the use being experimental, it is not shown that any attempt was made to see if the plates of the safe could be stripped off, and thus to prove whether or not the conical bolts were efficient. The safes were sold, and, apparently, no experiment and no experimental use were thought to be necessary. The idea of a use for experiment was an afterthought. An invention of the kind might be in use and no burglarious attempt be ever made to enter the safe, and it might be said that the use of the invention was always experimental until the burglarious attempt should be made, and so the use would never be other than experimental. But it is apparent that there was no experimental use in this case, either intended or actual. The foregoing views, which are controlling to show that claim 3 of the patent in suit cannot be sustained, are in accordance with those announced by this court in *Egbert v. Lippmann*, 104 U. S. 333.

The decree of the Circuit Court dismissing the bill is affirmed, and the same decision is made in No. 165. (*Hall v. Mosler and others*, February 5, 1883.)

181. EASTMAN v. NEW YORK, 134 Fed. 844, 69 C. C. A. 628 (1904, Second Circuit).

Before Wallace, Townsend, and Coxe, Circuit Judges.

Coxe, Circuit Judge: This is an equity action for the infringement of letters patent, No. 42,920, granted May 24, 1864, to James Knibbs, assignor to himself and Marcus P. Norton, for "Improvements in Pumps for Steam Fire and other Engine Pumps."

The inventor conceived the invention April 21, 1860, and applied the device to a steam fire engine April 29, 1860. The application was filed May 13, 1864. * * *

The Law of Prior Public Use.

Before proceeding further it is well to ascertain what is the law as applicable to this situation. The patent was applied for and granted in May, 1864. At that time the act of 1839—explaining, supplementing and superseding the act of 1836—was in force. Act March 3, 1839, c. 88, 5 Stat. 354. The seventh section of that act is as follows:

"Sec. 7. * * * That every person or corporation who has, or shall have, purchased or constructed any newly invented machine, manufacture, or composition of matter, prior to the application by the inventor or discoverer for a patent, shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter so made or purchased, with-

out liability therefor to the inventor, or any other person interested in such invention; and no patent shall be held to be invalid, by reason of such purchase, sale, or use prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public; or that such purchase, sale, or prior use has been for more than two years prior to such application for a patent."

The last clause of this section, which is particularly applicable to this controversy, has been condensed and tersely stated by Mr. Walker in his work on Patents (Fourth Ed. § 93) as follows:

"A patent is void if the invention covered thereby was in public use or on sale earlier than two years before the application for the patent."

The entire subject has been thoroughly examined and the conclusion of the Supreme Court stated in *Andrews v. Hovey*, 123 U. S. 267, 8 Sup. Ct. 101, 31 L. Ed. 160, and reaffirmed, after a second exhaustive examination, in the same case, 124 U. S. 694, 8 Sup. Ct. 676, 31 L. Ed. 557. The question now at issue was directly involved in that case. The court says, speaking of the numerous defenses:

"It is necessary to consider only one of them, which in our view, is fatal to the validity of the patent, and that is, that the invention was used in public at Cortland, in the State of New York, by others than Green (the inventor) more than two years before the application for the patent."

The court says, in construing the section quoted supra:

"The evident intention of Congress was to take away the right (which existed under the act of 1836) to obtain a patent after an invention had for a long period of time been in public use without the consent or allowance of the inventor; it limited that period to two years, whether the inventor had or had not consented to or allowed the public use."

After an examination of every reported case upon the rehearing the court was confirmed in its opinion that its former decision was correct and closes the elaborate discussion in the following language:

"The second clause of the seventh section seems to us to clearly intend, that, where the purchase, sale, or prior use referred to in it has been for more than two years prior to the application, the patent shall be held to be invalid, without regard to the consent or allowance of the inventor. Otherwise the statute cannot be given its full effect and meaning."

Among the authorities thus examined and overruled was *Campbell v. The Mayor*, 20 Blatchf. 67, 9 Fed. 500, which was the original decision holding the Knibbs patent valid.

Surreptitious Use.

As before stated the Phoenix was sold and delivered to the city of Hartford and paid for November 9, 1861. She was used by the city thereafter for many years publicly, as part of the Hartford fire department. It cannot be pretended that the Phoenix did not contain a perfect and complete development of the invention. The only contention as to the Phoenix is that this use of the relief mechanism was unknown to and unauthorized by the inventor and that the sale to and use by the city, though open and notorious, was "fraudulent, surreptitious and piratical."

In distinguishing the Driven Well Case from *Kendall v. Winsor*, 21 How. 322, 16 L. Ed. 165, the court, in *Andrews v. Hovey*, 124 U. S. 708, 8 Sup. Ct. 680, 31 L. Ed. 557, makes use of this language:

"It may be that a fraudulent, surreptitious, and piratical purchase or construction or use of an invention prior to the application for the patent would not affect the rights of the patentee under either clause of the seventh section."

The complainant seizes upon this language as creating a broad exception to the general rule and insists that the facts regarding the Phoenix establish such a use. The doctrine thus enunciated, though not advanced until the argument at the rehearing, may be a fair statement of the law where the facts justify a finding of fraud and piracy. The court, immediately after the statement quoted, says:

"But the present is not such a case as that which existed in *Kendall v. Winsor*."

The driven well was invented by Green in 1861. The application for the patent was filed in March, 1866. A public exhibition was made in 1861. More than two years prior to the application Suggett and Mudge put down nine wells having obtained their knowledge from Green and having acted without his knowledge, allowance and consent.

"There is nothing," says the court, "that indicates in regard to these wells fraud or piracy or surreptitiousness, in the sense of the decision in *Kendall v. Winsor*."

In other words, a person may obtain his knowledge of an invention direct from the inventor and may practice it publicly without his knowledge or consent and such use will invalidate a patent unless the application is filed within the statutory period thereafter. In order to relieve the inventor from the consequences of such use, assuming that relief is possible, it must appear that the knowledge was obtained by deception and that the use was fraudulent or piratical. The meaning of "fraudulent" is too well known to require definition, but it may be wise to recur to the meaning of the other adjectives used by the Supreme Court. "Surreptitious" means, "Fraudulently obtained. Falsely crept in. Obtained by

falsehood, fraud or stealth, by suppression or concealment of facts." "Piratical" means, "Acquired by piracy or robbery." It is entirely clear that when the courts have used these words in patent causes they intended them to apply to acts done mala fide, clandestinely, treacherously and by means of falsehood, fraud or breach of trust. It is equally clear that they have never been used to characterize knowledge obtained openly in the due course of business or applied to an act which is neither malum prohibitum nor malum in se.

Kendall v. Winsor was an action at law. The jury found for the plaintiff. The defendant sued out a writ of error. One of the instructions to the jury sustained by the Supreme Court was:

"That if Aldridge, under a pledge of secrecy, obtained knowledge of the plaintiff's machine—and he had not abandoned it to the public—and thereupon, at the instigation of the defendants, and with the knowledge, on their part, of the surreptitiousness of his acts, constructed machines for the defendants, they would not have the right to continue to use the same after the date of the plaintiff's letters patent."

There was testimony to show that the inventor did not work the patented machines in public and that he pledged his employes to secrecy. No one who did not take such a pledge was allowed to view the machines. One of these workmen was Aldridge who obtained his knowledge by promising not to divulge the inventor's secret and, thereafter, deserted his employer and entered into an arrangement with the defendants to copy the patented machine for them, and did so. In plain language Aldridge stole the invention and sold it to the defendants with their knowledge and procurement. At least the testimony warranted such a conclusion and the jury so found.

The controversy arose wholly under the first clause of the seventh section of the act of 1839, and it will be more and more manifest as we proceed that neither on the facts nor the law has the decision any but a remote bearing on the questions now in issue.

Pennock v. Dialogue, 2 Pet. 1, was decided before the act of 1836 and has no bearing upon the case at bar apart from the fact that Mr. Justice Story asserts, tentatively, what may for the purposes of this case be conceded, that "in respect to a use by piracy, it is not clear, that any such fraudulent use is within the intent of the statute; and upon general principles, it might well be held excluded."

Shaw v. Cooper, 7 Pet. 292, 8 L. Ed. 689, arose under the act of April 17, 1800, c. 25, 2 Stat. 37, and simply reiterates the opinion of Mr. Justice Story, just quoted. It throws little light upon the present controversy although it may not be inappropriate to note that the judgment for the defendant was affirmed although the plaintiff gave evidence that for the purpose of making experiments he im-

parted the secret of the invention to his brother who subsequently divulged it for a reward. The court observed:

"Whatever may be the intention of the inventor, if he suffers his invention to go into public use through any means whatsoever, without an immediate assertion of his right he is not entitled to a patent; nor will a patent obtained under such circumstances protect his right."

In *Smith & Griggs Mfg. Co. v. Sprague*, 123 U. S. 249, the court, at page 256, 8 Sup. Ct. 122, at page 126 (31 L. Ed. 141) says:

"The thing implied as excepted out of the prohibition of the statute is a use which may be properly characterized as substantially for the purposes of experiment. Where the substantial use is not for that purpose, but is otherwise public, and for more than two years prior to the application, it comes within the prohibition."

A not unreasonable construction of this language is that an experimental use is the only one excepted, the fair implication being that a surreptitious use is not excepted.

Pierson v. Eagle Screw Co., 3 Story, 402 Fed. Cas. No. 11,156, was an action at law, tried in 1844 before Mr. Justice Story and a jury. There was no dispute as to the facts; but what the facts were relating to the surreptitious use of the invention by the defendant's vendor, does not appear. It may be safe, however, to assume that he was guilty of grossly unfair conduct, otherwise the court would hardly have been justified, when explaining the law to the jury, in using such expressions as the following:

"A mere wrongdoer, who by fraud or artifice, or gross misconduct, had gotten knowledge of the patentee's invention."

"A person who pirates the invention of any party."

Again, in speaking of the first clause of section 7 of the act of 1839, the judge charged the jury that:

"It could never have been the intention of this clause to confer on a fraudulent purchaser, or a purchaser with full notice a right to use an invention pirated from the original inventor by wrong."

The question, what constitutes a fraudulent, piratical, or wrongful appropriation, sale or use of the invention, is left very much as the earlier authorities leave it, in obscurity. We have been referred to no case since the clear exposition of the law in *Andrews v. Hovey* where a plain case of public use early than two years before the application for the patent has been held to be ineffectual as a defense because the use was surreptitious. When the question is fairly presented it may be that the courts will hesitate to introduce exceptions to the rules broadly stated by the Supreme Court, with the confusion and uncertainty incident thereto.

If it be once understood that the object of the act "was to require the inventor to see to it that he filed his application within two years

from the completion of his invention, so as to cut off all questions of the defeat of his patent by a use or sale of it by others more than two years prior to his application," the courts will no longer be vexed by the perplexing questions which must frequently arise when the intent of the user and the bona fides of the use are questions to be determined on oral testimony. Isolated instances of injustice to inventors may result, but the remedy is certain and sure. The inventor is master of the situation and has it in his power by prompt action to make the defense of prior public use impossible. Surely two years after he has completed his invention is ample time in which to file his application. If he fails to take so simple and reasonable a precaution why should it not be said that the risk is his and that he cannot complain of the consequences of his own supineness?

Phoenix Use Not Fraudulent.

* * *

If the mere announcement of an intention to patent has the effect contended for by the complainant it will only be necessary to make the announcement general to extend indefinitely the monopoly of the patent. The patent law recognizes the rights of the public as well as of the inventor and at all stages of the proceedings requires that he act with reasonable promptness. The contention that the Amoskeag Company was debarred from doing what any other manufacturing company could have done with propriety cannot be maintained. It is not doubted that another manufacturer to whom the device had been explained by Knibbs could have placed it on a new engine without being subjected to a charge of fraud. It is argued that "a surreptitious use is a secret invasion of another's rights, and it is in evidence that Mr. Knibbs knew nothing of this misuse of his invention." But the Supreme Court has said not only that knowledge is unnecessary, but that proof of the absence of knowledge of the inventor does not render the use surreptitious.

The contention that the invention was not completed till February 13, 1863, and that a use prior to that date was during the experimental period, can be treated more appropriately when we come to consider the use of the Osgood.

Osgood Use Not Experimental.

* * *

The only question, therefore, regarding the use on the Osgood which is even debatable, is whether it was an experimental use or occurring within the experimental period.

Law of Experimental Use.

The law upon the question of experimental use is well settled and counsel do not disagree regarding it. It is the duty of the inventor to file his application within two years from the completion of his invention. He is permitted to take the time necessary to complete the invention and to make experiments for that purpose, but the moment the invention is completed the two-year period begins to run. The leading case is *Elizabeth v. Pavement Company*, 97 U. S. 126, 24 L. Ed. 1000. An experimental public use of six years was there held not to be unreasonable. The invention was for a pavement and durability was the principal object sought to be attained. An invention must not only be new, it must also be useful. A pavement that would not last six years was useless, no one would want it, no one would incur the expense of laying it down. There is but one way to ascertain whether a newly invented pavement is durable and that it is to test it by public use. A trial of two years will demonstrate nothing. It may stand the test for that period and then suddenly disintegrate. These were the considerations which induced the court to uphold the *Nicholson* patent. As we shall presently see there were no such problems to be solved in the case in hand.

Smith & Griggs Mfg. Co. v. Sprague, supra, is authority for the following propositions:

First. Where it is clearly shown that there was a public use of an invention by the inventor for more than two years prior to the application the burden rests on him to establish by convincing proof that the use was for the purpose of perfecting an incomplete invention by tests and experiments.

Second. Where the invention is one of many embodied in a single machine or where the device contains features not included in the invention or covered by the claims, experiments intended to produce more perfect working of these extrinsic features are not such as will prevent the running of the statutory limitation. In other words, the experiments must be made for the purpose of developing the invention as described and claimed and nothing else. When the invention is completed the time begins to run and it is of no moment that something else, not a part of the invention, is incomplete and requires tests and experiments to perfect it.

In *Egbert v. Lippmann*, 104 U. S. 333, 26 L. Ed. 755, the Supreme Court held that the use of one of the patented articles in public was sufficient to constitute public use. The court further observes that:

“Whether the use of an invention is public or private does not necessarily depend upon the number of persons to whom its use is known. If an inventor, having made his device, gives or sells it to

another, to be used by the donee or vendee, without limitation or restriction, or injunction of secrecy, and it is so used, such use is public, even though the use and knowledge of the use may be confined to one person."

When *Egbert v. Lippmann* was in the Circuit Court, Judge Blatchford said:

"The policy introduced by the act of 1839, and thus continued is, that the inventor must apply for his patent within two years after his invention is in such a condition that he can apply for a patent for it." 15 Blatchf. 295, 297, Fed. Cas. No. 4,306.

In *Root v. Railroad*, 146 U. S. 210, 13 Sup. Ct. 100, 36 L. Ed. 946, the court, while quoting at length from the *Pavement Case* and fully recognizing its doctrine, observes:

"It cannot be fairly said from the proofs that the plaintiff was engaged in good faith, from the time the road was put into operation, in testing the working of the structure he afterwards patented. He made no experiments with a view to alterations, and we are of opinion, on the evidence, that sufficient time elapsed to test the durability of the structure, and still permit him to apply for his patent within the two years. He did nothing and said nothing which indicated that he was keeping the invention under his own control."

In *Worley v. Tobacco Co.*, 104 U. S. 340, 26 L. Ed. 821, the court says:

"The invention was made by Worley alone. He at once began using his invention in McCabe's factory. He testifies that it was complete, and he became satisfied with the results, in 1871. It is true that after that date he made experiments to decide upon the best mode of constructing his finishers so as to secure the requisite strength; but the finisher constituted no part of his patented invention. In 1871 his invention was complete, and in his opinion successful, and was adhered to from that date, without change."

In *Perkins v. Paper Co.*, (C. C.) 2 Fed. 451, the court says:

"An improvement has now been made, but it is not described in the specification or shown in the model. At all events, a machine which, whether entirely satisfactory or not, has been run in the ordinary course of business for 20 or for 30 years, and which is patented precisely as it was used, cannot be properly called an experimental machine."

See, also, as bearing on the questions involved: *Hall v. Macneale*, 107 U. S. 90, 2 Sup. Ct. 73, 27 L. Ed. 367; *Harmon v. Struthers*, (C. C.) 57 Fed. 637; *Swain v. Holyoke Co.*, 109 Fed. 154, 48 C. C. A. 265; *Lettelier v. Mann*, (C. C.) 91 Fed. 917.

From these authorities we deduce the following propositions, as applicable to the present controversy:

First. An inventor has a reasonable time in which to experiment for the purpose of perfecting the invention and demonstrating its utility.

Second. The time thus spent, if in good faith, is no part of the two-year statute of limitations.

Third. The experiments must be made in perfecting the invention as described and shown.

Fourth. Experiments made in testing parts of the machine not covered by the invention will not have the effect of extending the two-year period.

Fifth. As soon as the invention is completed, viz.: "in such a condition that the inventor can apply for a patent for it," the two-year period begins to run and the application must be made within this period.

Sixth. The fact that the invention has been improved since its original embodiment does not demonstrate that it was then embryonic or incomplete.

Seventh. When a clear case of prior public use is established the burden is on the inventor to prove by convincing proof that the use was experimental.

Long Period of Experimentation Unnecessary.

The Knibbs invention, though one of unusual merit, was an exceedingly simple one. All agree upon this proposition. One of complainant's counsel says of it:

"The device is undoubtedly a very simple one, but does not, on that account, any less exhibit invention of a high order."

Another counsel says:

"Mr. Knibbs' perfected invention resulted simply in a hole in the partition between the supply and discharge chambers of a pump. Nothing can be more easily understood than this."

And yet it is contended that it required over two years and nine months of experimentation to demonstrate its utility. Invention, in so far as it relates to machines, may, for the purposes of illustration, be divided into two general classes: First, where the invention is the result of a happy creative thought; and, second, where it is developed by arduous and patient toil. To the first class belong the safety lamp and the driven well; to the second the "Linotype" and the typewriter. The moment the idea of surrounding the lamp with wire gauze occurred to Davy and its practicability was demonstrated by a simple test, the invention stood revealed. Mergenthaler, on the other hand, was not rewarded so much for the inspiration and originality of his idea as for the ingenuity and skill with which he built up his intricate and marvelous machine. The invention of Knibbs belongs to the first class. Undoubtedly

his conception showed the genius of the inventor as distinguished from that of the mechanic. It did not, however, require a long series of laborious experiments to prove its efficacy. As soon as the two sections of the pump were connected by a hole on the inside or a tube on the outside and satisfactory tests demonstrated that the old difficulties were thus obviated, the invention was in a condition for patenting. That the application for the patent could have been made before the delivery of the Osgood, in January, 1862, is not disputed. Indeed, the patent as granted describes and shows the apparatus as originally placed on the Reade without, so far as we are able to see, the slightest change either in the details of the mechanism or the principles of its operation.

Ample Time for Experiments. * * *

But it is said that it was impossible to tell whether the device possessed the requisite utility until it had been tested by actual use at fires. This contention seems inconsistent with the complainant's position regarding the Reade where, as we have just seen, the two-inch pipe connection was attached one day and the next day after an experimental test, but no test at a fire, the invention was pronounced complete and ready for patenting. But even if this were not so the position seems to us untenable. When the question is whether a device on the inside of an engine's pump works successfully what possible difference can it make whether a fire is or is not burning in the immediate vicinity? Will not the result be precisely the same whether the water from the hose is discharged on a hot surface or a cold surface, a bank of fire or a bank of snow? If any difference at all can be suggested it would seem to be in favor of the experimental use when the conditions are entirely in the control of the engineer and when tests can be applied which the exigencies of a fire might make impossible.

But if tests at actual fires were necessary such tests were had.

* * *

It thus appears that when the Osgood was delivered at Troy she was a complete and successful machine, embodying the invention in its most approved form, a form which has never been changed, and that every test which the ingenuity of counsel can suggest was applied without revealing a single imperfection. Two years passed after the last test was made and still no application was filed.

Automatic Valve no Part of Invention.

But it is said that Knibbs was experimenting upon an automatic valve to take the place of the hand valve and that this valve was not completed until placed by him upon the Reade in February,

1863. Several answers are suggested but a sufficient one is found in the fact that an automatic valve is no part of the invention.
* * *

Concede it to be an improvement, the situation is not altered. Knibbs was not justified in delaying his application until the invention had reached a stage where improvements were no longer possible. Few inventions spring Minerva-like into instantaneous and absolute perfection. The inventive spirit engendered by the restless activity of competition in all the mechanical arts is ever watchful to suggest changes which will enable existing machines to do their work to better advantage. It is safe to say that in all the great mechanical inventions of the present day the primitive apparatus of the patent can hardly be recognized in the perfected machine which a few years of actual use has developed. To declare that the inventor may withhold his application until the last improvement has been made will extend his monopoly indefinitely and nulify the plain provisions of the statute. The period of experimentation must end at some time and that time arrives when the invention, as described and claimed in the patent, is complete.

Solicitor's Mistake.

Finally, it is suggested that Knibbs acted throughout under the direction of his solicitor and is not responsible for his solicitor's mistakes. That the advice thus received was unwise cannot be doubted. Having a complete embodiment of the invention on the Osgood there was no necessity for duplicating it on the Reade. It must be remembered, however, that this advice was given in the early part of 1862. Had it been followed promptly and had the application been filed within a reasonable time thereafter no question of prior public use could have arisen. But leaving out of view every other consideration it will hardly be contended that the mistaken advice of a patent solicitor can override a statute of the United States. We cannot resist the belief that to the inventor's procrastination and delay can be attributed the disaster which has overtaken his patent.

Conclusion.

We entertain no doubt as to the correctness of our conclusion that in at least two instances—the uses on the Phoenix and the Osgood—the invention was in public use for more than two years prior to the application and that the patent is therefore invalid.

The decree of the Circuit Court is reversed with costs and the cause is remanded to the Circuit Court with instructions to dismiss the bill with costs.

182. FULLER v. BERGER, 120 Fed. 274, 56 C. C. A. 588, (1903, Seventh Circuit).

Before Jenkins, Grosscup, and Baker, Circuit Judges.

Baker, Circuit Judge: Appellant, complainant below, unsuccessfully sought to enjoin appellees from infringing letters patent No. 613,844, on a bogus-coin detector for coin-operated vending machines. The letters were granted November 8, 1898, to the Mills Novelty Company, assignee of the inventor. While that company was the owner, the only practical use to which the detectors were put was to guard gambling machines, made and controlled by the company, from being operated by means of bogus coins. On December 8, 1899, the company assigned the patent to appellant, and, as a part of the same transaction, took from him a license to make and use the device. No one else used it by authority. Appellees, without license, applied it to gambling machines of their make. This suit was begun about a month after the assignment. The circumstances surrounding the assignment and attending the conduct of this litigation warranted the trial court in finding that the equities of the case should be determined as if the Mills Novelty Company had been complainant.

The defenses are two: That the patent is void for want of utility; and that, even if it is found not to be void, complainant has no standing because he comes into court with unclean hands, in this, that his suit is brought to enable the Mills Novelty Company to prevent another gambler from interfering with its illegal enterprises.

In support of their first contention, appellees cite *Device Co. v. Lloyd*, (C. C.) 40 Fed. 89, 5 L. R. A. 784; *Novelty Co. v. Dworzek*, (C. C.) 80 Fed. 902; *Schultze v. Holtz*, (C. C.) 82 Fed. 448; *Rickard v. DuBon*, 43 C. C. A. 360, 103 Fed. 868; and *Mahler v. Animarium Co.*, 49 C. C. A. 431, 111 Fed. 530. In the *Rickard Case*, involving a process for spotting tobacco leaves, and in the *Mahler Case*, concerning a cure-all device, the clear purpose and the sole use of the respective inventions were found to be to deceive and defraud the public. In the *Schultze Case*, the fact that the invention had been used solely for gambling and could not be put to any other use was held to avoid the patent. In the two other cases, applications for injunctions were denied on showings that the device had been used only for gambling purposes. But the court, in each case, went further and held the device to be wanting in utility, saying: "The patent has been very recently issued, and it is possible that a useful application may yet be found for it; but, as the case now stands, the only use to which the invention has been put being for gambling purposes, I must hold that it is not a useful device within the meaning of the patent law." It may be doubted whether the latter holding, useableness (utility) and use (application) are not confounded; but, at all events, the courts in those

cases came to the same end as the others in deciding that the respective patents were not for useful devices within the meaning of the patent law.

With regard to the defense of no utility (available equally at law and in equity), we hold that the true inquiry is, Was the government improvident in making the grant? Does the opposing evidence, the grant itself being *prima facie* proof of utility, go to the extent of establishing not merely that the device has been used for pernicious purposes, but that it is incapable of serving any beneficial end? As the just criterion, we approve and adopt Mr. Walker's conclusion (section 82 [3d Ed.]), with the additions to his text which we note by parentheses:

“An important question, relevant to utility in this aspect, may hereafter arise and call for judicial decision. It is perhaps true, for example, that the invention of Colt's revolver was injurious to the morals, and injurious to the health, and injurious to the good order of society. That instrument of death may have been injurious to morals, in tending to tempt and to promote the gratification of private revenge. It may have been injurious to health, in that it is very liable to accidental discharge, and thereby to cause wounds, and even homicide. It may also have been injurious to good order, especially in the newer parts of the country, because it facilitates and increases private warfare among frontiersmen. On the other hand, the revolver, by furnishing a ready means of self-defense, may sometimes have promoted morals and health and good order. By what test, therefore, is utility to be determined in such cases? Is it to be done by balancing the good functions with the evil functions? Or is everything useful within the meaning of the law, if it is used (or is designed and adapted to be used) to accomplish a good result, though in fact it is oftener used (or is as well or even better adapted to be used) to accomplish a bad one? Or is utility negatived by the mere fact that the thing in question is sometimes injurious to morals, or to health, or to good order? The third hypothesis cannot stand, because if it could, it would be fatal to patents for steam engines, dynamos, electric railroads, and indeed many of the noblest inventions of the nineteenth century. The first hypothesis cannot stand, because if it could, it would make the validity of the patents to depend on a question of fact to which it would often be impossible to give a reliable answer. The second hypothesis is the only one which is consistent with the reason of the case, and with the practical construction which the courts have given to the statutory requirement of utility.”

We deem the additions to the second hypothesis necessary to a complete statement of the acceptable test, for, to continue with Colt's revolver as an example, if at the time of a suit for infringement the defendant should prove that the only uses to which “that

instrument of death" had been put were vicious, the patent should not be held void for want of utility, if the court for itself should see, or be convinced by experts, that the instrument was susceptible of good uses, though in fact never put to such before the suit was begun. And, if utility is found, the cases seem to be uniform that courts will not set up a measure of utility which must be filled.

If the device here in question should be found insusceptible of other use than to guard gambling machines from being operated by means of bogus coins, we would be led to an outlook from which two interesting queries appear in view: (1) The statutes of Illinois, it is said, prohibit the use of coin-operated gambling machines, but not the manufacture or sale thereof. We are referred to statutes of other states, which, it is claimed, legitimate the use of such machines. Should a Circuit Court of the United States, sitting in Illinois, hold invalid a patent on such a machine and thereby destroy the monopoly of its manufacture and sale, because its use is forbidden in Illinois, though its manufacture and sale in Illinois and its use in certain other states are lawful? And (2) if the federal courts may properly hold patents on gambling machines void for lack of utility, because immoral, though countenanced by the legislation of particular states, is a device attached to such a machine likewise inimical to good morals, which prevents a gambler from being also a cheat?

But, returning to the main road, we have no difficulty, under the principles hereinabove asserted, in finding some degree of utility in this invention. In the specifications and claims the device is called a bogus-coin detector for coin-operated vending machines. The inventor's attention to the need of such a mechanism was not directed by the Mills Novelty Company or other maker of chance machines. A manufacturer of coin-operated banjo-playing instruments expressed a want for a bogus-coin detector. The invention in suit resulted. The parties failed to come to terms, not because the detector would not supply the need for which it was designed, but because the inventor asked more than the banjo manufacturer was willing to pay. Afterwards the application was assigned to the Mills Novelty Company, and by it the device was applied to gambling machines. There is no element of chance, however, in the operations of the detector. Its mechanism has no connection with that of the machine to which it is attached. The outlets of its coin chutes are placed in registration with the inlets of the chutes of the coin-operated machine. "The object of the invention," says the specification, "is to provide, as an attachment for use with coin-operated vending-machines generally, a device through which the coin for paying the purchase price of the article to be delivered, and for rendering the machine operative to produce the delivery, must be passed in view and shall remain in view until the machine has

been operated one or more times by another inserted coin or other such coins. * * * When the machine * * * is adapted to vend two or more articles, * * * the arrangement of the detector is such as to permit the coin or token last inserted previous to operating the machine to occupy a higher plane in its chute in the detector than the uppermost coin in the other detector chute or chutes, thereby to make it indisputably clear which of the array of coins or tokens was last inserted, so that the fraud, if any occurs, may be fastened with certainty upon the guilty person." The testimony of experts was not needed to show that the detector would perform its functions without regard to the character of the machine below its outlet. It is doubtless true that the detector would be more efficacious if an attendant were constantly beside it; but, without an attendant, the fact that the coin, instead of being dropped directly within the opaque case of the machine, remains in view during several subsequent operations, to reproach the cheat and expose him to the owner or other customers, would tend to act in some degree as a deterrent. And the facts that the inventor put the price beyond the willingness of good users to pay, that he assigned his invention to an evil user, and that appellant's suit is prosecuted with the ulterior aim of aiding the evil user, his sole licensee, go to the standing of appellant in equity, not to the legality of the grant. Colt's revolver is not in fault whether it comes to the hand of a policeman or a burglar.

The second defense amounts to this: The holder of a legal patent, who refuses to use or permit others to use his device for good purposes, and who prostitutes his invention in practice, will be given no relief in equity, though on the facts shown he could successfully maintain an action at law against the infringer. As counsel states it: "The court wholly disapproves of the complainant suitor, and declines to aid him, though the patent still retains its life. With that, the court's decree does not attempt to meddle. * * * There is ample chance ahead to efface the stain if the invention is really capable of worthy use and the patent owner seriously lends himself to accomplish the reform."

It seems clear that one who practices his invention in a noxious way only has no better standing in equity than one who declines to use the device for good purposes or to permit others to use it. And in *Hoe v. Knap* (C. C.) 27 Fed. 204, 212, there is a statement that "under a patent which gives a patentee a monopoly, he is bound to use the patent himself, or allow others to use it on reasonable terms." But this doctrine has been vigorously denied, and rightly, we think, in subsequent cases. *Roller Mill Co. v. Coombs* (C. C.) 39 Fed. 803; *Campbell Printing Press & Mfg. Co. v. Manhattan R. Co.* (C. C.) 49 Fed. 935; *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*, 25 C. C. A. 267, 77 Fed. 294, 47 U. S.

App. 146. An extract from the last cited case, quoted in *Bement v. National Harrow Co.*, 186 U. S. 70, 90, 22 Sup. Ct. 747, 46 L. Ed. 1058, will sufficiently indicate the general attitude:

“If he sees fit, he may reserve to himself the exclusive use of his invention or discovery. If he will neither use his device nor permit others to use it, he has but suppressed his own. That the grant is made upon the reasonable expectation that he will either put his invention to practical use, or permit others to avail themselves of it upon reasonable terms, is doubtless true. This expectation is based alone upon the supposition that the patentee's interest will induce him to use, or let others use, his invention. The public has retained no other security to enforce such expectations. A suppression can endure but for the life of the patent, and the disclosure he has made will enable all to enjoy the fruit of his genius. His title is exclusive, and so clearly within the constitutional provisions in respect to private property that he is neither bound to use his discovery himself nor permit others to use it. The dictum found in *Hoe v. Knap* (C. C.) 27 Fed. 204, is not supported by reason or authority.”

So nonuse is not a defense in equity. Is misuse? Equity is not concerned with the general morals of a complainant; the taint that is regarded must affect the particular rights asserted in his suit. *Saddle Co. v. Troxel* (C. C.) 98 Fed. 620; *Folding Box Co. v. Robertson* (C. C.) 99 Fed. 985, and cases therein collated. A complainant asserts the validity of his patent (a question of law on the facts), and infringement by defendant (a question of law on the facts), and asks an injunction on account of continued and threatened trespasses (an equitable remedy to make up for the inadequacy of the legal). Though the defendant may not be able to deny the validity of the patent or the fact of infringement, he may defeat the application for an injunction if he can show that the complainant, in his dealings with or conduct towards the defendant in relations to the subject-matter of the litigation, has acted unfairly or oppressively, or has misled the defendant with respect to the validity of the patent or the fact of infringement, or if the complainant, to make his case, is compelled to bring forward and count upon his own wrong. But if the defendant can do no more than show that the complainant has committed some legal or moral offense, which affects the defendant only as it does the public at large, the court must grant the equitable remedy and leave the punishment of the offender to other forums. In the present case, there have been no dealings between the parties. Nothing has been done to mislead appellees. And appellant, to make his case, simply brings forward his patent and proves the continued and threatened infringement. Against this, appellees establish that appellant has been misusing the patented device. But how does this concern appellees more or

differently than it does others? Equity will aid the owner of a lawful patent if he puts the device to good uses, but will deny relief if he puts it to bad uses? The "reform," for the lack of which appellees contend that appellant must be kept out of a court of equity for the present and until the reform is accomplished, is the reform of the man.

The conclusion follows from the foregoing premises that appellant is entitled to injunctive relief. But another consideration leads more strongly to the same result. The inventor's right to make, vend, and use his device does not come from the patent law; it is his natural right. The government's grant to the patentee, and his assigns is the right to exclude others from practicing the invention. As Mr. Chief Justice Taney said in *Bloomer v. McQuewan*, 14 How. 539, 548, 14 L. Ed. 532: "The franchise which the patent grants consists altogether in the right to exclude every one from making, using, or vending the thing patented, without permission of the patentee. This is all he obtains by the patent." And on this basis rests the decision in *Patterson v. Kentucky*, 97 U. S. 501, 24 L. Ed. 1115, that a state law which prohibits the use of a certain article, which is patented, is not in derogation of the inventor's grant under the patent law. That is, the state law operates wholly upon the inventor's natural right to the use of his property, and not at all upon the franchise which the patent grants, which consists altogether in the right to exclude. His right to use his property is destroyed, but his right to exclude others stands unimpaired. Now, if the complainant in a patent suit is seeking merely to enforce his right to exclude, according to the terms of the government's grant, an inquiry into what use (or lack of use) the inventor is making of his natural right would seem to be clearly collateral and irrelevant. And if the right to exclude is the substance of the grant, it is a legal right. And in determining legal rights, equity follows the law. And if a legal right is established beyond every defense, legal or equitable, available to the defendant or to the court on its own motion, equity must grant appropriate relief if there is no adequate remedy at law. Injunction, it is evident, is the only means equal to enforcing the right to exclude.

It is sometimes said that the granting of an injunction is a matter of discretion. But courts of equity may not exercise a mere arbitrary discretion. They must act within and according to definite and certain principles. The conscience of equity is not the conscience of the particular chancellor. But if the conscience of equity were the conscience of the individual chancellors of this court, who, for example, may think that the public sentiment against the liquor traffic would be vindicated by denying the writ of injunction to an habitual drunkard whose property by repeated trespasses was being illegally confiscated, the appeal made in this case

to deny the writ of injunction, on the ground that its issuance would aid crime and abet practices universally denounced, exhibits a misapprehension of the scope of this litigation. It is obvious that a denial of the writ would leave the defendants and all others perfectly free, so far as the power of this court is concerned, to follow the practices that are repugnant to the individual chancellors, while the maintenance of the complainant's right to exclude the defendants and all others would, to the extent that the patented device might otherwise be used by them to promote gambling, be a vindication of the public sentiment against gambling. It is equally obvious that, however the court may act upon complainant's asserted right to exclude, neither the grant nor the denial of the writ of injunction would operate upon complainant's practices or habits (which he did not acquire from the patent laws), and that the gambler, like the drunkard, is amenable to the municipal authorities alone for violations of the municipal law.

Grosscup, Circuit Judge (dissenting). * * *

133. CONSOLIDATED FRUIT JAR CO. v. WRIGHT, 94 U. S. 92, 24 L. ed. 68 (1876, Patent No. 102,913).

Swayne, J.:

This is a case in equity brought by the appellants to enjoin the appellee from infringing a patent issued by the United States to John L. Mason, on the 10th of May, 1870, "for an improvement in fruit jars," of which patent the complainant is the assignee. * * *

If the case stopped here, the facts we have adverted to would be fatal to the patent, upon the ground of the first objection. But there are further facts developed in the testimony which bear upon this as well as the other point.

The model remained in the possession of Reed, one of the glass manufacturers, unnoticed and uncalled for by Mason until 1867. Not knowing where to find Mason, Reed then sold it at auction. The jar Mason had given him was sold at the same time and in the same way. This utter neglect of the model for so long a time is full of significance, and has an important bearing upon the question of abandonment.

No sufficient reason is disclosed in the record why the application for the patent was not made earlier. It was not for want of the necessary pecuniary means on the part of Mason. * * *

In the mean time, large interests had grown up in the way of the manufacture and sale of jars substantially the same with Mason's, and of others more or less like it. He was stimulated to make his application by seeing such jars in the market. He had seen them before Fitzgerald advised him finally to get a patent. Even then he failed to give any directions upon the subject. He reached his conclusion subsequently. Large amounts of money must then have been invested in the business of making and selling

such jars by various persons. It is sufficient to mention the case of Rowley, who is defending this suit in the name of Wright, the appellee.

Rowley, in 1864, was selling jars known as the Excelsior. In the spring of 1866 he was called upon by Imlay, who charged that the Excelsior infringed a patent issued to him in 1865, which was for a jar such as the appellee is called to account in this case for selling. He bought from Rowley. Rowley took a license from Imlay, and thereupon commenced making and selling jars made according to Imlay's patent. These jars were nearly identical with those described in the Mason patent. A part of those sold had only glass tops, without the metallic covering, which Mason's patent called for. The residue had such covering. Prior to the beginning of the year 1868 he had sold of the jars with glass tops from two hundred and fifty to four hundred gross, making the minimum thirty-six thousand. Before the same period, he had sold a large number of those with the metallic top, and otherwise the same in construction. Thus, before Mason applied for his patent, and as early as 1866, the public was in possession of the invention in question from sources entirely independent of Mason.

It is enough to say, without recapitulating the facts, that in our judgment the defense of abandonment to the public is also clearly made out.

He who is silent when he should speak must be silent when he would speak, if he cannot do so without a violation of law and injustice to others.

The supineness of the patentee is unexplained and inexcusable. A principle akin to the doctrine of equitable estoppel applies.

Inventors are a meritorious class. They are public benefactors. They add to the wealth and comfort of the community, and promote the progress of civilization. A patent for an invention is as much property as a patent for land. The right rests on the same foundation, and is surrounded and protected by the same sanctions. There is a like larger domain held in ownership by the public. Neither an individual nor the public can trench upon or appropriate what belongs to the other. The inventor must comply with the conditions prescribed by law. If he fails to do this he acquires no title, and his invention or discovery, no matter what it may be, is lost to him, and is henceforward no more his than if he had never been in any wise connected with it. It is made thereupon as it were by accretion, irrevocably a part of the domain which belongs to the community at large. The invention here in question is within this category.

[Note.—In considering the older cases on this subject, it should be borne in mind that the law was somewhat different from the present law with respect to "renewing" rejected or "withdrawn" applications. The broad principles are, however, applicable.]

134. PLANING MACHINE CO. v. KEITH, 101 U. S. 479, 25 L. ed. 939 (1879, Patent, No. 138,462).

It has sometimes been said that an invention cannot be held to have been abandoned, unless it was the intention of the inventor to abandon it. But this cannot be understood as meaning that such an intention must be expressed in words. In *Kendall v. Winsor* (21 How. 322), this court said: "It is the unquestionable right of every inventor to confer gratuitously the benefits of his ingenuity upon the public, and this he may do either by express declaration or by conduct equally significant with language; such, for instance, as an acquiescence with full knowledge in the use of his invention by others; or he may forfeit his rights as an inventor by a willful or negligent postponement of his claims." To the same effect is *Shaw v. Cooper*, 7 Pet. 292. These were cases, it is true, where the alleged dedication to the public, or abandonment, was before any application for a patent, but it is obvious there may be an abandonment as well after such an application has been made and rejected, or withdrawn, [under former practice], as before, and evidenced in the same manner. In *Adams v. Jones* (1 Fish. Pat. Cas. 527), Mr. Justice Grier said, "a man may justly be treated as having abandoned his application if it be not prosecuted with reasonable diligence. But involuntary delay, not caused by the laches of the applicant, should not work a forfeiture of his rights."

The patent law favors meritorious inventors by conditionally conferring upon them for a limited period exclusive rights to their inventions. But it requires them to be vigilant and active in complying with the statutory conditions. It is not unmindful of possibly intervening rights of the public. The invention must not have been in public use or on sale more than two years before the application for a patent is made, and all applications must be completed and prepared for examination within two years after the petition is filed, unless it be shown to the satisfaction of the commissioner that the delay was unavoidable. All this shows the intention of Congress to require diligence in prosecuting the claims to an exclusive right. An inventor cannot without cause hold his application pending during a long period of years, leaving the public uncertain whether he intends ever to prosecute it, and keeping the field of his invention closed against other inventors. It is not unfair to him, after his application for a patent has been rejected, and after he has for many years taken no steps to reinstate it, to renew it, or to appeal, that it should be concluded he has acquiesced in the rejection and abandoned any intention of prosecuting his claim further. Such a conclusion is in accordance with common observation. Especially is this so when, during those years of his inaction, he saw his invention go into common use, and neither uttered a word of complaint or remonstrance, nor was stimulated by it to a fresh attempt

to obtain a patent. When in reliance upon his supine inaction the public has made use of the result of his ingenuity, and has accommodated its business and its machinery to the improvement, it is not unjust to him to hold that he shall be regarded as having assented to the appropriation, or, in other words, as having abandoned the invention.

There may be, it is true, circumstances which will excuse delay in prosecuting an application for a patent, after it has been rejected, such as extreme poverty of the applicant, or protracted sickness. Of such cases we are not now speaking. None of these ordinary and accepted reasons for Woodbury's inaction during the more than sixteen years that elapsed between 1854 and his presentation of the new petition upon which his patent was granted, are found in this case. * * *

No effort was made in the Patent Office to have the rejected application reinstated, though such an effort must have been successful had it been made, and apparently Woodbury acquiesced alike in the rejection and in the withdrawal, until December, 1870, when his new application was made. During all this time he was in frequent communication with the Patent Office, prosecuting, and successfully, other applications for patents. He was not pressed by poverty to such an extent as to hinder his renewal of his application. This is shown by direct evidence, and by the fact that he had means to sue for and obtain other patents. Nor was he unwarned of the danger of delay. Very soon after 1854, if not before, the use of planing machines containing pressure-bars in combination with rotary cutters and a solid bed, was general. The defendant's answer asserts that before Dec. 5, 1870, and since the withdrawal of Woodbury's rejected application, many thousand planing machines, containing his invention, had been constructed, sold, and used in the United States, and this assertion is accepted in the appellant's brief. This fact must have been known by him. Upon this subject the evidence is very full. As we have seen, the distinctive element of Woodbury's invention was the substitution of yielding pressure-bars for the rollers employed in the Woodworth patent. A machine patented to Joseph E. Andrews in 1845 had those pressure-bars, and Woodbury was engaged for years in selling those machines. Between 1852 and 1854 three Cornell machines of the Woodworth patent, rotary cutter, yielding pressure-bars combined with a solid bed were used by John F. Keating in his shop at Boston. Mr. Woodbury was repeatedly there while they were in use, and examined them, but he never suggested that he had any claim to the use of pressure-bars in planing machines. There is ample evidence also that hundreds of other machines containing the same device were manufactured and sold in Boston between the years 1854 and 1870, and were frequently seen by Mr. Woodbury, calling forth no

remark from him indicating that they were invasions of his rights. In view of all this, it is of little importance that from time to time he expressed a hope to his brother, and, perhaps, occasionally to some others, that he should some time, and in some way, obtain a patent. Such was not his language to the public. His inaction, his delay, his silence, under the circumstances, were most significant. Though not express avowals of abandonment, "to reason's ear they had a voice" not to be misunderstood. They spoke plainly of acquiescence in the rejection of his application for a patent. They encouraged the manufacture and sale of his invention.

And there is no sufficient explanation of Mr. Woodbury's conduct, nothing which can be regarded as an adequate excuse for it. The rule of the Patent Office was not a statutory rule. It was at most only a rule of practice in the office, and it was not inflexible. The action of the office exhibits many instances in which departures from it were made before the act of Congress of 1870 was passed, and even before Mr. Fisher, the Commissioner of Patents, abolished it. (Case of J. W. Cochran, Commissioner's Decision, 1869.) If Woodbury did not intend to acquiesce in the rejection of his application, the rule was no bar to a movement by him to have it reinstated after its withdrawal. So he might have applied for a re-examination, or might have appealed, or might have filed a new one. Thus, he would have given notice that he did not intend to give up his invention to the public.

There is a wide difference between this case and *Smith v. Good-year Dental Vulcanite Co.*, 93 U. S. 486. In the latter case it appeared that after three successive rejections, the last in 1856, the application was never withdrawn nor any portion of the fee claimed. Still the applicant did not remit his efforts. He was in ill-health and wretchedly poor. But he continued to assert his expectations of ultimately obtaining a patent; made frequent applications to his friends for advances to enable him to prosecute his claim; attempted to appeal; until finally, in 1864, eight years after the third rejection, the patent was obtained. The patentee had never relaxed his vigilance. He had left nothing undone which he could. He had kept his flag constantly flying. Nobody had been encouraged by any act or inaction of his to appropriate his invention. His patent was, therefore, sustained, and sustained only because he had been guilty of no laches. The conduct of Woodbury was in striking contrast with that we have described, and which is described more fully on page 491 of the report.

We are constrained, therefore, to hold that Woodbury's invention was abandoned by him before he obtained his patent. * * *

185. UNIVERSAL ADDING MACHINE CO. v. COMPTOGRAPH CO., 145 Fed. 981, 77 C. C. A. 227 (1906, Seventh Circuit, Patent No. 628,176).

Before Grosscup, Baker and Seaman, Circuit Judges.

Grosscup, Circuit Judge (after stating the facts): The claims relied upon are generic. If sustained they would exclude any other adding machine from using a lateral movement produced by the pressing of a key. The contention is that Felt was a pioneer in this particular improvement, and is entitled therefore not only to the broad claims set forth, but to the allowance of time said to have been necessarily taken—about eight years—to bring the improvement to perfection.

The patent was applied for May 31st, 1898, and allowed July 4th, 1899. Admittedly the adding machine, tabulating figures in single columns, was at that time in full use. The improvement was intended merely to embody the tabulations in parallel columns, thus introducing greater compactness, and greater convenience in the sheets containing the tabulated figures.

It turns out however, that at the time the Felt patent was applied for and allowed, there was another patent in existence—No. 580,863, applied for Sept. 16th, 1896, and issued April 20th, 1897, to Hiett and Cable; this earlier patent disclosing descriptively, though not claiming generically, all that is contained in claims one, two and four of the Felt patent in suit. Indeed, Felt's only escape from the Hiett patent, as an anticipating device, lies in the claim that though the Felt patent was not applied for until 1898, the idea was conceived, and put into process of mechanical development in 1889 and 1890—a conception and mechanical embodiment that at that date was entirely practical and operative, and only needed certain accessories to make it commercially a success. * * *

For anything the record shows, all of these accessories could have been added more than two years prior to the application for the patent. And the significance of this silence is emphasized by the fact that though the Hiett patent admittedly embodies them all, more than a year and a month elapsed after the issuance of that patent, before Felt incorporated them in his application for the perfected machine.

All this leads us up merely to the proposition upon which this case turns. The claims sued upon, as already stated, are generic. Felt seeks to monopolize, in his patent, the right to use a lateral movement to bring about the placing of the figures in parallel columns. Assuming that this concept of the patentee was complete when the patent was exhibited to the census office in 1890, so as to be practicable and operative, the machine was sufficiently completed to obtain a patent (if the feature were patentable at all) upon the broad feature claimed. The accessories subsequently developed

added nothing either to the concept, or to the operativeness of the mechanism embodying the concept. What followed, if anything, was not development or evolution, but improvement merely. And an inventor having grasped an idea, and put it in mechanical form, may not wait to secure a monopoly upon the broad thought until everything in the nature of mere accessory improvement that makes it commercially better has been run out and perfected. To so hold would put it in the power of a patentee to hold back his improvement from the world indefinitely, obtaining in the end a patent that would exclude everything relating to the art, although the whole world had contributed to the perfecting, commercially, of his conception.

One of two things in this case seems to us plain: Either the mechanism of 1890, upon which these broad claims are based, was a mere experiment, inoperative and impracticable, and as such supplanted by the Hiett patent coming some six years later; or else, for the purposes of the broad claims allowed, the mechanism of 1890 was operative and practical, and therefore abandoned or lost through the eight years of inaction that followed. And either view compels us to reverse the decree of the Circuit Court appealed from. The decree of the court below is reversed, and the case remanded with instructions to enter a decree dismissing the bill for want of equity.

[Note.—See *Kellogg Switchboard and Supply v. International Tel. Mfg. Co.*, 158 Fed. 104 and *Int. Tel. Mfg. Co. v. Kellogg* (C. C. A. Seventh Circuit, 1909), 171 Fed. 651.]

186. SAWYER SPINDLE Co. v. CARPENTER, 143 Fed. 976, 75 C. C. A. 162 (1906, First Circuit).

Before Colt, Putnam and Lowell, Circuit Judges.

Lowell, Circuit Judge: This was a bill in equity to restrain the infringement of letters patent No. 363,425, issued to Sherman for an improved spindle spool. The answer set up the expiration of the patent before suit brought, by reason of the prior expiration of a British patent, No. 2,510, of 1883, alleged to have been issued to Sherman for the same invention.

The patent in suit was applied for July 3, 1882, and was issued May 24, 1887. The provisional specification of the British patent was filed by Clark, Sherman's agent, May 19, 1883, which is taken at the date of the British patent. This expired May 19, 1897.

* * *

At the time the patent in suit was issued section 4887 of the Revised Statutes [U. S. Comp. St. 1901, p. 3382] was in force in its original form. By virtue of that section, the patent was limited to expire with the British patent May 19, 1897. The complainant contended that since the passage of Act March 3, 1903, c. 1019, 32 Stat. 1225 [U. S. Comp. St. Supp. 1905, p. 663], every patent when-

ever granted is limited only by the term expressed in its grant, and is governed by Rev. St. § 4884 [U. S. Comp. St. 1901, p. 3381]. Under this contention, the patent expired May 24, 1904. In order to understand legislation under consideration it is here printed in full.

Revised statutes:

“Sec. 4887. No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid, by reason of its having been first patented or caused to be patented in a foreign country, unless the same has been introduced into public use in the United States for more than two years prior to the application. But every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years.”

Act March 3, 1897, c. 391, 29 Stat. 692 [U. S. Comp. St. 1901, p. 3382]:

“Sec. 3. That section forty-eight hundred and eighty-seven of the Revised Statutes be, and the same hereby is, amended by inserting on line one, after the words ‘no person,’ the words ‘otherwise entitled thereto,’ and on line three, after the words ‘cause to be patented,’ the words ‘by the inventor or his legal representatives or assigns,’ and by erasing therein all that portion of the section which follows the words ‘in a foreign country,’ on lines three and four, and substituting in lieu thereof the following: ‘unless the application for said foreign patent was filed more than seven months prior to the filing of the application in this country, in which case no patent shall be granted in this country’ so that the section so amended will read as follows:

“‘Sec. 4887. No person otherwise entitled thereto shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid, by reason of its having been first patented or caused to be patented by the inventor or his legal representatives or assigns in a foreign country, unless the application for said foreign patent was filed more than seven months prior to the filing of the application in this country, in which case no patent shall be granted in this country.’”

“Sec. 8. That this act shall take effect January first, eighteen hundred and ninety-eight, and sections one, two, three, and four, amending sections forty-eight hundred and eighty-six, forty-nine hundred and twenty, forty-eight hundred and eighty-seven, and forty-eight hundred and ninety-four of the Revised Statutes, shall not apply to any patent granted prior to said date, nor to any application filed prior to said date, nor to any patent granted on such an application.”

Act March 3, 1903, c. 1019, § 1, 32 Stat. 1225 [U. S. Comp. St. Supp. p. 663] :

“That section forty-eight hundred and eighty-seven of the Revised Statutes is amended by changing the word ‘seven’ to ‘twelve,’ and by inserting after the word ‘months’ the words ‘in cases within the provisions of section forty-eight hundred and eighty-six of the Revised Statutes, and four months, in cases of designs,’ and by adding the following words: ‘An application for patent for an invention or discovery or for a design filed in this country by any person who has previously regularly filed an application for a patent for the same invention, discovery, or design in a foreign country which, by treaty, convention, or law, affords similar privileges to citizens of the United States shall have the same force and effect as the same application would have if filed in this country on the date on which the application for patent for the same invention, discovery, or design was first filed in such foreign country, provided the application in this country is filed within twelve months in cases within the provisions of section forty-eight hundred and eighty-six of the Revised Statutes, and within four months in cases of designs, from the earliest date on which any such foreign application was filed. But no patent shall be granted on an application for patent for an invention or discovery or a design which had been patented or described in a printed publication in this or any foreign country more than two years before the date of the actual filing of the application in this country, or which had been in public use, or on sale in this country for more than two years prior to such filing, so that the section so amended shall read:

“ ‘Sec. 4887. No person otherwise entitled thereto shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid by reason of its having been first patented or caused to be patented by the inventor or his legal representatives or assigns in a foreign country, unless the application for said foreign patent was filed more than twelve months, in cases within the provisions of section forty-eight hundred and eighty-six of the Revised Statutes, and four months in cases of designs, prior to the filing of the application in this country, in which case no patent shall be granted in this country.

“ ‘An application for patent for an invention or discovery or for a design filed in this country by any person who has previously regularly filed an application for a patent for the same invention, discovery, or design in a foreign country which, by treaty, convention, or law, affords similar privileges to citizens of the United States shall have the same force and effect as the same application would have if filed in this country on the date on which the application for patent for the same invention, discovery, or design was first filed in such foreign country, provided the application in this country is filed

within twelve months in cases within the provisions of section forty-eight hundred and eighty-six of the Revised Statutes, and within four months in cases of designs, from the earliest date on which any such foreign application was filed. But no patent shall be granted on any application for patent for an invention or discovery or a design which had been patented or described in a printed publication in this or any foreign country more than two years before the date of the actual filing of the application in this country, or which had been in public use or on sale in this country for more than two years prior to such filing.' ”

Let us consider how the law stood regarding patents like that here in suit at every stage of the legislation, bearing in mind the necessary distinction between the validity of a patent and its term. Act July 4, 1836, c. 357, § 8, 5 Stat. 121, provided that prior foreign patenting within six months of the application here should not invalidate the domestic patent, which was left in force as expressed on its face. Act March 3, 1839, c. 89, § 6, 5 Stat. 354, did not affect patents validated by the act of 1836, but, in addition thereto, validated American patents for inventions which had been patented abroad more than six months before the application here. It first gave to foreign patenting an effect upon the term of an American patent for the same invention by reckoning the statutory term of the American patent from the foreign rather than from the American issue. The general codification of the patent laws in Act July 8, 1870, c. 230, 16 Stat. 201, materially changed the effect given to foreign patenting, and in this respect did not merely codify existing legislation. *Bate Refrigerating Co. v. Sulzberger*, 157 U. S. 1, 41, 15 Sup. Ct. 508, 39 L. ed. 601. The American patent was made to expire with the foreign patent of shortest term, and not at the usual statutory period reckoned from the date of the foreign application. The provisions of section 25 of the act of 1870 were substantially like those of Rev. St. § 4887 [U. S. Comp. St. 1901, p. 3382]. The latter was expressed in two sentences. In substantial accordance with the Acts of 1836 and 1839, as amended by the act of 1870, the first sentence declared that no patent should be deemed invalid because of prior foreign patenting. This sentence dealt with validity as affected by foreign patenting, and with that subject only. The second sentence dealt with the term of an American patent as affected by prior foreign patenting, and not at all with its validity, carrying out the radical alteration of the term which was introduced by the act of 1870.

When granted, the patent in suit fell within the purview of both sentences of section 4887. The first saved it from invalidation by the prior British patenting. The second limited its term by that of the British patent: i. e., May 19, 1897. Had the legislation re-

mained unchanged to the present day the defense to this bill would undoubtedly be complete.

The act of March 3, 1897, was passed before the expiration of the patent in suit. Section 3 amended both sentences of Rev. St. § 4887. The only important amendment to the first sentence invalidated American patents where the foreign application was filed more than seven months before the American application. The second sentence of section 4887 was stricken out altogether. As thus amended, section 4887 dealt solely with the invalidation of patents by reason of foreign patenting, and in no way affected their term. As no legislation remained to give to prior foreign patenting any effect upon the term of an American patent for the same invention, that term stood as fixed by the grant issued under Rev. St. § 4884.

In order to save earlier patents from the operation of the act of 1897 as to their term or validity, section 8 expressly provided that the amendment of Rev. St. § 4887, should not apply to patents granted before January 1, 1898. These were left to be governed by section 4887 in its original form. Therefore the patent in suit was left by the act of 1897 unaffected either as to its validity or as to its term, governed as to the latter by the second clause of section 4887, and not by section 4884. By this saving of rights, some patents were left valid which would have been invalidated had the act of 1897 been made retroactive; e. g., cases in which the foreign patent had been applied for more than seven months before the domestic application. Other patents were left invalid which would have been validated had the act of 1897 been made retroactive; e. g., cases in which the American patent had expired by reason of the expiration of the British patent. The general saving of rights to individuals and to the public made by section 8 applied alike to both cases. The patent in suit, therefore, expired May 19, 1897, as it would have done had the act of 1897 never been passed.

The act of 1903 amended section 4887 as amended. It did not purport to affect the term of patents in any respect but only the requisites of their validity. Before its passage, as has just been said, the patent in suit was controlled as to its term by section 4887 in its original form. The act of 1903 manifested no intention to change this control, or in effect to revive a patent which had expired six years before its passage. Complainant has referred to statutes which repealed earlier legislation imposing penalties or working forfeitures. These repealing statutes have often been given a retroactive effect. But the second sentence of Rev. St. § 4887, imposed no penalty, and worked no forfeiture. Moreover, the case does not stand as if the second sentence of Rev. St. § 4887, had been repealed without qualification. Legislation will not easily be construed to destroy by mere implication rights expressly saved to the public or to individuals in earlier legislation from its

retroactive operation. As the act of 1897 expressly left the patent in suit to expire in 1897, and as the act of 1903 manifested no contrary intention, it follows that the Sherman patent expired before this suit was brought.

We find no sufficient reason to vary the order of the court below respecting costs.

The decree of the Circuit Court is affirmed, and the appellee recovers his costs of appeal.

137. WELSBACH v. APOLLÒ, ETC., 96 Fed. 332, 37 C. C. A. 508, (1899, Second Circuit).

* * *

Before Wallace and Shipman, Circuit Judges.

Shipman, Wallace Judge (after stating the facts as above): The French patent for a term of 15 years was issued before the date of the application for the United States patent for the same invention, and was in full force at that date, but lapsed for the nonpayment of an annuity before the United States patent issued. The effect which the lapse had upon the life of the United States patent depends upon the proper construction of section 4887 of the Revised Statutes, which was the section in force when the patent was issued, and which was as follows:

“Sec. 4887. No person shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid by reason of its having been first patented or caused to be patented in a foreign country unless the same has been introduced into public use in the United States for more than two years prior to the application. But every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent, or, if there be more than one, at the same time with the one having the shortest term, and in no case shall it be in force more than seventeen years.”

No one of the five decisions of the supreme court which may be supposed to bear upon a decision of this motion was based upon the facts of this case. In *Bate Refrigerating Co. v. Hammond*, 129 U. S. 151, 9 Sup. Ct. 225, the application for the United States patent was filed December 1, 1876, and the patent was issued on November 20, 1877. A Canadian patent had been issued for five years from January 9, 1877, and, in pursuance of Canadian law, was extended without interruption for two terms of five years each. The question being whether the United States patent expired at the end of five years or of fifteen years from its date, the supreme court said:

“We are of opinion that in the present case, where the Canadian statute under which the extensions of the Canadian patent were granted was in force when the United States patent was issued, and also when that patent was applied for, and where, by the Canadian statute, the extension of the patent for Canada was a matter entirely of right, at the option of the patentee, on his payment of a required fee, and where the fifteen years’ term of the Canadian patent has been continuous and without interruption, the United States patent does not expire before the end of the fifteen years’ duration of the Canadian patent. This is true although the United States patent runs, on its face, for seventeen years from its date, and is not, on its face, so limited as to expire at the same time with the foreign patent; it not being necessary that the United States patent should, on its face, be limited in duration to the duration of the foreign patent.”

In *Pohl v. Brewing Co.*, 134 U. S. 381, 10 Sup. Ct. 577, letters patent of the United States had been issued March 18, 1879, upon application filed in the preceding January. German letters patent for the same invention had been issued to the same inventor in September, 1877, which could run until December, 1891, but became forfeited in 1880 for neglect to pay the required annuities, and a French patent for the same invention began to run from September, 1877, for 15 years, but expired in 2 years by reason of the same neglect. The supreme court held that the potential term, and not the period of actual existence, was to govern, and said:

“There is nothing in the statute which admits of the view that the duration of the United States patent is to be limited by anything but the duration of the legal term of the foreign patent in force at the time of the issuing of the United States patent, or that it is to be limited by any lapsing or forfeiture of any portion of the term of such foreign patent, by means of the operation of a condition subsequent, according to the foreign statute. In saying that ‘every patent granted for an invention which has been previously patented in a foreign country shall be so limited as to expire at the same time with the foreign patent,’ the statute manifestly assumes that the patent previously granted in a foreign country is one granted for a definite term; and its meaning is that the United States patent shall be so limited as to expire at the same time with such term of the foreign patent.”

The decision in *Commercial Mfg. Co. v. Fairbank Canning Co.*, 135 U. S. 176, 10 Sup. Ct. 718, has no appreciable bearing upon this case. An original United States patent was applied for December 13, 1873, and was issued December 30, 1873. A Bavarian patent was granted April 8, 1873, and expired April 8, 1876, by limitation of its term. An Austrian patent was granted October 31, 1869, and expired May 26, 1876, “on account of not being carried out”

in Austria. Application for a reissue of the United States patent was made in May, 1882, and was granted June 13, 1882. The great question before the circuit and the supreme courts was whether the foreign patents were identical with those of the United States, and the circuit court, upon finding that they were, said that the reissue was void, because "the application on which it was granted was not made until May 20, 1882." The supreme court found that the circuit court's findings of fact and conclusions of law were correct.

The decision in *Bate Refrigerating Co. v. Sulzberger*, 157 U. S. 1, 15 Sup. Ct. 508, was confined to the single point that the provisions of section 4887 "refer to foreign patents granted previously to the issue of letters patent for the same invention by the United States, and not to foreign patents granted previously to the application for the American letters."

The remaining case is that of *Huber v. Manufacturing Co.*, 148 U. S. 270, 13 Sup. Ct. 603, which is thought to have an important bearing upon the question now at issue. Letters patent of the United States were granted to an assignee of the inventors on June 27, 1882. An English patent, dated April 7, 1874, for the same invention, had been granted to the inventors for 14 years, but expired on April 7, 1881, by reason of the non-payment of stamp duty. The application for the United States patent was filed more than seven months after the English patent had become void. The case was tried in the circuit court after the decision in the *Bate Case* and before that in the *Pohl Case*, and its opinion, based upon a widely extended misapprehension of the tendency of the *Bate* decision, was to the effect that under section 4887 the term of the actual existence, and not the legal term, of the foreign patent, limited the duration of the United States patent, and that the section "presupposed that at the date of the United States patent there was in force a foreign patent for the invention, and that, if there was no such foreign patent in force when the patent was issued, but only one which had lapsed and become void, although theretofore granted for the invention, there was no authority in law for the United States grant." The circuit court decreed that the United States patent was issued without authority of law, and was void, upon reasoning which was decided in the *Pohl Case* to be without foundation. Judge Blatchford was careful not to affirm, although he quoted the theory upon which the decree of the trial court was based. He had previously said that the "decision was made upon the interpretation which the [circuit] court gave to" the *Bate Case*. *Pohl v. Brewing Co.*, supra. His conclusion was, "We are of opinion that, as in the case at bar the foreign patent was not in force when the United States patent was issued, the latter patent never had any force or validity"; and gave as the apparent reason for the conclu-

sion that "the delay in applying for the United States patent until after the foreign patent expired amounted to an abandonment of the right to a United States patent. This is in accordance with the view of the commissioner of patents in *Musket's Case*" (1870), which was an application for the extension of the term of a United States patent after the foreign patent for the same invention had expired,—an application which was at that time to be made to the commissioner of patents.

All the decisions of the supreme court upon section 4887 were intended to be limited to the question which arose upon the precise facts of the respective cases, and are to be so regarded, notwithstanding any general language which was used. The *Huber Case* is an authority only for the right to obtain a United States patent applied for seven months after a foreign patent had expired, and after its owners manifestly regarded it as of no importance, and consequently after the abandonment of the right to a United States patent. There has been no authoritative decision by that court upon the facts of the case at bar. The *Pohl* and *Huber Cases* simply suggest what may be their decision upon the facts as now presented. Section 4887 provided that prior foreign patenting should not be a bar to a United States patent, unless under certain circumstances, but that such patent should not extend beyond the term of the life of its foreign predecessor. If the invention or the right to a patent had been abandoned before the application for a United States patent, its issuance was prohibited under another section. If there had been no abandonment before application, but the issuance of the United States patent was delayed until the foreign patent had become forfeited by noncompliance with some statutory provision, the question is whether, when issued, its life had been destroyed, or whether its life was upon the declared or legal term of the foreign patent. If its life was destroyed, its destruction was effected while the application was under examination, and was delayed in the patent office. Such a result would be at variance with the spirit of the section, the intent of which was to make the United States term coterminous with the possible foreign term. If its life is a continuous one for 15 years, the construction makes the patent system a uniform one, and independent of mishaps occurring after the applicant was entitled to his patent, and which would have had no effect if the office could have been more prompt. The appellee's construction, in view of the effect of the decision in the *Pohl Case*, seems harsh and inequitable. Under that decision the legal term of a foreign patent in being when the United States patent was issued is the term of the life of the later patent, although the foreign patent should be forthwith forfeited. Under the construction asked for, if the foreign patent was forfeited pending the application for an American patent, its issuance is barred. It is

very probable that any difficulty which exists in the construction of the section is because it was drawn with reference only to the state of facts which ordinarily arise, and the conditions which we are now considering did not occur to the draftsman. The section is applicable to the case at bar because the foreign patent was "previously patented"; but there is no requirement that the foreign patent must be in force at the date of the United States patent, and in searching for the meaning of the section, as applied to this case, the words "to expire at the same time" should have the same construction in each set of circumstances, and should be taken to mean that the United States patent expires at the end of the term prescribed in the previous foreign patent.

The appellees make the point that a Rawson German patent of July 24, 1887, was void ab initio by reason of the publication of the specification of the Rawson English patent on July 23, 1887, because the German statute provides that an invention is not regarded as new if it has already been described in any printed publication, or publicly used in Germany, at the time of application for a patent, etc. The filing of the application must have been on July 23d, as appears from the testimony of one of the defendant's witnesses, and it does not appear that the English specification was published before July 23d. This point is without value as it is now presented.

The order of the circuit court is reversed, with costs.

138. WELSBACH LIGHT CO. v. AMERICAN, ETC., LAMP CO., 98 Fed. 613, 39 C. C. A. 185 (1899, Second Circuit, Patent No. 470,963).

Wallace, Shipman, Judges.

Shipman, J.: * * *

This is not the case of an interference in the Patent Office or of a contest in the courts between two original inventors for priority of invention, in which it is the established rule under section 4923 that an original inventor who applies for Letters Patent of the United States can not be deprived of his right to a patent by the fact that an inventor had made in a foreign country at a prior date the same original invention, but which had not been described at a prior date in a patent or in a printed publication. (*Ireson v. Pierce*, 39 Fed. Rep., 797; *Roemer v. Simon*, 95 U. S., 214; *Elizabeth v. Pavement Co.*, 97 U. S., 126.) The subject of the practice in the Patent Office upon two applications by two original inventors in a foreign country of the same invention is stated in *Lauder v. Crowell*, (16 O. G., 405). Neither the practice under nor the established construction of section 4923 has a bearing upon this case, because Welsbach is not shown to have been in any country an inventor of the Rawson improvement; but if it was used in this country either before or after the date of the Rawson United States patent by a person not claiming under the Rawsons it was

used by an infringer. This question then arises: Can an infringer defeat Letters Patent of the United States to an original inventor in a foreign country by proof that a few days before the date of a prior foreign patent to the same inventor, but not before the date of the application for such patent and less than two years before the date of the application for a United States patent, the invention was used in this country by a person who did not invent it?

It is contended by the defendant that under section 4886 of the Revised Statutes the Rawson patent was void on the ground that the improvement was known and used in this country before the invention thereof, because the actual inventor is not permitted to show that the date of his invention was prior to the date of his foreign patent. The section is as follows:

“Any person who has invented or discovered any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement thereof, not known and used by others in this country and not patented or described in any printed publication in this or any foreign country before the invention or discovery thereof, or not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned, may upon payment of the fees required by law, and other due proceedings had, obtain a patent therefor.”

The section gives to an inventor, foreign or domestic, the right to a patent unless certain conditions existed, neither of which in fact existed in this case. The Rawson invention had not been patented or described in any country before the patentees invented it, had not been in public use or on sale for more than two years prior to their application, had not been abandoned, and had not been known or used in this country by any one before the date of the invention.

If no other disabilities prevent, an inventor may obtain a patent of the United States for an invention made and previously patented in a foreign country unless the same has been introduced into public use in the United States for more than two years prior to the application (section 4887), which is, in substance, the qualification which exists in section 4886 as applicable to any invention, and it is not necessary that the introduction shall have been made with the consent of the inventor. (Andrews v. Hovey, 123 U. S. 267; 124 U. S. 694.) It is, however, said that the section requires that the invention must not have been known or used in this country before the date of the invention and that the date of the publication of the foreign Rawson patent is the date *de jure*. The section applies to all inventions irrespective of the place of their origin, and the term “date of invention” is used without discrimination between classes of inventions. The theory of the defendant is that as to the domestic inventor knowledge in

this country must precede the actual date of the invention, but that as to a foreign inventor knowledge in this country need only precede the date of the publication of his foreign patent. We are of opinion that the language of the section refers to the actual and not an artificial date, and that where there is no contest between inventors, if knowledge in this country did not precede the actual date of the invention, unless it had been used in this country for two years before the application, the inventor was entitled to a patent.

This question was before Judge Dallas in *Hanifen v. Godschalk Co.*, (78 Fed. 811,) and before Judge Townsend in *Hanifen v. Price*, (96 Fed. 435) whose opinions are in conformity with those herein expressed. Our conclusion is that as against an infringer the patentee in a United States patent for an invention previously made by him and patented in a foreign country may, to avoid alleged use in this country by an infringer, before the date of the foreign patent, show the date of the application for the foreign patent for the purpose of showing the actual date of his invention in a foreign country.

Upon the facts shown in the record it is not, in our opinion, certain that the Rawson improvement was introduced into this country before July 23, 1887. It is true that Welsbach came to New York on April 24, 1887, for the purpose of organizing a corporation and manufacturing mantles and opened an office at No. 10 Wall street and paid rent for the months of June and July of that year. A sufficient number of witnesses testify that they worked in the office for a part of the month of June and, after an intermission of three or four weeks, in Warren street in July and used a process like the Rawson process. There are a variety of circumstances which throw doubt upon the credibility of the fact of the use of the improvement at that early period, although undoubtedly it was subsequently used. It is, however, unnecessary to recite the circumstances of this part of the case or to make a finding thereon.

The defendants also make the point that the English Rawson patent was confined by its terms to a hot process and that a cold process was a new invention and therefore was known in this country before Rawson made it. The conclusion that a cold process was a new invention made after the date of the English patent does not seem to us to rest upon sufficient evidence.

The effort which was made to show that William S. Rawson was the sole inventor of the invention of the Rawson's patent fails to convince the mind and was not persuasive.

The order of the circuit court is affirmed with costs.

139.

[Note: The International Convention for the protection of "Industrial Property" comprises a series of conventions or treaties beginning with one signed at Paris on March 20, 1883, and ratified by the United States on March 29, 1887. There have been subsequent treaties and conventions intended, within the period of twelve months to give to an applicant in the subscribing countries the advantage of the filing date of his application for the same invention in any of the countries. The relation of these conventions to R. S. Sec. 4887 as amended March 3, 1903, has not yet been settled. The following are from Underwood's Digest:

"Article 4 bis, of the International Convention.

"Article 4 bis, inserted in the International Convention for the Protection of Industrial Property of March 20, 1883, by the additional convention or act of December 14, 1900, did not have the effect of changing the term of an existing United States patent as fixed by the statute at the time of its issuance. *United Shoe Machinery Co. v. Duplessis Shoe Machinery Co.*, 155 Fed. 842 (1st Cir. 1907)."

International Convention—treaties—construction and effect—relation to Statutes.

Treaties and statutes of the United States have always been practically put in the same class, so far as judicial action is concerned, to the extent that a later treaty has the same effect on a prior statute that a later statute has, and may supersede it as a later statute may supersede a prior treaty. Nor is there any practical distinction as between a statute and a treaty with regard to its becoming presently effective without awaiting further legislation which depends entirely upon its terms. *Id.*

Convention of 1900, when ratified, self-executing—Article 4 bis.

(C. C. A. 3d Cir. 1909). By the convention concluded at Brussels December 14, 1900, by the International Conference for the Protection of Industrial Property, at which the United States was represented, it was among other things ordained: "Art. 4 bis. Patents applied for in the different contracting states by persons admitted to the benefits of the convention under the terms of articles 2 and 3 shall be independent of the patents obtained for the same invention in the other states, adherents or nonadherents to the Union. This provision shall apply to patents existing at the time of its going into effect. The same rule applies to the case of adhesion of new states to patents already existing on both sides at the time of the adhesion." This convention was ratified by the Senate March 7, 1901, and proclaimed by the President to go into effect September 14, 1902. (32 Stat. 1936.) Held that such treaty

was self-executing, and the effect of its ratification was a complete doing away with the interdependence of foreign and domestic patents, and of the limitation imposed on the term of domestic patents for inventions previously patented in foreign countries by Rev. St. § 4887, prior to its amendment in 1897 (U. S. Comp. St. 1901, p. 3382). (Per Archbald, District Judge, and Gray, Circuit Judge, concurring) (See Treaties, Cent. Dig. § 11; Dec. Dig. § 11). (Opinion of Judge Archibald, not the opinion of the court. See *Union Typewriter Co. v. L. C. Smith Bros.*, 173 F. pp. 298, 299). *Hennebique Const. Co. v. Myers et al.*, 172 F. 869.

Article 4 bis self-executing.

(C. C. A. 3d Cir. 1909). Article 4 bis "must be regarded as self-executing. A contrary opinion was given by the Attorney General as to the treaty of 1883. (19 Opinions, 275.) And this was followed by the Patent Office, as the correct construction, afterwards. (*Ex parte Zwack & Co.*, 76 O. G. 1855; *Butterworth v. Boral*, 97 O. G. 1596.) It was accepted, also by the Court of Appeals of the District of Columbia in interference proceedings, carried up from the Commissioner of Patents. *Parker v. Appert*, 75 O. G. 1201; *Rousseau v. Brown*, 104 O. G. 1120. In *United Shoe Company v. Duplessis Shoe Company*, 155 Fed. 842, 84 C. C. A. 76, also, it was held by the Court of Appeals of the First Circuit, that, although article 4 bis on its face was self-executing, it was controlled by implication by the passage by Congress of Act March 3, 1903, c. 1019, 32 Stat. 1225 (U. S. Comp. St. Supp. 1907, p. 1003), to give effect to it. But neither of these views in my judgment can be sustained. Having respect to their terms, it can not be said that either the treaty of 1883 or the additional act of 1900 required legislation here to make it effective." (Opinion of Judge Archbald, not the opinion of the court, see *Union Typewriter Co. v. L. C. Smith Bros.*, 173 F. pp. 298, 299). *Hennebique Const. Co. v. Myers et al.*, 172 F. 869.

Term--Effect of International Convention--Art. 4 bis.

(C. C. N. Y., 1910). Article 4 bis. inserted in the International Convention for the Protection of Industrial Property of March 20, 1883, by the additional act of convention signed at Brussels December 14, 1900, proclaimed by the President August 25, 1902, 32 Stat. 1936, as controlled and construed by Act March 3, 1903, c. 1019, 32 Stat. 1225 (U. S. Comp. St. Supp. 1909, p. 1270). "to effectuate the provisions" of such additional act of convention, did not have the effect of changing the term of an existing United States patent as fixed by statute at the time of its issuance; and such a patent granted prior to January 1, 1898, and which is limited by the provisions of Rev. St. § 4887 (U. S. Comp. St. 1901, p. 3382), to the

term of a prior foreign patent, is not extended by such additional act. (For other cases, see Patents Cent. Dig. §§ 188½-191; Dec. Dig. § 132). *Malignani et al. v. Hill-Wright Electric Co.*, 177 F. 430, 434.]”

[The following under this heading are brief extracts to complete the discussion].

140. TELEPHONE CASES, 126 U. S. 1, 31 L. ed. 863, 8 Sup. Ct. 778.

In doing this [applying the undulatory theory of sound] both discovery and invention, in the popular sense of those terms, were involved; discovery in finding the art, and invention in devising the means for making it useful. For such discoveries and such inventions the law has given the discoverer and the inventor the right to a patent as discoverer for the useful art, process, method of doing a thing he had found; and as inventor for the means he has devised to make his discovery one of actual value. Other inventors may compete with him for the ways of giving effect to the discovery, but the new art he has found will belong to him and those claiming under him during the life of his patent. If another discovers a different art or method of doing the same thing, reduces it to practical use, and gets a patent for his discovery, the new discovery will be the property of the new discoverer, and thereafter the two will be permitted to operate each in his own way without interference by the other. The only question between them will be whether the second discovery is in fact different from the first.

141. BURR v. DURYEE, 68 U. S. 531, 17 L. ed. 650.

Such inventions partake of the nature of discoveries, either found out by experiment or the result of a happy thought, which, when once expressed, is plain to all intelligent persons, who could point out at once many devices for making it effectual. Anyone can perceive the difference of such a case from the invention of a labor saving machine, which is a mere combination of certain mechanical devices to produce a desired manufacture in a cheaper or better manner.

[See dissenting opinion *infra*, No. 93, and caustic comment in opinion of majority.]

142. PHILADELPHIA, ETC., CO. v. STIMPSON, 14 Pet. (U. S.) 448, 10 L. ed. 535.

The invention itself is an intellectual process or operation; and like all other expressions of thought, can in many cases scarcely be made known, except by speech. The invention may be consummated and perfect and may be susceptible of complete description in words, a month or even a year before it can be embodied in a visible form, machine or composition of matter.

- 143. MAGOWAN v. NEW YORK, BELTING, ETC., CO.,** 141 U. S. 332, 35 L. ed. 781, 12 Sup. Ct. 71.

We think that Gately made a substantial discovery or invention, which added to our knowledge and made a step in advance in the useful arts.

- 144. COWLES ELECTRIC, ETC., ALUMINUM CO. v. LOWREY,** 79 Fed. 331, 24 C. C. A. 616.

Discoveries of natural forces or of their laws are not the subjects of patents. It is only the employment of such forces by invented means, for useful purposes, which gives the inventor any standing ground.

- 145. MITCHELL v. TILGHMAN,** 86 U. S. 287, 22 L. ed. 125.

Doubtless an invention may be good though the subject of it consists in the discovery of some principle of science or property of matter, never before known or used, by which some new and useful result is obtained, and such an invention or discovery may be the subject of a valid patent without including in the claim any new arrangement of machinery to accomplish the object, provided the inventor describes, as required in the patent law, the method, process or means of applying the invention to practical use and of obtaining the described new and useful result.

- 146. CARVER v. HYDE,** 16 Pet. (U. S.) 513, 10 L. ed. 1051.

The end to be accomplished is not the subject of a patent. The invention consists in the new and useful means of obtaining it.

- 147. SEYMOUR v. OSBORNE,** 78 U. S. 516, 20 L. ed. 33.

Improvements in machines protected by letters patent may also be mentioned, of a much more numerous class, where all the ingredients of the invention are old, and where the invention consists entirely in a new combination of the old ingredients, whereby a new and useful result is obtained, and many of them are of great utility and value, and are just as much entitled to protection as those of any other class.

* * * *

Improvements for which a patent may be granted must be new and useful, within the meaning of the patent law, or the patent will be void, but the requirement of the Patent Act in that respect is satisfied if the combination is new and the machine is capable of being beneficially used for the purpose for which it was designed, as the law does not require that it should be of such general utility as to supersede all other inventions in practice to accomplish the same object.

148. O'REILLY v. MORSE, 15 How. (U. S.) 62, 14 L. ed. 601.

Nor can its validity be impeached upon the ground that it is an improvement upon a former invention, for which the patentee had himself already obtained a patent. Any other inventor might do so; and there would be no reason, in justice or in policy, for refusing the like privilege to an original inventor.

He must stand on the same footing with any other inventor of an improvement upon a previous discovery. Nor is he bound in his new patent to refer specially to his former one. All that the law requires is that he shall not claim as new what is covered by a former invention, whether made by himself or any other person.

149. GOSHEN SWEEPER CO. v. BISSELL CARPET SWEEPER CO., 72 Fed. 67, 19 C. C. A. 13.

A patent is addressed to those familiar with the art. A new and useful improvement upon an old machine is just as much the subject of patent rights as a new machine. All that the inventor is required to do is to point out distinctly the part he claims as new, so as to advise the public as to the extent of his invention and what is thereby withdrawn from the public.

150. CANTRELL v. WALLICK, 117 U. S. 689, 29 L. ed. 1017, 6 Sup. Ct. 970.

The first defense is based on the theory that a patent can not be valid unless it is new in all its elements as well as in the combination. * * * But this theory can not be maintained. If it were sound no patent for an improvement on a known contrivance or process could be valid. And yet the great majority of patents are for improvements in old and well known devices or on patented inventions.

Two patents may be both valid when the second is an improvement upon the first, in which event, if the second includes the first, neither of the two patentees can lawfully use the invention of the other without the other's consent.

151. SMITH v. NICHOLS, 88 U. S. 112, 22 L. ed. 566.

But the mere carrying forward of new or more extended application of the original thought, a change only in form, proportions or degree, the substitution of equivalents, doing substantially the same thing in the same way by substantially the same means with better results, is not such invention as will sustain a patent. These rules apply alike, whether what preceded was covered by a patent or rested only in public knowledge and use. In neither case can there be an invasion of such domain and an appropriation of anything found there. In one case everything belongs to the prior patentee; in the other to the public at large.

152. THOMSON-HOUSTON ELECTRIC CO. v. LORAIN STEEL CO., 117 Fed. 249, 54 C. C. A. 281.

Where, of a number of independent inventors working in the same field, one takes the last step which accomplishes the result sought, a strong presumption of invention is raised in his favor. But where a number of workers in a single field, when confronted by an obstacle to the development of a device, naturally, and practically contemporaneously, independently substitute one well-known material for another, and, finding that it successfully overcomes such obstacles, use it publicly and privately without any claim of exclusive right, the presumption is raised that such workers rightly regarded the substitution as a mere improvement, a mere choice of material, such as would be adopted or selected by the skilled workman, or a double use.

153. ANDERSON v. COLLINS, 122 Fed. 451, 58 C. C. A. 669.

Where the advance in the art is gradual, and several inventors make valuable improvements and form different combinations, which accomplished the desired result with varying degrees of success, each is entitled to his own combination, so long as it differs from those of his competitors, and does not include theirs.

(National Hollow Brake-Beam Co. v. Interchangeable Brake-Beam Co., 106 Fed. 693, 712, 45 C. C. A. 544, 563; Railway Co. v. Sayles, 97 U. S. 554, 556, 24 L. ed. 1053; McCormick v. Talcott, 20 How. (U. S.) 402, 405, 15 L. ed. 930; Stirrat v. Excelsior Mfg. Co., 61 Fed. 980, 981, 10 C. C. A. 216, 217; Griswold v. Harker, 62 Fed. 389, 391, 10 C. C. A. 435, 438; Adams Electric R. Co. v. Lindell Ry. Co., 77 Fed. 432, 440, 23 C. C. A. 223, 231; Ide v. Trorlicht-Duncker, etc., Carpet Co., 115 Fed. 137, 143, 53 C. C. A. 341). [And in the nearly the same words Kinlock v. Western, 113 Fed. 659, 51 C. C. A. 369.]

154. NATIONAL, ETC., BRAKE-BEAM CO. v. INTERCHANGEABLE BRAKE-BEAM CO., 106 Fed. 693, 45 C. C. A. 544.

It must be remembered, however, that an improvement of an old device or a new combination of old elements not infrequently marks a greater advance in the art and discloses a more useful invention than the conception of the original machine or a knowledge of the old elements of the combination, and that such an improvement is equally entitled with the conception of the original device to the protection of a patent.

155. BULLOCK ELECTRIC MFG. CO. v. GENERAL ELECTRIC CO., 149 Fed. 409, 79 C. C. A. 229.

A thing or a combination of co-operating parts may be invented and the original embodiment of it be shown in a crude and imper-

fect form. The skill of the trained workman will develop the idea of the inventor in more refined, more delicate and more exactly suitable forms than the original. He may cut away needless bulk, he may increase the size of parts, he may make them stronger, if need be, by the substitution of one familiar material for another, make them lighter or heavier, he may divide one part into two, or combine two in one, or make any other transformation of details, so long as he is pursuing and working out the original discovery or invention by the exercise of the insight, good judgment, and expertness which he is expected to possess and apply. And this improvement may go on so long as any improvement in bringing the means already supplied to greater perfection can be made and yet it continues to be only an embodiment of the primal idea.

156. HOLLISTER v. BENEDICT, ETC., MFG. CO., 113 U. S. 59, 28 L. ed. 901, 5 Sup. Ct. 717.

[Detachable coupon revenue stamp.]

As soon as the mischief became apparent, and the remedy was seriously and systematically studied by those competent to deal with the subject, the present regulation was promptly suggested and adopted, just as a skilled mechanic, witnessing the performance of a machine inadequate by reason of some defect, to accomplish the object for which it had been designed; by the application of his common knowledge and experience perceives the reason of the failure and supplies what is obviously wanting. It is but the display of the expected skill of the calling and involves only the exercise of the ordinary faculties of reasoning upon the materials supplied by a special knowledge, and the faculty of manipulation which results from its habitual and intelligent practice; and is in no sense the creative work of that inventive faculty which it is the purpose of the Constitution and the patent laws to encourage and reward.

157. ESTEY v. BURDETT, 109 U. S. 633, 27 L. ed. 1058, 3 Sup. Ct. 531.

Our conclusion is that the absolute length and size of the valve opening was a matter of judgment in view of the state of the art shown, and that there was no invention in making its length and size greater or less in a reed board of a given width, or where the reed board was made wider or narrower or had more or less sets of reeds in it, either full or partial.

158. EAMES v. WORCHESTER POLYTECHNIC INSTITUTE, 123 Fed. 67; 60 C. C. A. 37.

The mere change of size or form of a simple structure, or of an element in a combination, made for the purpose of accommodating it to its work within the sphere of its contemplated uses, does not amount to invention.

159. WINANS v. DENMEAD, 15 How. (U. S.) 330, 14 L. ed. 717.

To change the form of an existing machine, and by means of such change to introduce and employ other mechanical principles or natural powers, or, as it is termed, a new mode of operation, and thus attain a new and useful result, is the subject of a patent.

160. WERNER v. KING, 96 U. S. 218, 24 L. ed. 613.

But where form is of the essence of the invention, it is necessarily material; and, if the same object can be attained by a machine different in form where that form is inseparable from the successful operation of the instrument, there is no infringement.

161. STANDARD OIL CO. v. SOUTHERN PACIFIC CO., 54 Fed. 521, 4 C. C. A. 491.

Is this invention a mere aggregation or is it a patentable combination? What is the distinction between mere aggregation and a patentable combination? A combination of well-known separate elements, each of which when combined operates separately and in its old way, and in which no new result is produced which can not be assigned to the independent action of one or the other, of the separate elements, is an aggregation of parts, merely and is not patentable. But if to adapt the several elements to each other in order to effect their co-operation in one organization demands the use of means without the range of ordinary mechanical skill, then the invention of such means to effect the mutual arrangement of the parts would be patentable. The parts need not act simultaneously, if they act unitedly to produce a common result. It is sufficient if all the devices co-operate with respect to the work to be done, and in furtherance thereof, although each device may perform its own particular function only.

162. MORRIS v. McMILLIN, 112 U. S. 244, 28 L. ed. 702, 5 Sup. Ct. 218.

In view of these facts, which are either matters of common knowledge or well established by the evidence, the only field of invention left for the patent to cover was the application by the old and familiar arrangement of shafts and cog-wheels, of the power of an auxiliary engine to a capstan instead of a windlass. A capstan differs from a windlass in this respect only that its barrel or shaft is vertical, while that of a windlass is usually horizontal. It is plain, therefore, that no such ingenuity as merited the issue of a patent was required for this improvement, but only the ordinary judgment and skill of a trained mechanic.

163. GOODYEAR, ETC., RUBBER CO. v. RUBBER TIRE WHEEL CO.,
116 Fed. 363, 53 C. C. A. 583.

To combine old parts in such manner as to produce a new result by their harmonious co-operation may be patentable; but it is equally true that where the combination is not only of old parts, but of old results, without the addition of any new and distinct function, the combination is not patentable.

164. ROGERS v. FITCH, 81 Fed. 959, 27 C. C. A. 23.

Complainants seek to eliminate the Elston patent from the case by the suggestion that the workmen who make mattresses for beds do not make seats for railroad cars. That circumstance, however, is immaterial when an old contrivance is applied in an old way, to an analogous subject, without any novelty in the mode of applying such old contrivance to the new purpose.

165. HEAP v. TREMONT, ETC., MILLS, 82 Fed. 449, 27 C. C. A. 316.

It is true as already stated, that nearly all, if not all, the elements of Grosselin's combination were so common in the practical arts that their use anywhere must be regarded as analogous to previous uses; and especially is this true of the cone pulleys. But this does not wholly settle the matter.

166. JONES v. CYPHERS, 126 Fed. 753, 62 C. C. A. 21.

Whether houses and incubators are or are not in the same class is unimportant. The patent in suit deals with the problem of ventilating an incubator; the two earlier patents, with the problem of ventilating a house or a room; and we are clearly of the opinion that the devising of systems of ventilation belongs to a single art, whether such systems are to be applied to a hospital, a sewer, a ship's hold, a cold-storage box, an incubator, or any other structure where circulation of air is sought to be secured.

167. CONSOLIDATED ELECTRIC MFG. CO. v. HOLTZER, 67 Fed. 907,
15 C. C. A. 63.

In the case at bar it can not be said that there has been a transfer to a "branch of industry remotely allied," of the use of solid in lieu of jointed work, because this substitution has been practiced in every industry, unless it be in the particular one at bar; and it can not be said that the latter is remotely allied to all others, though it may be to some. Whatever has become free and common to the field of practical arts, as a whole, must be free to every part of that field, except under extremely exceptional circumstances.

168. SCHREIBER v. GRIMM, 72 Fed. 671, 19 C. C. A. 67.

It is simply the case of an employment for a new use, and nothing more, and falls within the general doctrines of those cases in which it has been so many times held that the mere extension of a well-known device into another field of usefulness, where the transfer does not involve the faculty of inventive genius, will not support a patent.

169. GENERAL ELECTRIC CO. v. BULLOCK ELECTRIC MFG. CO., 152 Fed. 427, 81 C. C. A. 569.

Obviously, the relation between the mechanical and electric arts was not so close and apparent that it would follow as a matter of course that the invention of a method of bolting a bedstead together, or of securing a wooden covering to an iron pulley, would, of itself, furnish a suggestion for solving the problem of detachably fastening the laminated pole pieces of a field magnet to the solid yoke thereof.

170. RIES v. BARTH MFG. CO., 136 Fed. 850, 69 C. C. A. 528.

Ries got together a collection of old elements, motors, circuits, switches to close circuits, levers, resistance coils, solenoids, and other actuating mechanisms for moving an arm over contact points, dashpots, and (if we look to the Stanley patent and concede appellee's contention) adjustable dashpots, were all old. The prior patents proved this. They show these elements severally, and some in combinations. But none exhibits Ries's combination for any purpose and none foreshadows Ries's thought. That is, Ries disclosed to the world a new desirable result to be attained, and devised a new means by which the new idea could be put to use. Than this, there is no higher quality of invention.

171. JAMES v. CAMPBELL, 104 U. S. 356, 26 L. ed. 786.

A patent for a process and a patent for an implement or a machine are very different things. * * * Where a new process produces a new substance, the invention of the process is the same as the invention of the substance, and a patent for the one may be reissued so as to include both, as was done in the case of Goodyear's vulcanized rubber patent. But a process and a machine for applying the process are not necessarily one and the same invention. They are generally distinct and different.

172. CHEMICAL RUBBER CO. v. RAYMOND RUBBER CO., 71 Fed. 179, 18 C. C. A. 31.

Merely to describe the use of heated acid without any information whatever as to the extent of the required dilution of the

acid, was to add nothing to the stock of common knowledge. Mitchell's invention, it will be observed, rested upon an original discovery, and he was bound to disclose fully to the public, in and by his patents, his *modus operandi*. Upon this point the provisions of section 4888 of the Revised Statutes are imperative.

173. APPLETON MFG. CO. v. STAR MFG. Co., 60 Fed. 411, 9 C. C. A. 42.

The utterances of the Supreme Court upon the question whether or not a mechanical process is patentable are not in clear harmony, * * * it would seem to follow that processes, which are to be effected wholly by mechanical means, in order to be patentable must be capable of being distinguished from the method of operation or mere function of the mechanism necessary for their accomplishment.

174. DAYTON, ETC., MOTOR CO. v. WESTINGHOUSE, ETC., MFG. CO., 118 Fed. 562, 55 C. C. A. 390.

That method may be practiced by the employment of any means adapted to the purpose, and then known to the art, or which might thereafter become known. To be sure, if the mechanical means employed are the subject of a patent, the party who uses the process must have or secure the right to use the patented method. Assuming for the moment that claim two, just mentioned, was for a combination of generic means, such a claim would cover all known means of the kind enumerated. And it would cover all equivalents which might thereafter be discovered by the ordinary skill of the art, and were not the fruit of invention; and it would dominate the latter, if the latter was of an improvement merely of the means covered by the former invention. But the invention of means hitherto unknown would be an independent invention, not covered by the patent, and, according to the well-settled rule would of itself be entitled to a patent.

175. AMERICAN LAVA CO. v. STEWARD, 155 Fed. 731, 84 C. C. A. 157.

The first and second claims are for a process or processes. They seem to us to be nothing else than claims for the function of the apparatus described. No doubt it is competent, when the circumstances permit it, for an inventor in describing a machine or apparatus which he has devised, to make a claim for a process which his patented device is capable of carrying out. But to entitle him to do this the process must be one capable of being carried out by other means than by the operation of his patented machine, and, unless such other means are known or within the reach of ordinary skill and judgment, the patentee is bound to point them out; for unless the public are informed by what other means the process

can be carried out, the process is to them nothing else than the operation of the machine—in other words the exercise of its functions. In the present case no other means or way of practicing the process are suggested by the patentee than the particular device on which his claim for the apparatus rests. And it is impossible for us to see how the process which is the subject of these claims could be worked by any other means than the particular means described by the apparatus. Certainly it is not explained how else it could be done. Moreover, if the apparatus is not new its functions are not new.

176. UNITED STATES, ETC., GUARANTY CO. v. STANDARD PAVING CO., 95 Fed. 137, 37 C. C. A. 28.

There is, in fact, a difference in the material of the two pavements, and we are inclined to differ from the Circuit Court, and to regard the Perkins patent as patentable, because it was an application of an old process of intense heating, by means of a movable furnace, to different and dissimilar materials. The two processes were not exactly alike. Crochet treated the surface by vivid heat, removed the damaged part, roughened the remaining surface, and added new material. Perkins heated in the same way, reduced the old material to a soft, pliable state, agitated it with a rake, and mixed it with enough new material to fill up the spot to be repaired.

177. PENN., ETC., MFG. CO. v. CONROY, 159 Fed. 943, 87 C. C. A. 149.

The hand and machine methods of chipping glass are essentially the same. The fact that in one case the work is done by a hand tool, and in the other by a machine, does not influence, much less control, the decision of the question. The complainant did not discover a new method of chipping glass. It is rather the old method performed by a new tool. As already suggested, it is impossible to demonstrate wherein the claims of this patent set forth anything not methodically pursued in the hand operation.

178. CAMERON, ETC., TANK CO. v. SARATOGA, 159 Fed. 453, 86 C. C. A. 483.

We, however, are satisfied that Cameron was the first one to subject a flowing current of sewage to the action of anaerobes and aerobes under conditions which secured their separate and successive action. * * * This certainly involved “the use of one of the agencies of nature for a practical purpose.” The process is one which puts a force of nature into a certain specified condition and then uses it in that condition for a practical purpose. [Valid.]

179. MAURER v. DICKERSON, 113 Fed. 870, 51 C. C. A. 494.

The patent also describes a process for making it which was new, and up to the present time is the only known process by which it can be produced. Since, then, there was novelty both in the process and product, Hinsberg might have had one claim for the process and another claim for the product.

180. MOSLER, ETC. LOCK CO. v. MOSLER, 127 U.S. 354, 32 L. ed. 182, 8 Sup. Ct. 1148.

After a patent is granted for an article described as made by causing it to pass through a certain method of operation to produce it, * * * the inventor can not afterwards, on an independent application, secure a patent for the method or process, * * * which article was described in that patent as produced by the method or process sought to be covered by taking out the second patent.

181. COCHRANE v. BADISCHE, ETC., SODA FABRIK, 111 U. S. 293, 28 L. ed. 433, 4 Sup. Ct. 455.

While a new process for producing it was patentable, the product itself could not be patented, even though it was a product made artificially for the first time, in contradistinction to being eliminated from the madder root. Calling it artificial alizarine did not make it a new composition of matter, and patentable as such, by reason of its having been prepared artificially for the first time from anthracine, if it was set forth as alizarine, a well known substance.

182. NATIONAL, ETC., FERTILIZER CO. v. SWIFT, 104 Fed. 87, 43 C. C. A. 421.

Given, through such publication of the processes in the prior patents, like ingredients, with coagulation of the albuminoids and resultant product clearly set forth, there was surely no pioneer discovery in chemistry on the part of Van Ruymbeke to authorize a patent for the identical product, however meritorious his advance may have proved in the process to that end.

183. MAURER v. DICKERSON, 113 Fed. 870, 51 C. C. A. 494.

That claim, in terms, is for the described product, having certain distinguishing characteristics which are set forth in the claim with great fullness. In our judgment it is very clear that the claim is not restricted to the product made by the described process, but covers the chemical individual, however produced. We know of no rule requiring a construction limiting a claim for a chemical product to the described process, because the evidence shows that it cannot be made in any other way than by the process recited. No warrant for such a rule is to be found either in the statute or in the decisions.

184. **WEATHERHEAD v. COUPE**, 147 U. S. 322, 37 L. ed. 188, 13 Sup. Ct. 312.

The argument that a machine must be automatic in order to be patentable is not sound. A piano is not automatic, nor is any tool or implement intended for use by hand. But improvements in any such tool used in an art or industry are patentable.

185. **THOMSON-HOUSTON ELECTRIC CO. v. ELMIRA, ETC. R. CO.**, 71 Fed. 396, 18 C. C. A. 145.

A machine or structure may embody several different inventions. There may be subcombinations in a machine which are new and useful, and operate conjointly to perform some subordinate function. Such a subcombination, if not patented by a claim, might be appropriated by another without infringing a patent for the machine. Being for a different invention, it is the proper subject of a distinct patent.

186. **CAMPBELL v. BAYLEY**, 63 Fed. 463, 11 C. C. A. 284.

But whether, within the meaning of the patent law, a device should be deemed to be a manufacture or a machine, in order to be patentable, it must be novel; and by the decided cases the test of novelty would seem to be essentially the same in the one instance as in the other.

187. **MILLIGAN, ETC., GLUE CO. v. UPTON**, 97 U. S. 3, 24 L. ed. 985.

A distinction must be observed between a new article of commerce and a new article which, as such, is patentable. Any change in form from a previous condition may render the article new in commerce; as powdered sugar is a different article in commerce from loaf sugar, and ground coffee is a different article in commerce from coffee in the berry. But to render the article new in the sense of the patent law, it must be more or less efficacious, or possess new properties by a combination with other ingredients; not from a mere change of form produced by a mechanical division. It is only where one of these results follows that the product of the compound can be treated as the result of invention or discovery and be regarded as a new and useful article.

* * *

Where certain properties are known to belong generally to classes of articles there can be no invention in putting a new species of the class in a condition for the development of its properties similar to that in which other species of the same class have been placed for similar development; nor can the changed form of the article from

its condition in bulk to small particles, by breaking or bruising or slicing or rasping or filing or grinding or sifting, or other similar mechanical means, make it a new article, in the sense of the patent law.

188. NATIONAL, ETC., STAMPING CO. v. NEW ENGLAND ENAMELING CO., 151 Fed. 19, 80 C. C. A. 485.

It is only when a new process introduces new characteristics into the manufactured article by which it can be identified and distinguished from all preceding manufactures that the article itself becomes patentably new.

189. WOOD v. UNDERHILL, 5 How. (U. S.) 1, 12 L. ed. 23.

But when the specification of new composition of matter gives only the names of the substances which are to be mixed together, without stating any relative proportion, undoubtedly, it would be the duty of the court to declare the patent to be void. And the same rule would prevail when it was apparent that the proportions were stated ambiguously and vaguely. For in such cases it would be evident on the face of the specification that no one could use the invention without first ascertaining by experiment the exact proportions.

190. UNDERWOOD v. GERBER, 149 U. S. 224, 37 L. ed. 710, 13 Sup. Ct. 854.

As patent No. 348,073 does not claim the composition of matter, although it describes it, that composition must be regarded as disclaimed, and as being public property, and there was no invention in applying it to paper, as claimed in said patent. [See also *Brigham v. Coffin*, 149 U. S. 557, 37 L. Ed. 845.]

191. BUTTE CITY v. PACIFIC, ETC., R. CO., 60 Fed. 90, 8 C. C. A. 484.

The appellant contends that it is not a patentable combination. We do not think the contention is supportable. All the parts of the device operate to produce one result, and it is easily distinguishable from that claimed in *Rockendorfer v. Faber*, 92 U. S. 347, and *Adams v. Stamping Co.*, 141 U. S. 539. * * * In the former case the pencil and rubber performed different and independent things. In the latter, the hinge attachment to the lantern was a substitute for a detachable fastening, and went no further.

192. SANDERS v. HANCOCK, 128 Fed. 424, 63 C. C. A. 166.

It is not necessary to a valid combination that all the parts should co-operate all the time. It is enough that, in the normal and progressive use of the machine, they do so some of the time.

193. INTERNATIONAL TIME RECORDING CO. v. DEY, 142 Fed. 736, 74 C. C. A. 68.

It is true that these elements do not act synchronously, but this is not necessary, simultaneous action being frequently absent from patentable combinations.

194. UNITED, ETC., COLLAR CO. v. BEATTIE, 149 Fed. 736, 79 C. C. A. 442.

The elements of the claims, considered separately or in different environments, were, speaking generally, all old. The question here is was the combination old? That the claim covers a combination, and not an aggregation, we have no doubt, even though the operations of the separate elements do not synchronize.

195. NATIONAL v. AIKEN, 163 Fed. 254, 91 C. C. A. 114.

The argument that the straightening press does not act simultaneously with the other devices included in the combination, if true, is not enough to defeat the patent. If that device is so arranged with the other devices made elements in the combination as that each part co-operates to produce a single practical and beneficial result, it is not important that that final result shall have been produced by a simultaneous or successive action of the combined elements.

* * *

If, however, the adaptation of old and separate elements, so that they co-act with each other in a unitary organization, involves the exercise of something more than the skill of an ordinary mechanic, the result may be patentable, if a more beneficial result is effected than by the separate operation of the parts. * * * So if a new combination and arrangement of old elements produces a new and beneficial result, as to greatly increase the productive efficiency of a machine, it is evidence of invention.

196. MAIMEN v. UNION SPECIAL MACHINE CO., 165 Fed. 440, 91 C. C. A. 384.

It is true that the elements of the combination do not act simultaneously; but that is immaterial, since they are nevertheless so arranged that the action of each is necessary and contributes to the general result.

197. MANVILLE MACHINE CO. v. EXCELSIOR NEEDLE CO., 167 Fed. 538, 93 C. C. A. 216.

The fact that a completed product is developed by successive steps in the same machine does not prevent the organized mechanism which produces this result, from being considered a combination. Forbush

v. Cook, 2 Fish. Pat. Cas. 669 Fed. Cas. No. 4,931; Natural Cash Reg. Co. v. American Co., 53 Fed. 367, 3 C. C. A. 559. * * *

A construction of the claims requiring such simultaneous action would relegate even such a marvelous organized machine as the Mergenthaler linotype to the unprotected and defenseless class of aggregations. Mergenthaler Linotype Co. v. Press Pub. Co., 57 Fed. 502.

198. COLUMBUS WATCH CO. v. ROBBINS, 64 Fed. 384, 12 C. C. A. 174.

Drawings and a model have been submitted, showing how easy it is to unite the Colby stem arbor with the Wheeler patent. In our view, this is but wisdom after the fact. We cannot concur in the view that, even if it were known that a combination of the Wheeler patent with the Colby stem arbor would have an advantageous result, mere mechanical skill would enable one to make the combination. The combination shown in the drawings and model submitted is a combination suggested by the Church patent, and which, but for the Church patent, would seem much more difficult than it now does. More than this, it involved patentable invention to see that a union of the elements of the Wheeler patent with those of the Colby patent would have a beneficial result.

199. FAIRBANKS v. STICKNEY, 123 Fed. 79, 59 C. C. A. 209.

Even if it be conceded that the individual elements composing the combination are to be found in the prior art, yet to make the selection of these parts from the prior art, and to combine them, as Hobart did, so as to produce a clutch which is at the same time simple, compact, effective and useful, required, as we think, more than ordinary mechanical skill.

200. DUNN MFG. CO. v. STANDARD COMPUTING SCALE CO., 163 Fed. 521, 90 C. C. A. 331.

It is not of consequence that the elements of each claim may be old, for the claims are for a combination, and if the combination be new, or if by a new mode of organization new or better results are obtained, the patent may be sustained.

201. WARREN STEAM PUMP CO. v. BLAKE, ETC., PUMP WORKS, 163 Fed. 263, 91 C. C. A. 19.

In looking at the prior pump art as illustrated in this record, it may seem a comparatively simple thing to take the old twin bucket air pump of the Coryell patent and combine with it a direct-acting engine located above it. It may also seem a comparatively simple thing, in view of the prior art, to supply a reliable and efficient valve

movement for this structure. But it must be remembered that Whiting & Wheeler were the first to devise such a structure, and that Hall & Gage were the first to devise a valve mechanism specially adapted to that structure, and that it was by these means that the problem of a high-grade air pump was successfully solved.

In an art so highly advanced as the pump art, where all the elements which enter into the construction of a pump may be said to be old, where most conceivable conditions of use have been presented to engineers, and where the art exhibits the greatest variety of form and structure, it is impossible, in many cases, as an abstract proposition, to draw the line between invention and the skill of the designer. There is, however, strong evidence of invention, where we have presented the circumstances such as exist with respect to the patents in suit, namely, a demand for a more efficient air pump, the failure of previous efforts to meet this demand, the immediate success of the patented device, and its great utility. It may also be observed that, if the construction of a successful independent vertical bucket air pump by the elimination of the crank and fly-wheel and the circulating pump as means of control was within the knowledge of any skilled pump designer, it is remarkable that such a pump was not built as soon as it appeared that the existing pumps were unsatisfactory. Again, it may be said that these patents belong to the class which the patent law was designed to protect, inasmuch as they cover a device which is new and useful, and which immediately met a public want. For these reasons we are of the opinion that these patents involved the exercise of the inventive faculty, as distinguished from mere mechanical skill. If, however, in view of the prior art, there is any doubt upon this question of invention, that doubt must be resolved in favor of the patents by reason of the utility, efficiency, and extensive commercial use of this air pump.

202. *FLORSHEIM v. SCHILLING*, 137 U. S. 64, 34 L. ed. 574, 11 Sup. Ct. 20.

[Quoting *Pickering v. McCullough* and citing numerous cases.]

“The combination of old devices into a new article, without producing any new mode of operation [result] is not invention.”

203. *IDE v. TRORLICHT*, 115 Fed. 137, 53 C. C. A. 341.

A new combination of old elements, whereby an old result is attained in a more economical and efficient way may be protected by a patent.

204. *ANDERSON v. COLLINS*, 122 Fed. 451, 58 C. C. A. 669.

His device may not have been a great improvement, but it was certainly a marked advance in the art, and, in view of the numerous

less successful attempts to take the step he took which were rewarded with patents by the government, and in view of the evident inability of those inventors and of the proprietors of mere mechanical skill to reach the point to which Collins attained, the title of inventor ought not to be denied him. His invention is one of those intermediate steps in the gradual progress of a useful art toward perfection which are evidenced by the great majority of patented inventions, and it falls within the familiar rules that a new combination of old elements by which an old result is attained in a more facile, economical and efficient way may be protected by a patent. (National Hollow Brake-Beam Co. v. Interchangeable Brake-Beam Co., 106 Fed. 693, 707, 45 C. C. A. 544, 557; Seymour v. Osborne, 11 Wall. (U. S.) 516, 542, 20 L. ed. 33; Gould v. Rees, 15 Wall. (U. S.) 187, 189, 21 L. ed. 39; Thompson v. Citizens' Nat. Bank, 53 Fed. 250, 252, 3 C. C. A. 518, 520; Ide v. Trorlicht etc., Carpet Co., 115 Fed. 137, 143, 53 C. C. A. 341.)

205. RAILROAD CO. v. DU BOIS, 79 U. S. 47, 20 L. ed. 265.

Undoubtedly a patentee may claim and obtain a patent for an entire combination or process, and also for such parts of the combination or process as are new and useful, or he may claim and obtain a patent for both.

206. THOMSON-HOUSTON ELECTRIC CO. v. BLACK RIVER TRACTION CO., 135 Fed. 759, 68 C. C. A. 461.

Many subcombinations, although new, are not useful, except to perform their appropriate functions in the machine of which they are a part. The description in the patent of the whole machine, and of the means or mode by which the subcombination is brought into co-operative relation with the other parts usually indicates how the subcombination may effect a useful result. When this is so, the combination need not be operative alone, because (to use the language of Mr. Walker), "utility is justly ascribed to things which have their use in co-operating with other things to perform a useful work."

207. GILL v. WELLS, 89 U. S. 1, 22 L. ed. 699.

Cases arise where a patentee, having invented a new and useful combination consisting of several ingredients, which, in combination, compose an organized machine, also claims to have invented new and useful combinations of fewer numbers of the ingredients and, in such cases, the law is well settled that, if the several combinations are new and useful and will severally produce new and useful results, the inventor is entitled to a patent for the several

combinations, provided that he complies with the requirement of the Patent Act and files in the Patent Office a written description of each of the alleged new and useful combinations and of the manner of making, constructing and using the same.

He may give the description of the several combinations in one specification and, in that event, he can secure the full benefit of the exclusive right to each of the several inventions, by separate claims referring back to the description in the specification.

208. KINLOCH TEL. CO. v. WESTERN ELECTRIC CO., 113 Fed. 659, 51 C. C. A. 369.

A plausible and persuasive argument may be made that this combination falls under either class of cases [Atlantic Works v. Brady, 107 U. S. 192, or Loom Co. v. Higgins, 105 U. S. 580], that it might have been and was produced by the skill of the trained mechanic or by the intuitive genius of the inventor. The patent which describes it, however, raises a presumption in favor of its novelty and its patentability. It was a new combination. No such separate yet uniform grouping of corresponding annunciators and answering jacks with a multiple switchboard had ever been made or used before Seeley conceived and described it. That combination was not a pioneer; perhaps it was not a great invention. But it discharged the functions of the multiple switchboard, its annunciators, and switches more speedily and efficiently than they had ever been performed without it, and a new combination of old elements by which an old result is attained in a more facile, economical, and efficient way may be protected by a patent.

209. YAWMAN, ETC., MFG. CO. v. VETTER, DESK WORKS, 159 Fed. 443, 86 C. C. A. 473.

The invention is not a generic one, far from it. Every element of the claims, considered separately and in different environment, was old, but Yawman was the first to assemble them in the combinations in controversy. By so doing he made an advance, which, though it did not go far, entitled him to protection.

210. WILLCOX, ETC., MACHINE CO. v. MERROW MACHINE CO., 93 Fed. 206, 35 C. C. A. 269.

When the increase of speed is so great as it appears to be in this instance and that, too, in an art where increase of speed (efficiency being preserved) is of such practical importance, we are disposed to consider the changes in parts and arrangement of parts as showing meritorious invention. This capacity for high speed is not an afterthought, for at the beginning of the specification, is found the statement, "The machine has been contrived with reference to running at a very high speed."

- 211. DOIG v. MORGAN MACH. CO.**, 122 Fed. 460, 59 C. C. A. 616.
[Box—mailing machine].

It is an improvement because it saves time. How much time is thus saved is not entirely clear. * * * But whether it were greater or less, the majority of the court are of the opinion that the device employed to effect it is a simple and obvious mechanical contrivance, quite within the intelligence of the ordinary skilled workman to produce, and that it does not disclose patentable invention.

- 212. HOUGHTON v. WHITIN MACH. WORKS**, 153 Fed. 740, 83 C. C. A. 84.
[Thread-guide for spinning machine.]

In a very considerable sense, and from the very nature of things, every patent so far as the fact of invention is concerned, is to stand, if it stands at all, upon its own inherent merit, and therefore a given situation is not much aided by authorities otherwise than by the relative measure of merit ascertained under somewhat unsatisfactory methods of comparison; but if the ingenious barbed wire twist, which “turned a failure into a success” was invention, surely what Houghton accomplished through a successful substitution of metal parts for wood and by way of an ingenious adaptation of hard-tempered wire and sheet metal parts, so assembled as to be easily adjustable to old and new machines alike, ought to be accepted as invention.

[See for striking example of small point held patentable.]

- 213. THOMSON-HOUSTON ELECTRIC CO. v ELMIRA, ETC., R. CO.**, 71 Fed. 396, 18 C. C. A. 145.

Various expedients for switching with such conductors have been resorted to by experts in the art. The fact that they overlooked devices like the patented device, and resorted to clumsy or inconvenient means, cannot be ignored. It was not a great invention, but that it was an invention requiring a degree of ingenuity somewhat beyond the ordinary skill of the calling we are unable to doubt.

- 214. WESTINGHOUSE v. BOYDEN POWER-BRAKE CO.**, 170 U. S. 537; 42 L. ed. 1136, 18 Sup. Ct. 707.

The greater simplicity of the Boyden patent certainly entitles it to a favorable consideration. [See, *infra*.]

- 215. COMPUTING SCALE CO. v. AUTOMATIC SCALE CO.**, 204 U. S. 609; 51 L. ed. 645, 27 Sup. Ct. 307.

It is true that many valuable inventions seem simple when accomplished, and yet are entitled to protection. The books abound

in cases showing inventions involving only small departure from former means, yet making the difference between a defective mechanism and a practical method of accomplishing results. In such cases a decision in favor of invention as distinguished from mere mechanical improvement has not infrequently resulted, in view of the fact that the device has made the difference between an impracticable machine and a useful improvement displacing others theretofore occupying the field. *Krementz v. S. Cottle Co.*, 148 U. S. 556, 37 L. ed. 558, 13 Sup. Ct. 719; *Consolidated Brake-Shoe Co. v. Detroit, etc., Spring Co.*, 47 Fed. 894; *Star Brass Works v. General Electric Co.*, 111 Fed. 398, 49 C. C. A. 409.

216. ELDRED v. KIRKLAND, 130 Fed. 342, 64 C. C. A. 588.

Chambers succeeded. Eastman failed. The one produced a lamp having both these characteristics. The other a lamp having but one. Instead of anticipating or seriously limiting the scope of the patent, Eastman offers mute but persuasive tribute to Chambers' skill and ingenuity.

217. OLMSTED v. ANDREWS, 77 Fed. 835, 23 C. C. A. 488.

Utility is not an infallible test of originality. There must be original thought or inventive skill, not mere mechanical change of what was old.

218. DECECO v. GILCHRIST, 125 Fed. 293, 60 C. C. A. 207.

[Patent No. 425,416, Water-Closet.]

It can not be denied that a mere simplification of a very substantial character, disposing of parts which have long been in use, expensive and burdensome in their nature, and which the trade has found no method of dispensing with, may amount to patentable invention. To obtain absolute simplicity is the highest trait of genius.

219. REGENT MFG. CO. v. PENN., ETC., MFG. CO., 121 Fed. 80, 57 C. C. A. 334.

[Patent No. 631,033, Mirror.]

But its very simplicity, in such an old field, should be a warning against a too ready acceptance of the *c. r. post facto* wisdom of the bystander.

220. PACKARD v. LACING STUD CO., 70 Fed. 66, 16 C. C. A. 639.

It is also probably true that by selecting from the various known machines of that character, and indeed by selecting only from those devised with reference to lacing hooks, including especially the Palmer machine, all the elements of the patented ma-

chine in suit could be brought together. This, however, on well-settled rules, falls far short of demonstrating that appellee's device contains no patentable qualities, though it compels us to regard them as of a limited and restricted character.

221. MILWAUKEE CARVING CO. v. BRUNSWICK-BALKE COLLENDAR CO., 126 Fed. 171, 61 C. C. A. 175.

[Patent 443,802, Carving Machine.]

The elements appear severally, in one or another of such prior patents, but are not all united in either. These patents furnish evidence of the prior state of the art, but do not deprive the new combination of patentable novelty.

222. NEW YORK, ETC., PACKING CO. v. SIERER, 158 Fed. 819, 86 C. C. A. 79.

The Watts patent is a design patent. It illustrates and describes an interlocking tile of precisely the form of one of the figures in the Furness patent. The tiles manufactured under this patent were of pottery ware, and were used for wainscoting. Watts, the inventor, is the assignee of one-third of the present patent. Furness had seen this Watts pottery tile before he applied for his patent. It is apparent, therefore, that what Furness did—and all that he did—was to make the Harland yielding but not interlocking tile in the form of the Watts unyielding but interlocking tile. * * * Was it invention to apply the old interlocking device to yielding tile? Was it invention to change the material of the old interlocking tile and make it yielding? * * * From whatever point of view we examine the present case no patentable invention is to be found. There was no original conception in applying the old interlocking device to yielding tiles. Conversely, there was no invention in changing the material of the old interlocking tiles.

223. O'ROURKE ENGINEERING CONST. CO. v. McMULLEN, 160 Fed. 933, 88 C. C. A. 115.

To assert that Moran's invention [air-locks for caissons] is anticipated by freight elevators which pass through several stories of a building, the openings on each floor being closed by two-part doors, is tantamount to asserting that he who solves the problem of aerial navigation will be entitled to no credit because similar vehicles with the same motive power have traveled successfully over the land and through the water.

224. TELEPHONE CASES, 126 U. S. 1, 31 L. ed. 863, 8 Sup. Ct. 778.

As was said in *Loom Co. v. Higgins*, 105 U. S. 580, 586, "when the question is whether a thing can be done or not, it is always easy to find persons ready to show how not to do it." If one succeeds, that is enough, no matter how many others may fail.

225. SAUNDERS v. ALLEN, 60 Fed. 610, 9 C. C. A. 157.

Every invention disclosed in a patent, and not claimed, is dedicated to the public, and no one may thereafter appropriate it. It becomes thenceforth as much a part of the art as does the invention disclosed in the same patent and also claimed therein. The question whether an individual is or is not, an original and first inventor or discoverer, can only be determined by comparing what he did or discovered with that body of information upon the subject with which he and all the world are chargeable, and which is called the "state of the art."

226. ROEMER v. SIMON, 95 U. S. 214, 24 L. ed. 384.

Proof of such foreign manufacture and use, if known to the applicant for a patent, may be evidence tending to show that he is not the inventor of the alleged new improvement; but it is not sufficient to supersede the patent if he did not borrow his supposed invention from that source, unless the foreign inventor obtained a patent for his improvement, or the same was described in some printed publication.

227. BADISCHE, ETC. SODA FABRIK v. KALLE. 104 Fed. 802, 44 C. C. A. 201.

Much time and space have been devoted to an effort to establish "prior use" in Germany. Since such prior use if established, would be no defense under section 4923, it is difficult to understand why the record is thus encumbered.

228. MAST, ETC., CO. v. DEMPSTER MILL MFG. CO., 82 Fed. 327, 27 C. C. A. 191.

An abandonment is a dedication and like any other dedication it should be clearly proved. It rests upon the intention of the inventor. If he expressly declares, or by his acts clearly shows, his intention to dedicate his invention to the public, a finding of abandonment would be warranted. But such a dedication should not be lightly presumed, because it surrenders a vested right of property.

229. IDE v. TRORLICHT, ETC., CARPET CO., 115 Fed. 137, 53 C. C. A. 341.

Clear evidence of an intention to dedicate an improvement to the public is indispensable to establish an abandonment. * * * The patent in suit and the application upon which it is based are persuasive proof that Ide never intended to dedicate, and never did dedicate, the improvement they secure to the public.

230. UNITED STATES, ETC., CARTRIDGE CO. v. WHITNEY ARMS CO., 118 U. S. 22, 30 L. ed. 53, 6 Sup. Ct. 950.

There may be an abandonment of an invention to the public, as well after an application has been rejected or withdrawn, as before any application is made. Such abandonment may be proved either by express declarations of an intention to abandon, or by conduct inconsistent with any other conclusion.

231. HAYES-YOUNG TIE PLATE CO., v. ST. LOUIS TRANSIT CO., 137 Fed. 80, 70 C. C. A. 1.

There is a wide difference between the abandonment of an invention and the abandonment of an application for it. An abandonment of an application is not necessarily an abandonment of the invention, and after the application has been abandoned a valid patent for the invention may nevertheless be secured upon a new application, provided the invention has not gone into public use or been upon sale for more than two years prior to the filing of the latter. In cases where the first application has not been abandoned, subsequent applications and amendments constitute a continuance of the original proceeding, and the two years' public use or sale which may avoid the patent must be reckoned from the presentation of the first application, and not from the filing of subsequent applications or amendments.

* * *

[Original application abandoned for want of prosecution within statutory period. Applicant attempted to revive the application, but failed. He then filed a second application, but did not file the statutory oath.] The unavoidable conclusion is that the first application of Hayes was abandoned; that the second application was not a continuation of the original solicitation, but the institution of a new and independent proceeding; that the patent is founded on the second application alone; and that the absence of any averment that the invention was not in public use or on sale in this country for more than two years before the latter application was presented to the commissioner is fatal to the cause of action for an infringement of the patent. * * *

But the abandonment of an application destroys the continuity of the solicitation of the patent. After abandonment a subsequent application institutes a new and independent proceeding, and the two years' public use or sale which may invalidate the patent issued upon it must be counted from the filing of the later application.

232. GODFREY v. EAMES, 68 U. S. 317, 17 L. ed. 684.

In our judgment, if a party chose to withdraw his application for a patent and pay the forfeit, intending at the time of such withdrawal to file a new petition, and he accordingly do so, the two petitions are to be considered as parts of the same transaction, and both as constituting one continuous application, within the meaning of the law.

233. AGAWAM CO. v. JORDAN, 74 U. S. 583, 19 L. ed. 177.

Undoubtedly an inventor may abandon his invention, and surrender or dedicate it to the public, but mere forbearance to apply for a patent during the progress of experiments, and until the party has perfected his invention and tested its value by actual practice, affords no just grounds for any such presumption.

234. FROST CO. v. COHN, 119 Fed. 505, 56 C. C. A. 185.

His long delay in making application for the patent creates a strong countervailing presumption, but is reasonably and adequately explained by the surrounding facts and circumstances, and thus explained, ought not to prevail against the very convincing evidence which has been adduced by the complainants.

235. WOODBURY PLANING MACH. CO. v. KEITH, 101 U. S. 479, 25 L. ed. 939.

It has sometimes been said that an invention cannot be held to have been abandoned, unless it was the intention of the inventor to abandon it. But this cannot be understood as meaning that such an intention must be expressed in words.

* * *

His inaction, his delay, his silence, under the circumstances, were most significant. Though not express avowals of abandonment, "to reason's ear they had a voice" not to be misunderstood. They spoke plainly of acquiescence in the rejection of his application for a patent. They encouraged the manufacture and sale of his invention.

236. UNITED STATES RIFLE AND CARTRIDGE CO., ET AL. v. REMINGTON & SONS, 118 U. S., 22, 30 L. ed., 53 (1886).

The renewal of Cochran's application on December 5, 1870, was under the provision of the Act of July 8, 1870, Chap. 230, Sec. 35, which allowed any inventor whose application for a patent had been rejected or withdrawn before the passage of that Act to renew it within six months after its passage; and provided that upon the hearing of such renewed application abandonment should be considered as a question of fact. 16 Stat. at L., 202

The rules of law which must govern this case are clearly established by the judgment of this Court in *Planing Machine Co. vs. Keith*, 101 U. S., 479. The decision of the commissioner in favor of the application, upon the question of whether the invention has been abandoned, is not conclusive, but may be contested and reviewed in a suit brought for the infringement of the patent. There may be an abandonment of an invention to the public, as well after an application has been rejected or withdrawn, as before any application is made. Such abandonment may be proved, either by express declaration of an intention to abandon, or by conduct inconsistent with any other conclusion. An inventor whose application for a patent has been rejected, and who, without substantial reason or excuse, omits for many years to take any step to reinstate or renew it, must be held to have acquiesced in its rejection, and to have abandoned any intention of further prosecuting his claim.

237. CROWN, ETC., SEAL CO. v. ALUMINUM STOPPER CO., 108 Fed. 845, 48 C. C. A. 72.

Where there is an entire abandonment of all expectation of succeeding in an invention and securing a patent under circumstances that justifies the formation of the expectation that the ideas of the inventor will be always free to the public, and the inventor clearly manifests his intentions to relinquish any rights thereto, the inchoate right to the patent thus abandoned cannot be resumed. But the law does not favor forfeiture, and, it being a question of fact whether there has been abandonment, all reasonable doubts must be resolved in favor of the patent.

238. THOMSON-HOUSTON ELECTRIC CO. v. BLACK RIVER TRACTION CO., 135 Fed. 759, 68 C. C. A. 461.

The original patent in the present case was a division of the application of Van de Poelle of April 1, 1890, required by the Patent Office; consequently the description of the unitary structure or mechanism of the original patent, together with claims for combinations embracing the whole structure or apparatus, or combina-

tions of the elements of the reissue with additional elements, such as the tension device, did not work an abandonment or disclaimer of the combination specified in the reissue.

239. CROWN, ETC., SEAL CO. v. ALUMINUM STOPPER CO., 108 Fed. 845, 48 C. C. A. 72.

Experimental use for the purpose of testing the qualities of an invention is never public use, nor is there any proof that the delay operated to mislead others into taking up the invention and with greater diligence perfecting it. The case would be presented in a different aspect if another inventor had entered the field, induced by the supposed abandonment and misled by the delay. It is of no advantage to the public that an inventor should apply for his patent before he satisfies himself as to the best form in which to embody his invention, and the statute which provides that two years' public use shall not work a forfeiture clearly has no application to a case of merely uncompleted experimentation.

240. ELECTRIC GAS LIGHTING CO. v. BOSTON ELECTRIC CO., 139 U. S. 481, 35 L. ed. 250, 11 Sup. Ct. 586.

What he described in the specification of that patent and did not claim is presumed to have been old.

241. KINLOCH TEL. CO. v. WESTERN ELECTRIC CO., 113 Fed. 652, 51 C. C. A. 362.

It is true that the statute requires the inventor to particularly point out and distinctly claim the improvement or discovery which he seeks to secure (R. S., Sec. 488³), and that when he has made his claims he has thereby disclaimed and abandoned to the public all other combinations and improvements that are not mere evasions of the device, combination, or improvement which he claims.

242. SHAW v. COOPER, 7 Pet. (U. S.) 292, 8 L. ed. 689.

The right of the plaintiff to his invention is compared to his right to other property, which cannot be divested by fraud or violence; and the case of *Miller v. Taylor* (4 Burr. 2303), where seven judges against four held, that at common law an author by publishing a literary composition does not abandon his right, is referred to as illustrative of the principle.

243. SMITH, ETC., MFG. CO. v. MELLON, 58 Fed. 705, 7 C. C. A. 439.

The invention was one which the inventor could have tested in his own home, and by use in his own family. He did not sell simply one or two and wait to see how they satisfied the purchasers or

what defects were discovered by them; but the firm of which he was a member invited the public to buy, representing the beds to be unequalled, and continued to manufacture and sell them from month to month and from year to year, in the same manner as any other article in their stock was manufactured and sold; and each sale was made at a profit and with the contemplation of a profit. The experiment was not a testing for the purpose of discovering defects and perfecting the invention, but a testing of the market, and to see how the article would sell, or, as the inventor said, "to see how it would take with the trade." It was a trader's and not an inventor's experiment. Such a use does not carve an exception out of the statute.

**244. WESTERN ELECTRIC CO. v. SPERRY ELECTRIC CO., 58 Fed. 186,
7 C. C. A. 164.**

So long as it was not in public use, and no one else had made and procured a patent for the same discovery, his right to apply for a patent was subject to no restriction. Even if he had forgotten the invention, or laid it aside as worthless,—abandoned it,—he had the right to take it up again, and to proceed as if he had then first made the discovery. * * * Even if he did acquire earlier knowledge of Sperry's patent before his own patent was granted, it was only natural and right, as the quotation from the decision of the Supreme Court recognizes, that he should be stimulated to a fresh attempt to obtain a patent, it being clear beyond dispute that he was the first discoverer. [Quoting *Planing Mill v. Keith*, 101 U. S. 479; and citing *United States, etc., Cartridge Co. v. Whitney Arms Co.*, 118 U. S. 22, 30 L. ed. 53, 6 Sup. Ct. 950.] [But compare Nos. 135, 236, 384.]

**245. BARR CAR CO. v. CHICAGO, ETC., R. CO., 110 Fed. 972, 49 C. C. A.
194.**

Both were free men. White, with the consent of the railway company, could discharge Barr at any time, and Barr was at all times at liberty to leave his employment. It would be carrying the rule a great way and to a dangerous extent to hold that anyone occupying a subordinate position is not to be bound by his acts, as between himself and his superior, because of a supposed fear upon the part of the clerk that, should he protest, he might lose his employment. * * * His conduct under the circumstances, if he was in fact, or deemed himself in fact to be the inventor of this car, is inexplicable, and runs counter to the general conduct of responsible human beings.

246. PARKS v. BOOTH, 102 U. S. 96, 26 L. ed. 54.

Inventors may, if they can, keep their inventions secret, but if they do not, and suffer the same to go into public use, for a period exceeding what is allowed by the patent act, they forfeit their right to a patent.

247. MANNING v. CAPE ANN, ETC., CYCLE CO., 108 U. S. 462, 27 L. ed. 793, 2 Sup. Ct. 860.

Norwood and his son were allowed by the inventor the unrestricted use of the patent during the period mentioned, without injunction of secrecy or other condition. This is sufficient to constitute a public use. *Egbert v. Lippmann*, 104 U. S. 333.

PART III.

WHO MAY OBTAIN A PATENT.

248. Sec. 4886 R. S., U. S. Any person who has invented or discovered etc. [See Part II., No. 46.]

Sec. 4888. Before any inventor or discoverer shall receive a patent for his invention or discovery he shall make application therefor, in writing. * * * The specification and claim shall be signed by the inventor and attested by two witnesses. [See Part II, No. 48.]

Sec. 4892. The applicant shall make oath that he does verily believe himself to be the original and first inventor or discoverer. * * * [See Part I.]

Rule 24. A patent may be obtained by any person who has invented or discovered, * * * (repeating Sec. 4886 R. S.).

249. EXECUTORS AND ADMINISTRATORS. Rev. Stat., sec. 4896.

Rule 25. In case of the death of the inventor, the application will be made by and the patent will issue to his executor or administrator. In such case the oath required by Rule 46 will be made by the executor or administrator. In case of the death of the inventor during the time intervening between the filing of his application and the granting of a patent thereon, the letters patent will issue to the executor or administrator upon proper intervention by him. The executor or administrator duly authorized under the law of any foreign country to administer upon the estate of the deceased inventor shall, in case the said inventor was not domiciled in the United States at the time of his death, have the right to apply for and obtain the patent. The authority of such foreign executor or administrator shall be proved by certificate of a diplomatic or consular officer of the United States.

250. INSANE PERSON. Act. of Feb. 28, 1899.

In case an inventor becomes insane, the application may be made by and the patent issued to his legally appointed guardian, conservator, or representative, who will make the oath required by Rule 46. Rev. Stat., sec. 4895.

251. PATENTS TO ASSIGNEES; TO INVENTORS AND ASSIGNEES JOINTLY. Rev. Stat., sec. 4895.

Rule 26. In case of an assignment of the whole interest in the invention, or of the whole interest in the patent to be granted, the patent will, upon request of the applicant embodied in the assignment, issue to the assignee; and if the assignee hold an undivided part interest, the patent will, upon like request, issue jointly to the inventor and the assignee; but the assignment in either case must first have been entered of record, and at a day not later than the date of the payment of the final fee (see Rule 200); and if it be dated subsequently to the execution of the application, it must give the date of execution of the application, or the date of filing, or the serial number, so that there can be no mistake as to the particular invention intended. The application and oath must be signed by the actual inventor, if alive, even if the patent is to issue to an assignee (see Rules 30, 40); if the inventor be dead, the application may be made by the executor or administrator.

252. PATENTS GRANTED TO ASSIGNEE.

Sec. 4895. Patent may be granted and issued or reissued to the assignee of the inventor or discoverer; but the assignment must first be entered of record in the Patent Office. And in all cases of an application by an assignee for the issue of a patent, the application shall be made and the specification sworn to by the inventor or discoverer; and in all cases of an application for a reissue of any patent, the application must be made and the corrected specification signed by the inventor or discoverer, if he is living, unless the patent was issued and the assignment made before the eighth day of July, eighteen hundred and seventy.

Rule 200. In every case where it is desired that the patent shall issue to an assignee, the assignment must be recorded in the Patent Office at a day not later than the day on which the final fee is paid.

* * * [See Part XI.]

253. WHEN AND ON WHAT OATH EXECUTOR OR ADMINISTRATOR OR GUARDIAN OF AN INSANE PERSON MAY CLAIM PATENT. (Amended May 23, 1908.)

Sec. 4896. When any person, having made any new invention or discovery for which a patent might have been granted, dies before a patent is granted, the right of applying for and obtaining the patent shall devolve on his executor or administrator, in trust for the heirs at law of the deceased, in case he shall have died intestate; or if he shall have left a will disposing of the same, then in trust for his devisees, in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him in his lifetime;

and when any person having made any new invention or discovery for which a patent might have been granted becomes insane before a patent is granted the right of applying for and obtaining the patent shall devolve on his legally appointed guardian, conservator, or representative in trust for his estate in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him while sane; and when the application is made by such legal representatives the oath or affirmation required to be made shall be so varied in form that it can be made by them. The executor or administrator duly authorized under the law of any foreign country to administer upon the estate of the deceased inventor shall, in case the said inventor was not domiciled in the United States at the time of his death, have the right to apply for and obtain the patent. The authority of such foreign executor or administrator shall be proved by certificate of a diplomatic or consular officer of the United States.

The foregoing section, as to insane persons, is to cover all applications now on file in the Patent Office or which may be hereafter made.

254. RENEWAL OF APPLICATION IN CASES OF FAILURE TO PAY FEES IN SEASON.

Sec. 4897. Any person who has an interest in an invention or discovery, whether as inventor, discoverer, or assignee, for which a patent was ordered to issue upon the payment of the final fee, but who fails to make payment thereof within six months from the time at which it was passed and allowed, and notice thereof was sent to the applicant or his agent, shall have a right to make an application for a patent for such invention or discovery the same as in the case of an original application. But such second application must be made within two years after the allowance of the original application. But no person shall be held responsible in damages for the manufacture or use of any article or thing for which a patent was ordered to issue under such renewed application prior to the issue of the patent. And upon the hearing of renewed applications preferred under this section, abandonment shall be considered as a question of fact.

255. JOINT INVENTORS.

Rule 28. Joint inventors are entitled to a joint patent; neither of them can obtain a patent for an invention jointly invented by them. Independent inventors of distinct and independent improvements in the same machine can not obtain a joint patent for their separate inventions. The fact that one person furnishes the capital and another makes the invention does not entitle them to make an application as joint inventors; but in such case they may become joint patentees, upon the conditions prescribed in Rule 26.

256. SIGNATURE TO SPECIFICATION. Rev. Stat., sec. 4888.

Rule 40. The specification must be signed by the inventor or by his executor or administrator, and the signature must be attested by two witnesses. Full names must be given, and all names, whether of applicants or witnesses, must be legibly written.

Rule 46. The applicant, if the inventor, must make oath or affirmation that he does verily believe himself to be the original and first inventor. * * * This oath must be subscribed by the affiant. [See Part VI.]

257. DeLAVAL SEPARATOR CO. v. VERMONT FARM MACH. CO., 135 Fed. 772, 68 C. C. A. 474, (1904, Second Circuit).

Before Wallace, Lacombe and Townsend, Circuit Judges.

Wallace, J.:

* * * Giving due weight to the presumptions of validity, which arise from the grant of the patent, the convincing force of the proof that Melotte was the sole inventor cannot be disregarded, notwithstanding the proof consists of his own testimony and the corroboration which it derives from the fact that the foreign patents were obtained by him alone. Although he was produced as a witness by the defendant, it is apparent from his testimony that he was a reluctant witness, not trying to defeat the patent which he and Reuther had sold to the complainant, but stating facts which his conscience would not allow him to deny. He was an intelligent and candid witness, and, although he was careful not to volunteer any explanatory statements in elucidation of those elicited by his examination, his testimony was full and explicit. It proved beyond any fair doubt that the improvements claimed in the patent were his sole invention, and that Reuther was the inventor of certain other improvements described in the patent and illustrated by some of the drawings in modification of the improvements specifically claimed. It is true that the testimony of an inventor in derogation of the validity of his own patent is usually open to suspicion; and in a case like this, where he has made oath, for the purpose of obtaining a joint patent, that he and another inventor were the joint inventors of the subject-matter, the court should reject his subsequent testimony to the contrary, unless it carries a clear conviction that he did not intend to falsify originally, but made the oath under misapprehension or mistake. In this case the applicants were foreigners, supposedly unfamiliar with our law of patents; and they had agreed to be joint owners of the patent. Each had devised improvements which were within its general scope, and those which had been the work of Reuther were disclosed and illustrated in the specification and drawings, as well as were those which were the work of Melotte. Thus both had contributed to the invention in its entirety. Under these

circumstances it is not strange that they did not discriminate between the things devised and the things which were not necessarily covered by the claims, and that they should have considered themselves joint inventors of the entirety, although some of the improvements were independently devised by one and some of them by the other.

The argument for the appellant has rested exclusively upon the controlling weight to be given to the oath of the patentees when applying for the patent, and, indeed, it has been urged that the testimony of Melotte was incompetent upon the theory that he is estopped as against the bona fide owners of the patent from contradicting the oath. We are not aware of any rule of evidence or any principle of estoppel which precludes a witness who has testified incorrectly, or even falsely, on a former occasion, from telling the truth later. Melotte and Reuther might be estopped from asserting that they were not joint inventors in a suit against them by the owner to enforce the patent, but a third party, who is in no way in privity with them or with the owner, cannot be affected by an estoppel. It appears in the record that Reuther was living and accessible when the proofs were taken, and declined to be interviewed by a representative of the defendant. Melotte previously, upon the advice of a representative of the complainant, had refused to be interviewed by a representative of the defendant. It would seem that it would have been wiser for the complainant to produce Reuther if his testimony would have been favorable, or explain the reason why he was not produced, than to rest its case solely upon the presumption raised by the oath of the patentees when applying for the patent.

We think the court below reached a correct conclusion, and that the decree should be affirmed.

Decree affirmed, with costs.

258. UNITED SHIRT, ETC., CO. v. BEATTIE, 149 Fed. 736. 79 C. C. A. 442 (1906, Second Circuit).

Before Wallace, Lacombe and Coxe, Circuit Judges.

Coxe, J.:

* * * The foregoing are the principal patents relied on to defeat the patent in suit. If singly or combined they are ineffectual to accomplish this result the other patents in evidence, which are still more remote, will not aid the defendants. The Pine patent is for a combination and it is enough to say that this combination is not, in our judgment, disclosed by any of the prior patents in evidence.

It is said that Garry J. Dormandy was the sole inventor or the joint inventor with Pine. The Patent Office, after full hearing, granted the patent to Pine which is at least prima facie evidence that he was the inventor. The court must be convinced by strong and satisfactory proof that Dormandy was sole or joint inventor before destroying the patent. Pine, having disclosed his invention to Dor-

mandy, in the spring of 1893, and, having employed the latter as his machinist to construct the machine, the presumption is strong against Dormandy's contention that he supplied the brains which made the machine operative, especially after the Patent Office on interference had decided in favor of Pine and against Dormandy.

The question is at best a technical abstraction. No rights of rival inventors are involved, as the complainant, the Shirt & Collar Company, was assignee of both Pine and Dormandy, and that company, with full knowledge of the facts, took the patent, in accordance with what appeared to them to be the truth, in the name of Pine. A decision against Pine now will benefit infringers but will be no benefit to Dormandy. We think the testimony fails to establish the defendants' contention; on the contrary it shows that Pine first conceived the invention and employed Dormandy to carry it out. Read as a whole, in connection with the position, character and intelligence of the two men, respectively, as disclosed by the record, the history of the invention makes it quite clear that the inventive faculty was Pine's, the mechanical skill Dormandy's. "Every machine before it can be used must be constructed as well as invented. If one man does all the inventing and another does all the constructing, the first is the sole inventor." Walker on Patents, § 46; *Agawam Co. v. Jordan*, 7 Wall. 583, 602, 603, 19 L. ed. 177. We think the proof sufficient to connect the defendants with the machine known as "Complainants' Exhibit Defendants' Machine." * * *

259. *EX PARTE WEIL & GRANT*. 173 O. G. 1081, 1911 C. D., 249.

Tennant, Assistant Commissioner:

This is a petition that an amendment be admitted substituting a new petition, specification, drawing, and oath signed by William A. Weil, one of the joint inventors, in the place of the original application, which was duly signed and executed by William A. Weil and John W. Grant as joint inventors. The record contains an affidavit by Grant that the execution by him as a joint inventor with William A. Weil was due to a misapprehension of facts; that he is not a joint inventor, but merely a financial partner. It is alleged that as soon as Grant became aware that it was not proper for him to prosecute the application as a joint inventor he instructed his attorney to take the necessary steps to correct the informality.

It is urged that in view of the affidavit filed by Grant the substitute papers filed in behalf of Weil should be accepted and the joint application changed to a sole application of William A. Weil. It is contended that the present case is analogous to a misjoinder of parties in a suit before the courts and that permission should be given to correct the same in accordance with the true state of facts.

This contention is believed to be without substantial foundation.

In suits of equity it is of course necessary to include either as parties complainant or as parties defendant all parties who have an interest in the subject-matter of the proceeding. If the analogy should be applied to applications for patents, it would require the joinder of inventors and assignees as applicants. Joint applications, however, differ from joint complainants or defendants in a suit in equity. Two or more persons who jointly make an invention constitute a different entity from a sole inventor who makes a similar invention. As stated in the case of *Snyder v. Kanneberg*, 58 O. G. 1840; 1892, C. D., 71:

"It appears to be settled by the weight of authority that where a patent has issued to two or more persons as joint inventors, and an application is subsequently made by one of them as sole inventor for a patent for the same invention, an interference will be declared. (See *Lovrein v. Banister et al.*, C. D., 1880, 152; *ex parte Crocker*, MS. Appeal Cases, vol. 4, 269; *ex parte Barsaloux, James, and Lyon*, C. D., 1878, 154; 16 Op. A. G., 116.)

"It is also well settled that an invention alleged to be made by two persons jointly is one thing and an invention by one of those persons alone is another. The inventions in such a case are to be considered as if made by two different persons, the two joint inventors constituting one entity on the one hand and one of them alone the second entity on the other hand. (See *Kohler v. Kohler and Chambers*, C. D., 1888, 19; 43 O. G., 247; *Mead v. Brown*, C. D., 1889, 173; 48 O. G., 397; *ex parte McLay*, C. D., 1889, 220; 49 O. G., 1043.)

"It is clear, therefore, that in disposing of the present case *Snyder* is to be considered as a different person from *Snyder and Belding* jointly."

Since joint inventors constitute a different entity from either of them alone, the filing of a joint application cannot be considered a constructive reduction to practice of an invention made by either of the joint inventors. It therefore follows that even if Weil was the sole inventor of the application disclosed herein he is not entitled to the benefit of the filing date of this joint application as a constructive reduction to practice of that invention. (*Haskell & Miner v. Ball*, 109 O. G., 2170.) On the other hand, the application could not be entered as a complete application in the name of Weil as of the date when the new petition, specification, drawing, and oath were filed, since this would virtually be a return of the fee filed with the joint application, and no such mistake in the payment of that fee has been shown as would justify such action. *Ex parte Harris*, 118 O. G., 1682, and *ex parte Olsen*, 101 O. G., 2079.

The petition is denied.

[The following under this heading are brief extracts to complete the discussion.]

260. WATSON v. BELFIELD, 35 O. G. 1112, 1886 C. D. 238, (C. C. N. J.)

It is always a difficult question to determine how far the suggestions made to an inventor deprive him of the claim to originality in the invention thereof. The rule in such cases is concisely stated by Judge Story in *Alden v. Dewey*, (1 Story, 338). One of the defenses in that case was that one Draper had substantially imparted to the patentee the patented improvement. In charging the jury the learned judge asked whether enough had been communicated to enable the inventor to apply it without the exercise of more inventive power. This he regarded as the true test. "It was not enough," he said, "that Draper gave a hint, nor, on the other hand, was it necessary that he should communicate every minute thing about the invention; but he must have communicated the substance."

261. WELSBACH LIGHT CO. v. COSMOPOLITAN, ETC., LIGHT CO., 104 Fed. 83, 43 C. C. A. 418.

The patent contains two claims, the first which is in suit, is for a single thought,—the described improvement in strengthening incandescent mantles, consisting in coating a completed mantle with paraffine or other suitable material. * * * It is difficult to apprehend how two could have shared in the conception.

262. STANDARD, ETC., SCALE CO. v. COMPUTING SCALE CO, 126 Fed. 639, 61 C. C. A. 541.

Sanderson and Ozias at the time the application was made were going into a partnership, and it appears most probable that they conceived the idea of having the patent vest a joint interest to conform to their interest in the business. If these are the facts, the patent was not properly issued to them jointly.

262a.

[Note.—The presumption is that invention is sole or joint in accordance with the terms of the oath made by the applicant and with the grant of the patent. *Hall Signal Co. v. Union Switch, etc., Co.*, 115 Fed. 638; *Armat Moving Picture Co. v. American Mutoscope Co.*, 118 Fed. 840; *Vrooman v. Penhollow*, 179 Fed. 296, 308.

It is not necessary that the idea of invention should occur simultaneously to each of the joint inventors, but it is sufficient if one conceives and another makes a suggestion essential to its success, and where there is joint invention it is immaterial in what order the