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October 19, 1999 letter from NIH Director, Dr. Harold Varmus to Ralph Nader, James Love and Robert Weissman responding to their request calling on the NIH to provide the World Health Organization, WHO, access to US government funded medical inventions.

(Ralph Nader, James Love and Robert Weissman each received separate letters.)

Dr. Harold E. Varmus
Building 1, 126
National Institutes of Health
Bethesda, Maryland 20892

James Love
Consumer Project on Technology
P.O. Box 19367, Washington, DC 20036

Dear Mr. Love:

Thank you for your recommendations on how the National Institutes of Health (NIH) could interact with the World Health Organization (WHO) to provide it with commercial development rights to NIH-owned and -funded health care patents. As we are both aware, the licensing of Government inventions has received much attention in recent months from Members of Congress, patient advocacy groups, representatives of industry and the press. The public debate has been galvanized by concerns about the AIDS crisis in developing countries and the role of anti-AIDS therapeutic drugs in addressing that crisis.

This proposal, if implemented, would have powerful repercussions on the current framework for drug development arising from federally supported basic research. I am concerned that your proposal that the NIH employ its "Government use" license authorities to grant WHO standing authority to contract for the production of Government-supported inventions so as to make anti-AIDS drugs available for less cost than offered by pharmaceutical manufacturers would put the current system at risk without necessarily resulting in greater accessibility to these drugs. I am also troubled by the implications of the NIH intervening on behalf of sovereign foreign governments in a situation in which many of those governments have the authority to achieve the same result and in which U.S. intervention on this matter has not been requested.

Moreover, the AIDS crisis in developing countries is a public health problem involving much broader issues than access to anti-viral drugs. The question of the supply of drug products must be considered in the context of the equally important issues of medical

infrastructure, public health programs, treatment monitoring and compliance, and emergence of drug-resistant HIV strains. Unilateral action by NIH with regard to NIH-supported patent rights would consequently be ill-advised and unlikely to succeed.

My specific thoughts on the intellectual property aspects of this matter follow.

Programmatic Background

In the early 1980s, Congress enacted the Bayh-Dole Act and the Stevenson-Wydler Technology Innovation Act (with later amendments, including the Federal Technology Transfer Act of 1986) to encourage the transfer of basic research findings to the marketplace. The primary purpose of these laws is economic development: specifically, to provide appropriate and necessary incentives to the private sector to invest in federally funded discoveries and to enhance U.S. global competitiveness. To implement these mandates, the Department of Health and Human Services (DHHS) has designated NIH as lead agency for technology transfer for the Public Health Service (PHS).

While NIH respects and is sensitive to the economic development intent of the authorizing legislation, it carries out this mandate in accordance with its public health mission. For inventions developed within PHS laboratories, NIH (and PHS) Patent and Licensing policies consider public health needs as well as financial and market forces. For example, the PHS Patent Policy states that patent protection should be sought where further research and development is necessary to realize a technology's primary use and future therapeutic, diagnostic, or preventive uses [illegible] drugs reported as AIDS/HIV-related free

NIH can only license or otherwise grant rights to patents in countries where the agency or its grantees have sought and obtained patent protection. Presently, NIH holds patent rights in selected countries to technologies that have contributed to the development of

In principle, the U.S. Government can license patent rights to the WHO. Even if the doubts regarding WHO's authority to practice inventions under the Government use license could be overcome, I do not believe that the lack of such a license from the NIH is inhibiting developing countries from addressing their needs. As you stated, many of these countries can issue compulsory licenses, and those that have not enacted that authority to date can do so if they choose. The economies of scale you mention could be achieved by cooperation among these countries or direct interaction with WHO. The role of NIH in these sovereign matters is, appropriately, extremely limited.

Granting Rights to WHO

the Government use license has never been employed as you propose, as a blanket measure to facilitate direct competition with a commercial licensee.

On balance, I am not convinced of the benefit of the standardized transfer of manufacturing and distribution rights to the WHO or any other nonprofit organization. Critical to successful technology transfer is the assurance that the Government will exercise its intellectual property rights in a responsible, prudent, and consistent manner. Undermining licensed intellectual property rights would, I believe, unnecessarily jeopardize the development of important therapeutic drugs.

NIH and WHO Interaction

Not all technologies that would be of use to developing countries are currently licensed. In the past, the NIH and WHO have worked together on licensing joint inventions and in negotiating with third parties. In one notable instance, NIH approached WHO with the possibility of manufacturing certain vaccines important of developing countries. Unfortunately, limitations of resources did not permit WHO to take advantage of such an offer. NIH welcomes, and is pursuing, further discussions with WHO on what can be done to assist developing countries with health care needs. I have directed my technology transfer staff to engage WHO on the intellectual property aspects of this matter. Discussions between my staff and WHO representatives are currently being facilitated by Dr. Stuart Nightingale of the Food and Drug Administration.

I appreciate the opportunity to explain our position on this issue.

Sincerely,

Harold Varmus, M.D.
Director

September 3, 1999, Ralph Nader, James Love, Robert Weissman letter to Dr. Harold Varmus, Director of NIH, asking for NIH to give the World Health Organization, WHO, access to US government funded medical inventions.

In conjunction with the patent strategy, the PHS licensing strategy gives preference to nonexclusive licenses so that market competition and broad distribution are fostered. Exclusive licenses are granted when such rights are believed to be necessary to ensure product development. As to inventions developed with NIH funding, the Bayh-Dole Act gives NIH grantees and contractors authority to retain title patents and to license inventions that arise from the NIH funding.

As you have pointed out, the Government has a royalty-free license to practice and have practiced an invention it owns or has funded on behalf of the United States and on behalf of a foreign government or international organization pursuant to a treaty or other agreement with the United States. This royalty-free license provides the Government with no-cost use of a technology it invented or funded. It does not provide rights or access to a licensee's final product. The Government use contemplated by this provision has been interpreted generally to include research use, although its full scope has not been determined. Providing the owner of the technology (licensor) freedom to do further research is a common and reasonable provision of exclusive licenses. To our knowledge,

copyright industry
Innovation JAMES allow-assoc.com

The authors do not seem to understand that the patent system lies at the core of Schumpeter's description of Capitalism as "creative self-destruction" in that it maybe a single inventor's patent that protects a new industry from ~~destruction by~~ the ~~monopoly~~ monopoly ~~that~~ it destroys.

~~Indeed, one of the authors' contentions~~ that being banned from the marketplace by the older monopoly industry it destroys.

Indeed one of the authors maintains that the information industry (authors) needs no patent protection ~~in order~~ to encourage utilization of new inventive methods and apparatus. We believe that "Google" destroys the "Google" patent portfolio indicates otherwise. Absent such protection

& competition such as Microsoft could either stifle ~~the entrance~~ Google's entry into the ~~place~~ marketplace or utilize the new technology ~~in any manner~~ as it sees fit without ~~Compensating the~~ Compensating the inventor for the manner ~~intended~~ envisioned by the patent system.

The author does not cause ~~that~~ clearly does not cause where an INVENTOR is subject to being treated unfairly based ON her ~~recommendations~~ suggestions that ~~patents be~~ they be denied patent protection as government identified technologies on that an INVENTION made with funds to enhance that ~~technology~~ technology is a serendipitous finding unrelated to the ~~identified~~ technology either never reach the marketplace.

answer to achieve the same result through interpretations of the Act accepted by the world. Indeed it was China, Brazil, Malaysia, South Africa and India on their own initiative and in administering before evaluation of that determined the need to pursue legislation modeled after the Act.

It is also clear the author's proposed amendments are no more than those necessitated by the fresh cumulative data.

We believe that the authors of this article will want to pursue the amendments proffered by developing countries in this article as amendments to the Act in this country. As the initial architects, advocates and practioners of the NIH and ...

IN one of the more recent "Nay-sayers" articles, the authors assume the role of "experts" IN ~~advising~~ WARNING developing countries ~~of not~~ ON adopting Bayh-Dole without a number of ~~amendments~~ proposed amendments. ~~The authors' support~~ ~~maintain~~ TO bolster their position the authors first maintain that the Act's "contributions to growth in U.S. innovation" is "overstated and misleading" without providing any supporting data for their position. Their position supporting at best is derived NOT from any new data but primarily from a number of FOOTNOTED "experts" who over the years have also questioned BD's contributions while ignoring the cumulative data of the Act's contribution to strengthening the economy through introduction of INNOVATION which created new jobs, increased the GNP and enhanced the well being of lives throughout

In a recent speech,

~~The opening remarks of~~ Sen. Birch Bayh, co-sponsor of the Bayh-Dole

ent speech said:

> After a quarter century of what by most objective standards has been an exceptional success, the Bayh-Dole law is under increasing attack today.
>
> Most of the attacks have come from individuals who have little experience with the comprehensive nature of how the law is implemented. They do not know what Bayh-Dole does and does not do, and why certain features were incorporated in the law. Equally important, these nay-sayers have no appreciation for the factors that motivated our efforts to develop this legislation in the first place. Most unfortunate of all, these modern-day experts in technology transfers apparently do not understand the basic factors on which our nation's free enterprise system is based.

(1)

In one of the more recent "Nay-sayers" articles, the author's maintain that the Act's "contributions to growth in US innovations" is "overstated and misleading" without providing any supporting data for their conclusions and ignoring the evidence of success above. They assume the role of advising developing countries on adoption of Bayh-Dole. Their position is derived primarily from a number of footnoted "experts" who also questioned BD's contributions while ignoring what over years have

Act's contribution to strengthening the economy through introduction of innovation to the marketplace while creating new jobs, increasing the GNP and enhancing the well-being of lives throughout the world.

(2) But before addressing some of the footnoted articles, we need to further address the author's misconception of the Act itself.

The authors maintain that:

> "Bayh-Dole encouraged American universities to acquire patents on inventions resulting from government-funded research and to issue exclusive licenses to private firms [5,6]... ." (emphasis added)

There is no basis whatever in the Act for the authors' conclusions.

Not so! The Act is limited to providing a first option to title to such organizations which permits a government funded inventing inventions (4) so as to be able to elect to function under Article I, Section 8, of the

3,4

Constitution (5) or not. The Act is entirely neutral as to whether universities exercise

whether they license exclusively or

that option and if they do, how they go about licensing. nonexclusively.

Further, it is important to note that the Act does not address an inventor's right to publish his/her findings whether ~~the~~ an inventing organization ~~[illegible]~~ pursues patent protection or not. Accordingly, there is no documented basis
(7) whatever for any assumption that the benefits ~~[illegible]~~ of publication ~~have in any~~ before BD have in any ~~way~~ substantial manner changed after BD as implied by the authors.[5]

The authors do not directly challenge the ~~right of an inventing organization~~ granting of exclusive licenses by a government funded inventing organization. No doubt the authors recognize that a direct challenge of such licensing would not ~~[illegible]~~ be ~~rejected~~ supported on the basis ~~of [illegible] the universal acceptance of by of its necessity as its [illegible] support from persons such as of the following of the positions' like the following of of the many~~

the Director of NIH,

such as that of Dr. Harold E. Varmus,

opinions

". It is well documented that technologies with potential as therapeutics are rarely developed into products without some form of exclusivity, given the large development costs associated with bringing the product to the market. No benefit accrues to the public if the technology is left to languish and no product reaches the marketplace. 116

(4)

Of course, the above is supported by the many therapeutics reaching the marketplace after NIH's administrative change in policy IN 1968 to permit such exclusivity later enacted as law by BD.

This is compared to the "events" Failure to identify any such a therapeutic prior to the 1968 policy change ~~not~~ withstanding claims ~~that~~ of these existence.

It should be noted that such exclusivity is permitted Not only under BD but is provided under the "Orphan Drug Act" to encourage the development of therapeutics, whether initially funded by government funded or not.

IN the PUBLIC DOMAIN

Notwithstanding, the authors' apparent acceptance of exclusive licensing under limited circumstances, they recommend that it be conditioned on an open-ended ability to challenge it after

before addressing some of this work, we need to address the authors' representation of the Act itself.

The authors begin by indicating that:

> "Bayh-Dole encouraged American universities to acquire patents on inventions resulting from government-funded research and to issue exclusive licenses to private firms [5,6]... ." (emphasis added)

Not so! The Act is limited to providing a first option to title to such inventions (4) so as to be able to elect to function under Article I, Section 8, of the Constitution (5) or not. The Act is entirely neutral as to whether universities exercise that option and if they do, how they go about licensing.

Much of the author's article is directed to non-exclusive licensing under Bayh-Dole. The record clearly shows that a large portion of executed licenses are non-exclusive rather than exclusive. In this context, the authors discuss the non-exclusive licensing of the Cohen-Bayer and Axel patents. In these situations, the involved universities had the good sense to recognize that the patents involved important processes that were useful in the possible creation of many life science

inventions which are now the basis for the numerous start-ups that make up the bio tech industry. That the university is aware of the importance of pursuing non-exclusive licensing of patented process or biological material invention useful in the making of life science products is evidenced by the authors reference to "Nine Points to Consider in Licensing University Technology".

However, the authors make clear that they would not be satisfied even if the university community successfully identified all the process and biological material inventions that should appropriately be licensed on a non-exclusive basis as they indicate such licensing is unnecessary, primarily because a cost to the licensee is attached.

This position demonstrates the authors failure to understand a primary purpose of not only Bayh-Dole but the patent system itself. In the 17th century age of enlightenment, John Locke pointed out as a natural right that "Man hath a right to what he has mixed his labors with" (6). This served as the underpinning of the British

patent system that in turn served as the foundation for the founding fathers inclusion of Article I, Section 8 of the Constitution (7). (The footnote supports this.)

Bayh-Dole permits the use of non-exclusive licenses as intended by the patent system as an incentive and reward to inventors and the university licensor to remain involved in the difficult iterative process of research and development. The drafters of Bayh-Dole knew, for example, that failure to recognize inventor rights ~~resulted~~ would result in ~~documented~~ failures to report inventions and ~~instances of patent protection~~ the possibility of the pursuing patent protection on their own behalf. ~~(FN)~~ (from documented cases, i.e. Cutoracle

Further, the complaints listed by the authors regarding the costs attached to non-exclusive licensing are no more than what ~~would~~ should be expected from potential "buyers" when bargaining with a "seller" in an open market. Such buyers should have no expectation whatever of a free ride on the seller's effort to provide the services offered along with the expertise on its intended use. The author's description of such services by the seller as a "tax" is both derogatory and completely unjustified, as the cost involved is the seller's estimate of the cost entailed with a reasonable profit.

The authors conclude their comments regarding non-exclusive licensing by indicating that:

> "Where exclusive licenses are not required for commercialization, one may ask whether universities and public sector labs should be patenting research at all."

Clearly they believe that universities and their inventors are deserving of no consideration whatever for the efforts expended in bringing their inventions into public use. We need note here that there is nothing in Article I, Section 8 which excludes inventors and their assignees from the benefits bestowed by the patent system notwithstanding that their invention has been partially funded with federal funds.

The author's position on exclusive licensing of government funded inventions is not explicitly discussed other than their comment that they:

> "... should not be exclusively licensed unless it is clear that doing so is necessary to promote the commercialization of that research."

We would submit that it is now exactly the reason universities chose to grant exclusive licenses rather than a non-exclusive license. However, even if the

above comment is acceptance of the Bayh-Dole policy of permitting university exclusive licensing if they believe that necessary, the authors tie that decision to a government requirement that the invention so licensed be monitored to see that they are "priced fairly". This concept was unsuccessfully tried by NIH from 19_?__ to 19__?__ and abandoned after industry refusal to enter into any licensing agreements with NIH during that period (8) and is not required by Bayh-Dole. To mandate such a requirement would require amendment of both Bayh-Dole and the FTTA and would on the basis of the NIH experience make BD, FTTA and SB1R inoperative for their intended purposes.

We now turn our attention to the author's primary reliance on the work of individuals characterized by Senator Bayh.

Notwithstanding, the authors' apparent acceptance of exclusive licensing under limited circumstances, they recommend the conditions on:

1) A finding that it "is necessary to promote . . . commercialization"

2) " government . . . power to override such licenses and grant licenses to additional or alternative parties . . . when [redacted] (unspecified) public interest objectives are not . . . attained"

3) " government . . . Right to use any invention [redacted] (either publicly or privately funded) under international law

4) "Compulsory licenses . . . to avoid abusive licensing practices.

of pursuing non-exclusive licensing of patented process or biological material invention useful in the making of life science products is evidenced by the authors reference to "Nine Points to Consider in Licensing University Technology".

However, it is clear that the authors would not be satisfied even if the university community identified all the process and biological material inventions that should appropriately be licensed on a non-exclusive basis.

This demonstrates the authors failure to understand a primary purpose of not only Bayh-Dole but the patent system itself, which evolved from the 17th century of enlightenment. During that time, John Locke pointed out as a natural right of humankind that "Man hath a right to what he has mixed his labors with" (6). This served as the underpinning of the British patent system that in turn served as the foundation for the founding fathers inclusion of Article I, Section 8 of the Constitution (7).

Clearly the author's suggestion of mandatory government rules concerning the affordability of end products is evidence price fixing which has no

record of success and is completely inconsistent with the incentive provided by Bayh-Dole as intended by the patent system as an incentive and reward to inventors to remain involved in the difficult long haul process of research and development. The drafters of Bayh-Dole knew, for example, that failure to recognize inventor rights resulted in documented failures to report inventions and pursuit of patent protection on their own behalf. (F.N.)

Further, the complaints listed by the authors are no more than what would be expected from a potential "buyer" when bargaining with a "seller" in an open market. Such a buyer should have no expectations whatever of a free ride on the seller's effort to provide the product offered along with the expertise on its intended use. The author's description of such services by the seller as a "tax" is both derogatory and completely unjustified, as the cost involved is the seller's estimate of the cost entailed and the profit.

The authors conclude these comments regarding non-exclusive licensing as follows:

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In This Issue

Re-Discovering Article 1, Section 8 - The Formula for First-to-Invent

Edwin A. Suominen[1]

INTRODUCTION

In 1791, the earliest predecessor to the U.S. Patent Office considered adopting a first-to-file system to settle disputes between interfering patent applicants and chose not to do so.[2] In 1966, a President's Commission on the Patent System recommended adoption of a first-to-file system, and Congress rejected it after a negative reception by industry and bar associations.[3] In 1990, the World Intellectual Property Organization (WIPO) published a "basic proposal" draft treaty that would have imposed a first-to-file system on all signatories, including the United States.[4] This proposed "fundamental change" in U.S. patent law was met with active opposition, and no interested associations took a position in favor of it.[5]

Now, in 2001, the question arises yet again, as the U.S. continues to consider becoming a signatory to the latest edition of WIPO's harmonization treaty.[6] The U.S. Patent Office has requested comments on whether the U.S. should adopt a first-to-file system, which the treaty in its present form would require all signatories to do.

This article analyzes the command of Article 1, Section 8 of the U.S. Constitution that Congress may grant exclusive rights to "inventors" for their "discoveries." The conclusion of this analysis is

1 Mr. Suominen is a registered patent agent and an independent inventor with several patents and pending applications. The author is indebted to Louis J. Hoffman, Esq. for editorial assistance and support.

2 P. J. Federico, *Operation of the Patent Act of 1790*, 18 J. Pat. Off. Soc'y 237, 248 (1936).

3 Note, *First-To-File: Is American Adoption of the International Standard in Patent Law Worth the Price?*, 1988 Colum. Bus. L. Rev. 543, 544.

4 Edward G. Fiorito, *The "Basic Proposal" for Harmonization of U.S. and Worldwide Patent Laws Submitted by WIPO*, 73 JPTOS 83, 88 (1991).

5 *Id.* at 89.

6 Draft Substantive Patent Law Treaty, WIPO Doc. SCP/5/2 Prov. (Feb. 2001), available on the Internet at www. http://www.wipo.int/scp/en.

easily overlooked in the "horse trading" atmosphere of international treaty negotiations, but it is of critical importance. The U.S. should not, and must not, abandon the uniquely American, and uniquely successful, first-to-invent system of patent protection prescribed by Article 1, Section 8 and maintained for over two centuries.

Several commentators have written many practical arguments against switching to a first-to-file system,[7] and others will no doubt provide many more in response to the Office's Request for Comments. Although those arguments are certainly supportive of the Constitution's wisdom in establishing a clear mandate for a first-to-invent patent system, it is the constitutional mandate on which we focus here.

Constitutional Terms of Restriction: "Inventors" and "Discoveries"

"At the outset it must be remembered," began the Supreme Court in its seminal patent case of *Graham v. John Deere Co.*[8], "that the federal patent power stems from a specific constitutional provision which authorizes the Congress 'To promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries.'" In deciding the fate of three patents before it that day, the Court held that Article 1, Section 8, the Constitution's patent clause, "is both a grant of power and a limitation."[9] Thus the Court observed that the patent clause is not merely an open-ended invitation for Congress to grant whatever patents it wishes to whomever it wishes.[10]

The Constitution thus authorizes Congress to secure exclusive rights for limited times only to "inventors," and only for their "discoveries."[11] This restricted authorization was recognized by the judiciary 24 years after ratification of the Constitution. In one of the "Steamboat Cases," the New York Court of Chancery observed that "the power given to Congress to promote the progress of science and useful Arts is restricted to the rights of authors and inventors."[12] Subsequent

7 *See* Gabriel P. Katona, *First-to-File - Not in the United States*, 73 JPTOS 399 (1991); Coe A. Bloomberg, *In Defense of the First-to-Invent Rule*, 21 AIPLA Q.J. 255 (1993); *supra* note 3.

8 383 U.S. 1 (1966).

9 *Id.* at 5.

10 *See* Edward C. Walterscheid, *Disparity Between the Patent Term and the Copyright Term*, 83 JPTOS 233, 249 (2001).

11 *See* William C. Robinson, The Law of Patents for Useful Inventions 69-70 (1890) ("The subject of the exclusive right must be a writing or discovery of the person to whom the right is granted . . . as to all other matters, Congress is supreme").

12 *Livingston v. Van Ingen*, 9 Johns. 505, 564 (1812).

decisions by the U.S. Supreme Court[13] and other federal courts[14] in the early nineteenth century affirmed this view.

Who then are the "inventors" contemplated by the constitutional language as being the only recipients of exclusivity? As Samuel Johnson defined the term in the framers' era with his authoritative dictionary, and as the term is still understood today, an inventor is "one who produces something new; a devisor of something not known before."[15] Similarly, Johnson defined "To discover" as "to find things or places not known before."[16]

The plain language of the terms would thus seem to settle the issue, clearly prohibiting any first-to-file system as unconstitutionally denying actual inventors the exclusive right to their discoveries. That is not the conclusion Edward C. Walterscheid has drawn.[17] Walterscheid asserts that the constitutional language "does not preclude the granting of patent rights to one who is not the literal first inventor."[18] He bases this conclusion largely on (1) contemporaneous interpretation of the words, (2) the founders' omission of the terms "true and first" from contemporaneous English law, and (3) spotty implementation of first-to-invent statutes in the early nineteenth century.

These views cannot withstand careful examination of Supreme Court precedent and ordinary methods of constitutional interpretation.

Supreme Court Precedent on "Inventors" and "Discoveries"

In 1870 the Court discussed how the term "inventors" in the patent clause should be interpreted. The Court sustained validity of several patents by emphasizing the role of patents as "public franchises,"

13 *Shaw v. Cooper*, 32 U.S. 292, 318-19 (1833) ("This [constitutional] power was exercised by congress . . . and from an examination of their various provisions, it clearly appears, that it was the intention of the legislature, by compliance with the requisites of the [constitutional] law, to vest the exclusive right in the inventor only").

14 *Blanchard v. Sprague*, 3 Fed. Cas. 648, 650 (D. Mass. 1839) (Story, J.); *In re Kemper*, 14 Fed. Cas. 286, 287 (D.D.C. 1841) (citing Article 1, Section 8: "There it is evident that the 'discoveries,' the use of which is to be secured, are the discoveries of inventors only").

15 Samuel Johnson, A Dictionary of the English Language (1787) as quoted by A. H. Seidel, *The Constitution and a Standard of Patentability*, 48 J. Pat. Off. Soc'y 1, 13 (1966). Seidel commented, "The present day meaning . . . can be considered the same, that is to bring into being something *new* as a product of one's own contrivance" (emphasis in original).

16 *Id.* An alternate definition provided by Johnson (there are several) is "to make known; not to disguise; to reveal." It could be argued, albeit somewhat implausibly, that the framers understood this archaic definition of the term to cover the act of disclosure associated with filing an application. However, *see* Seidel *supra*: "[I]t is firmly established in the patent law that "discoveries" has a more restricted meaning, as being the activity of an inventor."

17 Edward C. Walterscheid, *Priority of Invention: How the United States Came to Have a "First-To-Invent" Patent System*, 23 AIPLA Q.J. 263, 281 (1995).

18 *Id.* at 283.

as a matter of compensation to the inventors for their labor, toil, and expense in making the inventions, and *reducing the same to practice* for the public benefit, as contemplated by the Constitution and sanctioned by the laws of Congress.[19]

It seems unlikely that the Court would have used language so tilted toward the activities of actual reduction to practice if it had considered the Constitution to contemplate "inventors" as including first filers who reduced to practice after late-filing first inventors had already undergone the "labor, toil, and expense in making the inventions."

In an 1884 copyright case, the Supreme Court offered the following dicta interpreting the patent clause in *Burrow-Giles Lithographic Co. v. Sarony*: [20]

In regard, however, to the kindred subject of patents for invention, they cannot, by law, be issued to the inventor until the novelty, the utility, and the actual discovery or invention by the claimant have been established.

The Supreme Court recognized in that case that early statutes, passed by the constitutional framers, established "almost conclusive" interpretation entitled to at least "very great weight."[21] Thus, what the first patent act of 1790 and its immediate successor of 1793 say about "inventors" and "discoveries" is critical to the analysis.

The Act of 1790 could not be more clear in its grant of exclusive protection to the first inventor. The Act begins as follows:

Be it enacted . . . that upon the petition of any person or persons . . . setting forth, that he, she, or they, *have or have invented or discovered any useful art, manufacture, engine, machine, or device, or any improvements therein not before known or used* . . . it shall be lawful to . . . cause letters patent to be made out . . . .[22]

It continues with language authorizing repeal of patents not granted in accordance with the requirements of the petition:

[I]f it shall appear that the patentee was not the first and true inventor or discoverer, judgment shall be rendered by such Court for the repeal of such patent or patents . . . .[23]

19 *Seymour v. Osborne*, 78 U.S. 516, 533 (1870) (emphasis added).
20 111 U.S. 53.
21 *Id.* at 57.
22 Patent Act of 1790, § 1, 1 Stat. 109, 109-110 (emphasis added).
23 *Id.* at § 5, 111 (emphasis added).

Finally, the Act contains language that deems issued patents or specifications as

prima facia evidence, that the said patentee or patentees was or were the *first and true inventor or inventors, discover or discovers* of the thing sospecified. . . .[24]

The Act of 1793 begins with language similar to that in the introduction of the 1790 Act:

Be it enacted . . . that when any person or persons . . . shall allege that he or they have invented any *new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter, not known or used before the application*, and shall present a petition ... it shall and may be lawful ... to cause letters patent to be made out . . . .[25]

It also added a requirement that

every inventor, before he can receive a patent, shall swear or affirm, that he does verily believe, *that he is the true inventor or discoverer of the art, machine or, or improvement*, for which he solicits a patent . . . .[26]

The 1793 Act contained an updated version of the 1790 Act's repeal provisions, authorizing repeal "if it shall appear, that the patentee was not the true inventor or discoverer."[27] In addition, it permitted a defendant to plead for a declaration of invalidity if, *inter alia*,

the thing, thus secured by patent, *was not originally discovered by the patentee*, but had been in use, or had been described in some public work *anterior to the supposed discovery of the patentee* . . .[28]

Finally, the 1793 Act added the first interference provision in U.S. patent law.[29]

What language could better convey the desire of the First Congress to jealously guard the exclusive right for first inventors than its repeated use of the phrase "first and true inventor"? How could the Second Congress have better affirmed that same desire than by instituting an

24 *Id.* at § 6, 111 (emphasis added).
25 Patent Act of 1793, § 1, 1 Stat. 318, 318-19 (emphasis added).
26 *Id.* at § 3, 321 (emphasis added).
27 *Id.* at § 10, 323.
28 *Id.* at § 6, 322 (emphasis added).
29 *Id.* at § 9, 322-23 (emphasis added).

interference system[30] and protecting the patent rights of the "original discoverer" against use or public work that occurred *after* his own discovery, regardless of his filing date?[31] Can there thus be any doubt about the "construction placed upon the constitution" by the "men who were contemporary with its formation" in the Patent Acts of 1790 and 1793? Under the interpretation directed by the Supreme Court's holding in *Burrow-Giles* and its required reference to the Patent Acts of 1790 and 1793, the Constitution authorizes granting of exclusive rights only to first and true inventors.

The Originalist View of "Inventors" and "Discoveries"

With the literal text and binding precedent so firmly on the side of first-to-invent, it is difficult to sustain an argument for the constitutionality of first-to-file under any theory of interpretation. The founders' "original intent" provides no consistent basis for an argument either way.

In the originalist view, the Constitution should be interpreted according to understandings made public at the time of its drafting and ratification.[32] Walterscheid's analysis appears to use this technique. An originalist analysis, however, does not provide a clear answer to the question of who are "inventors" of "discoveries," because there was no debate in the Constitutional Convention with reference to the patent clause, and no committee minutes reference it.[33] Walterscheid himself acknowledges that "no delegate left any record as to what the Convention intended 'inventors' and 'discoveries' to mean."[34]

Much of Walterscheid's analysis of the framers' understandings thus cannot help but be highly speculative. For example, he states that the constitutional language "seemed to suggest" that the exclusive right

30 Walterscheid states that was nothing in the language of Section 9 that obligated the arbitrators to award the patent to the first inventor. *See supra* note 19 at 306. But later he seems to contract this statement. *See Id.* at 318 ("Priority seems to have been generally viewed as requiring a determination as to who had invented first"). In any event, it is implausible that this omission was intended to give the arbitrators *carte blanche*. Section 9 did not recite *any* standards for the arbitrators, instead relying on the requirements set forth in the other portions of the Act for their guidance. One could just as well conclude that the arbitrators were free to award patents for inoperative or well-known devices, and such award would "be final, as far as respects the granting of the patent." 1 Stat. 318, 323. This was surely not Congress' intent, and the failure of the arbitrators to abide by it, which Walterscheid describes at length, does nor lessen the precedential value of that intent under *Burrow-Giles*.

31 *See Thompson v. Haight infra* note 48.

32 Keith E. Whittington, Constitutional Interpretation 35 (1999).

33 Karl Fenning, *The Origin of the Patent and Copyright Clause of the Constitution*, 17 Geo. L. J. 109, 112 (1929).

34 Walterscheid *supra* note 17 at 281.

could be granted to other than the literal true and first inventor because there "is no reason to believe that the framers were not conversant with the English common law interpretation 'true and first inventor' to include a first importer."[35] But an equally plausible explanation, in view of Samuel Johnson's clear dictionary definition of the word "inventor,"[36] is that the framers simply chose to avoid redundancy.

As another example, Walterscheid attributes the Patent Board's decision to reject a first-to-file interference system alternately to discomfort with deciding the actual filing date of petitions that were originally filed with Congress and to political pressure from the steamboat rivals Rumsey and Fitch.[37] However, Walterscheid admits that "that the board may have interpreted 'inventor' to mean the true and first, *i.e.* original, inventor in a literal sense."[38]

Speculation could easily support an originalist view opposite Waltersheid's. For example, Thomas Jefferson was one of the members of the original Patent Board,[39] and his part in its decision to reject first-to-file could well reflect his "original intent" as one of the framers.

Another one of the framers, Madison, apparently proposed constitutional language securing "to inventors of useful machines and implements, the benefits therefore, for a limited time."[40] The thoughtful originalist might thus discern, in that framer's mind at least, an emphasis on actual reductions to practice rather than mere application filings. If Madison's proposed language had been incorporated into the ratified Constitution, the result under an originalist interpretation may well have been the restriction of patent protection only to tangible "machines and implements" that had been shown to be useful, *i.e.*, actually reduced to practice. Clearly, only a first-to-invent system would be realistic where an application filing, without more, would be insufficient to obtain a patent.

The Modernist View of "Inventors" and "Discoveries"

Some who would argue against a textualist or "original intent" interpretation of the constitutional term "Discoveries," may advocate instead that the Constitution is a "living document adaptable to new

35 *Id.*

36 Johnson *supra* note 15.

37 *Supra* note 17 at 291-92.

38 *Id.* at 293.

39 Federico *supra* note 2 at 238.

40 Fenning *supra* note 33 at 114. In attributing this language to Madison, Fenning cites a five volume *Documentary History of the Constitution of the United States Of America* published by the U.S. State Department between 1894 and 1900, and Ferrand, Records of the Constitutional Convention (1911).

In a recent speech, Sen. Birch Bayh, co-sponsor of the Bayh-Dole Act said:

> After a quarter century of what by most objective standards has been an exceptional success, the Bayh-Dole law is under increasing attack today.
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> Most of the attacks have come from individuals who have little experience with the comprehensive nature of how the law is implemented. They do not know what Bayh-Dole does and does not do, and why certain features were incorporated in the law. Equally important, these nay-sayers have no appreciation for the factors that motivated our efforts to develop this legislation in the first place. Most unfortunate of all, these modern-day experts in technology transfers apparently do not understand the basic factors on which our nation's free enterprise system is based.

THE BASIS OF THE ACT

To the extent that the Act is "an exceptional success" should be attributed to the drafter's understanding of the evolution, purpose and the intended rewards of the U.S. patent system starting with John Locke's belief that:

> A man has the right to what he hath mixed his labor with" and "whatsoever then he removes out of the state that nature has provided and left it in, he has with, and joined to it something that is his own, and thereby makes it his property"[2]

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A hundred years later, the drafters of our constitution implemented these principles and intended rewards by granting to Congress the power to secure "for limited times to authors and inventors the exclusive right to their respective writings and discoveries" an incentive "to promote the progress of science and useful arts"[3].

James Madison, the primary draftsman of the Constitution, stated his unequivocal support for this provision in the Federalist:

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Abraham Lincoln fully embraced our patent system in his second lecture on *Discoveries and Inventions*:

> ...In anciently inhabited countries, the dust of ages-a real downright old-foggism-seems to settle upon, and smother the intellects and energies of man. It is in this view that I have mentioned the discovery of American as an event greatly favoring and facilitating useful discoveries and inventions.

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> Next came the Patent laws. These began in England in 1624; and, in this Country, with the adoption of our Constitution. Before then, any man might instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention; and thereby added the fuel of interest to the fire of genius, in the discovery and production of new and useful things." (emphasis added)

It is exactly this fire of interest that was eliminated in the previous patent policy system. Based upon a misguided, and arrogant, belief that extinguishing the fire of interest would better serve the public, federal agencies took inventions from their creators and gave them away freely through public dedication of non-exclusive licenses. Predictably, this system failed miserably to produce commercial products; although it had probably helped our economic competitors to easily search through our best science looking for good ideas. they could develop new & good products with their own patents protection.

Put simply, the drafters of the Act wanted to restore the incentives of the patent system to report invention and to attract corporate investment ~~into~~ for their development and distribution. We understood that inventions resulting from government research are conceptual in nature, and require significant investment by

the private sector to bring them into practical application. To achieve this, the Act accords the first option to all invention rights to the inventor and their assignees[5] rather than the government agency that financed their research, so together they are free to leverage their rights to their advantage in the marketplace as intended by the patent system.

The Act provides march-in rights to the government[6] as an extraordinary measure to be used only when there is overwhelming evidence to show that the public resources invested into an innovation were being wasted or abused. To the extent the government pursues such property right, it must be done under proscribed due process procedures as required by the Fifth Amendment of the Constitution[7]:

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That Senator Bayh's claim that his Act is "an exceptional success" is clearly supported by at least the following:

(1) **As of 200?**, American universities have witnessed a ten-fold increase in their patents, based on an even larger increase of invention reports, creates more than 2,200 licensed companies to exploit their technology which has produced 260,000 new jobs and have contributed $40 billion annually to the American economy[8].

(2) China, Brazil, Malaysia, South Africa and India,, on their own initiative and evaluation, have determined to pursue legislation modeled after the Bayh-Dole Act[9].

(3) **Page 9 of Soderstrom ? Google other important inventions made under Bayh-Dole.**

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(4) Permitted the patenting of all inventions made un the SBIR Act of 1982 which ~~serve as [illegible]~~ to attract VC investment for further development enabled the inventing small business sf beyond government funding.

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(6) Public statement from Governors' Strickland of Ohio and Doyle of Wisconsin F.N.

(7) Provided the example for the necessary exclusivity

See page 11 of Soderstrom (not complete)

In a recent speech, Sen. Birch Bayh, co-sponsor of the Bayh-Dole Act said:

> After a quarter century of what by most objective standards has been an exceptional success, the Bayh-Dole law is under increasing attack today.
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> Most of the attacks have come from individuals who have little experience with the comprehensive nature of how the law is implemented. They do not know what Bayh-Dole does and does not do, and why certain features were incorporated in the law. Equally important, these nay-sayers have no appreciation for the factors that motivated our efforts to develop this legislation in the first place. Most unfortunate of all, these modern-day experts in technology transfers apparently do not understand the basic factors on which our nation's free enterprise system is based.

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In the article in question, its authors might initially be identified as at least "nay-sayers". This is certainly supported by a number of their comments including the author's position that Bayh-Dole's "contributions to growth in U.S. innovations" is overstated (1) and failure to identify in any way how Bayh-Dole might benefit a developing country (2). But more important is the authors near complete reliance on the faulty work of the individuals the Senator alluded to above (3). But before addressing some of this work, we need to address the authors' representation of the Act itself.

The authors begin by indicating that:

> "Bayh-Dole encouraged American universities to acquire patents on inventions resulting from government-funded research and to issue exclusive licenses to private firms [5,6]... ." (emphasis added)

Not so! The Act is limited to providing a first option to title to such inventions (4) so as to be able to elect to function under Article I, Section 8, of the

Constitution (5) or not. The Act is entirely neutral as to whether universities exercise that option and if they do, how they go about licensing.

Much of the author's article is directed to non-exclusive licensing under Bayh-Dole. The record clearly shows that a large portion of executed licenses are non-exclusive rather than exclusive. In this context, the authors discuss the non-exclusive licensing of the Cohen-Bayer and Axel patents. In these situations, the involved universities had the good sense to recognize that the patents involved important processes that were useful in the possible creation of many life science inventions which are now the basis for the numerous start-ups that make up the bio tech industry. That the university is aware of the importance of pursuing non-exclusive licensing of patented process or biological material invention useful in the making of life science products is evidenced by the authors reference to "Nine Points to Consider in Licensing University Technology".

However, the authors make clear that they would not be satisfied even if the university community successfully identified all the process and biological

material inventions that should appropriately be licensed on a non-exclusive basis as they indicate such licensing is unnecessary, primarily because a cost to the licensee is attached.

This position demonstrates the authors failure to understand a primary purpose of not only Bayh-Dole but the patent system itself. In the 17th century age of enlightenment, John Locke pointed out as a natural right that "Man hath a right to what he has mixed his labors with" (6). This served as the underpinning of the British patent system that in turn served as the foundation for the founding fathers inclusion of Article I, Section 8 of the Constitution (7). (The footnote supports this.)

Bayh-Dole permits the use of non-exclusive licenses as intended by the patent system as an incentive and reward to inventors and the university licensor to remain involved in the difficult iterative process of research and development. The drafters of Bayh-Dole knew, for example, that failure to recognize inventor rights resulted in documented failures to report inventions and instances of patent protection on their own behalf. (F.N.)

Further, the complaints listed by the authors regarding the costs attached to non-exclusive licensing are no more than what would be expected from potential "buyers" when bargaining with a "seller" in an open market. Such buyers should have no expectation whatever of a free ride on the seller's effort to provide the services offered along with the expertise on its intended use. The author's description of such services by the seller as a "tax" is both derogatory and completely unjustified, as the cost involved is the seller's estimate of the cost entailed with a reasonable profit.

The authors conclude their comments regarding non-exclusive licensing by indicating that:

> "Where exclusive licenses are not required for commercialization, one may ask whether universities and public sector labs should be patenting research at all."

Clearly they believe that universities and their inventors are deserving of no consideration whatever for the efforts expended in bringing their inventions into public use. We need note here that there is nothing in Article I, Section 8 which excludes inventors and their assignees from the benefits bestowed by the patent

system notwithstanding that their invention has been partially funded with federal funds.

The author's position on exclusive licensing of government funded inventions is not explicitly discussed other than their comment that they:

> "... should not be exclusively licensed unless it is clear that doing so is necessary to promote the commercialization of that research."

We would submit that it is now exactly the reason universities chose to grant exclusive licenses rather than a non-exclusive license. However, even if the above comment is acceptance of the Bayh-Dole policy of permitting university exclusive licensing if they believe that necessary, the authors tie that decision to a government requirement that the invention so licensed be monitored to see that they are "priced fairly". This concept was unsuccessfully tried by NIH from 19_?__ to 19__?__ and abandoned after industry refusal to enter into any licensing agreements with NIH during that period (8) and is not required by Bayh-Dole. To mandate such a requirement would require amendment of both Bayh-Dole and the FTTA and would

on the basis of the NIH experience make BD, FTTA and SB1R inoperative for their intended purposes.

We now turn our attention to the author's primary reliance on the work of individuals characterized by Senator Bayh.

A hundred years later, the drafters of our constitution implemented these principles and intended rewards by granting to Congress the power to secure "for limited times to authors and inventors the exclusive right to their respective writings and discoveries" an incentive "to promote the progress of science and useful arts"[3].

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It is exactly this fire of interest that was eliminated in the previous patent policy system. Based upon a misguided, and arrogant, belief that extinguishing the fire of interest would better serve the public, federal agencies took inventions from their creators and gave them away freely through public dedication of non-exclusive licenses. Predictably, this system failed miserably to produce commercial products; although it had probably helped our economic competitors to easily search through our best science looking for good ideas.

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5. ~~(b)~~ SEC. 202 BD

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~~Sen. Bayh's quote~~

Evidence of Success

That Sen. Bayh's claim that his Act is "an exceptional success" is clearly supported by at least the following facts:

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2) Federal research and development funding has increased $6 billion in 1980 to $33 billion in 2007.

3) China, Brazil, Malaysia and South Africa and England have based their own initiatives and evaluations have determined to pursue legislation modeled after the Bayh-Dole Act.

(6)

Permitted Small Business Inventions

3) Pg. 9 of Sudenstrom Google + other important (~~Inventions~~ Innovations) made under SBIR.

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See pg. 11 of Sudenstrom.
(Not complete)

deem it successful

Finally, while the economic success of BD is ~~more than enough to~~ justify the economist's belief that the Act was "possibly the most ~~INSPIRED~~ piece of legislation to be enacted in America over the past half-century" (4) the naysayers failing to recognize the Act's complete success in giving government funded inventors, not only the right to see their invention reach the marketplace through the patent system but to know that their employer used their best efforts to do so but failed as envisaged by Cottrell (5). Indeed, it is this fact alone that may explain the extraordinary increase in invention registrations by government funded inventors (6)

are "priced fairly". This concept was unsuccessfully tried by NIH from 19? to 19? and abandoned after industry refusal to enter into any licensing agreements with NIH during that period (8) and is not required by Bayh-Dole. To mandate such a requirement would require amendment of both Bayh-Dole and the FTTA and would on the basis of the NIH experience make BD, FTTA and SB1R inoperative for their intended purposes.

We now turn our attention to the author's primary reliance on the work of individuals characterized by Senator Bayh.

Retaining First-to-Invent: Continued Promotion of the Progress of Useful Arts

The Supreme Court has found a standard expressed in the Constitution, "inherent requisites" of "innovation, advancement, and things which add to the sum of useful knowledge." It is a standard that "may not be ignored."[56] To conclude our analysis of how the Constitution would prevent adoption of any first-to-file system, it is appropriate to consider which system better promotes "the progress of useful Arts" and fulfills the Court's inherent requisites. The answer is clear, and is consistent with the rest of the Constitution's patent clause. The first inventor, unlike another person who "invents" later but files earlier, is the one who brings an innovation or advancement into being. It is that person who fulfills the constitutional objective and is entitled to its prescribed reward. Thus the Constitution shows its wisdom; it expressly prohibits what would hinder the results it requires.

In consonance with this view, the Supreme Court observed that the patent laws promote the constitutional goal of progress

> by offering a right of exclusion for a limited period as an incentive to inventors to risk the *often enormous costs in terms of time, research, and development.* The *productive effort thereby fostered* will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for citizens.[57]

The Court did not speak of incentives to "win a race to the Patent Office." It spoke, instead, in the traditional American terms of invention, of research and development, of productive effort.

The United States is under intense pressure to conform to the rest of the world and adopt a first-to-file system. As we have seen, however, the Constitution of this country simply does not allow for such a change. Yet it is entirely appropriate for the United States, a country that progressed from a small band of colonists to being the single largest source of worldwide patent filings,[58] to continue standing apart in rewarding "compensation for [the] ingenuity, labor, and expense"[59] of first inventors in producing their discoveries.

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56 *Graham*, 383 U.S. 1.

57 *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974) (emphasis added).

58 United States residents originated about 40% of all PCT applications during 1998 and 1999, more than twice the percentage filed by residents of any other single country. WIPO, *The Patent Cooperation Treaty (PCT) in 1999*, available on the Internet at www.wipo.int/pct/en/activity/1999/pctin99.htm#P22_952.

59 *Allen v. Hunter supra* note 51.

Surrogates of vested monopolies

and foreign

unaware of experts

Notwithstanding the outstanding success of the Act set out above the Act has attracted a cottage industry of scatter-brain academics presenting themselves as "experts" within the federal government with amendments to the exceptional circumstances and march-in provisions of the Act and its implementing regulations. They describe these amendments as being supported by a number of ~~unproven or unworkable~~ theories that are unproven or ~~shown~~ ~~to be~~ have been shown to be failures in practices utilized before the passage of the Act. and

situations"[41] and thus would not prohibit a first-to-file system. Clearly, however, no interpretation can be so expansive as to entirely vitiate a significant term in a constitutional requirement.[42] Patents simply cannot be granted to any but "inventors" for anything but "discoveries."[43]

Even modernists rely on "deeply embedded traditional ways of conducting government" to give meaning to the words of a text or even supply them.[44] What then, have been the "deeply embedded traditional ways" in which the U.S. government has granted exclusive rights to inventors for their discoveries? Perhaps the most enduring and consistently followed principle of American patent law has been to grant such rights to first and original inventors. The statutes and published decisions found throughout the nearly two centuries of legal history since ratification of the Constitution are an important consideration.[45] In view of that "gloss which life has written upon" its words, the patent clause overwhelmingly favors a first-to-invent interpretation of its mandate.

We begin with the decision of the 1791 patent board to reject a first-to-file proposal, which is appropriate for two reasons. First, it was arguably the first administrative decision regarding such a proposal under the Constitution, which had been in effect only three years. Nothing could be considered more "deeply embedded," or the start of a more "traditional way of conducting government" than that early decision.[46] Second, Jefferson was one of the three board members, and his influence on American patent law is well established.[47]

In 1826, the Circuit Court for the Southern District of New York observed that the whole law relating to patents, which remained essentially under the Act of 1793, could still be regarded as novel in the United States.[48] That state of affairs did not prevent the court from pointing out that

41 *Youngstown Sheet & Tube Co. et al. v. Sawyer*, 343 U.S. 579, 682 (1952) (Vinson, C.J., dissenting). Also, *see* WHITTINGTON *supra* note 32 at 196.

42 GREGORY BASSHAM, ORIGINAL INTENT AND THE CONSTITUTION 93 (1992). Bassham, though generally eschewing the originalist view, quotes Thomas Jefferson as expressing concern about elected officials rendering the Constitution "a blank paper by construction."

43 *See supra* notes 11-14.

44 *Youngstown supra* note 41.

45 Kenneth Burchfiel, *Revising the "Original" Patent Clause: Pseudohistory in Constitutional Construction*, 2 Harv. J. Law & Tech. 155, 209 (1989) ("In the effort to determine the original meaning of a constitutional term, as in any legal history, a *sine qua non* is consideration of the most coherent and persuasive available data, contained in statutes and published decisions").

46 Federico considered it "very unlikely that duplicate patents were granted [by the board] to the four steamboat claimants without deciding the question of priority." *See supra* note 2 at 249.

47 *See Graham*, 383 U.S. at 7. Also, *see* text at note 39 *supra*.

48 *Thompson v. Haight*, 23 Fed. Cas. 1040, 1041.

> [i]t is very true that "the right to a patent belongs to him who was the first inventor, even before the patent is granted." [No citation given.] That is, none but the first inventor can have a patent.[49]

Shortly after the Act of 1839 (and less pertinent Acts of 1842, '46, '48, and '52)[50], another federal district court observed that

> [n]o exclusive right can be granted for anything which the patentee has not invented or discovered. . . . the right of the patentee entirely rests on his invention or discovery of that which is useful, and *which was not known before*. And the law gives him the exclusive use of the thing invented or discovered, for a few years, as a *compensation for 'his ingenuity, labor, and expense in producing it.'*[51]

The court, in instructing the jury, addressed the question of whether the plaintiff, who had been issued a patent for his invention, had protection against issuance of a rival patent to the defendant under the early caveat system then still in effect:

> [The plaintiff] is protected by the law [against issuance of a rival patent], unless the defendant's invention entitled him to a patent before the plaintiff applied for his patent.[52]

Interestingly, the jury found for the defendant, evidently heeding the court's instruction that "the one who perfected his invention first" would be entitled to protection if both the plaintiff and defendant could properly be considered rival inventors. This case, then, is an example of a first applicant losing out to a first inventor under legislation enacted some 60 years after ratification of the Constitution.

First-to-invent maintained its steady hand on the course of American patent law through the remainder of the nineteenth century and into the twentieth. In 1920, the D.C. Court of Appeals affirmed an award of priority to an interference party who was first to conceive and first to reduce to practice.[53] The court observed that the award was grounded on what had been the rule in the Patent Office since 1872, a rule that had received the approval of the court in earlier cases.[54] Since then, it has never become the law that one who "invented" later but filed first would receive a patent against a first inventor who had not forfeited rights.[55]

49 *Id.* at 1048.

50 *See* ROBINSON *supra* note 11 at 78-79.

51 *Allen v. Hunter*, 1 Fed. Cas. 476, 477 (D. Ohio 1855) (emphasis added).

52 *Id.* at 482.

53 *Erben v. Yardley*, 267 F. 345.

54 *Hubbard v. Berg*, 40 App. D.C. 577; *Thompson v. Storrie*, 46 App. D.C. 324.

55 The first inventor can forfeit his constitutional rights by his action or inaction, just as the citizen can forfeit his constitutional rights (*e.g.*, to vote) by his actions (*e.g.*, felonious crimes). The statutory and common law has long cautioned the first inventor to act diligently lest he lose his rights. See 35 U.S.C. 102(b),(c),(d)(g); *Howe v. Shumaway*, 12 Fed. Cas. 678 (D. Mass. 1854) (First inventor "gave nothing to the public." Court held he had "only an idea, never carried out in a machine [i.e., actually reduced to

while these experts maintain that such a forecast are merely