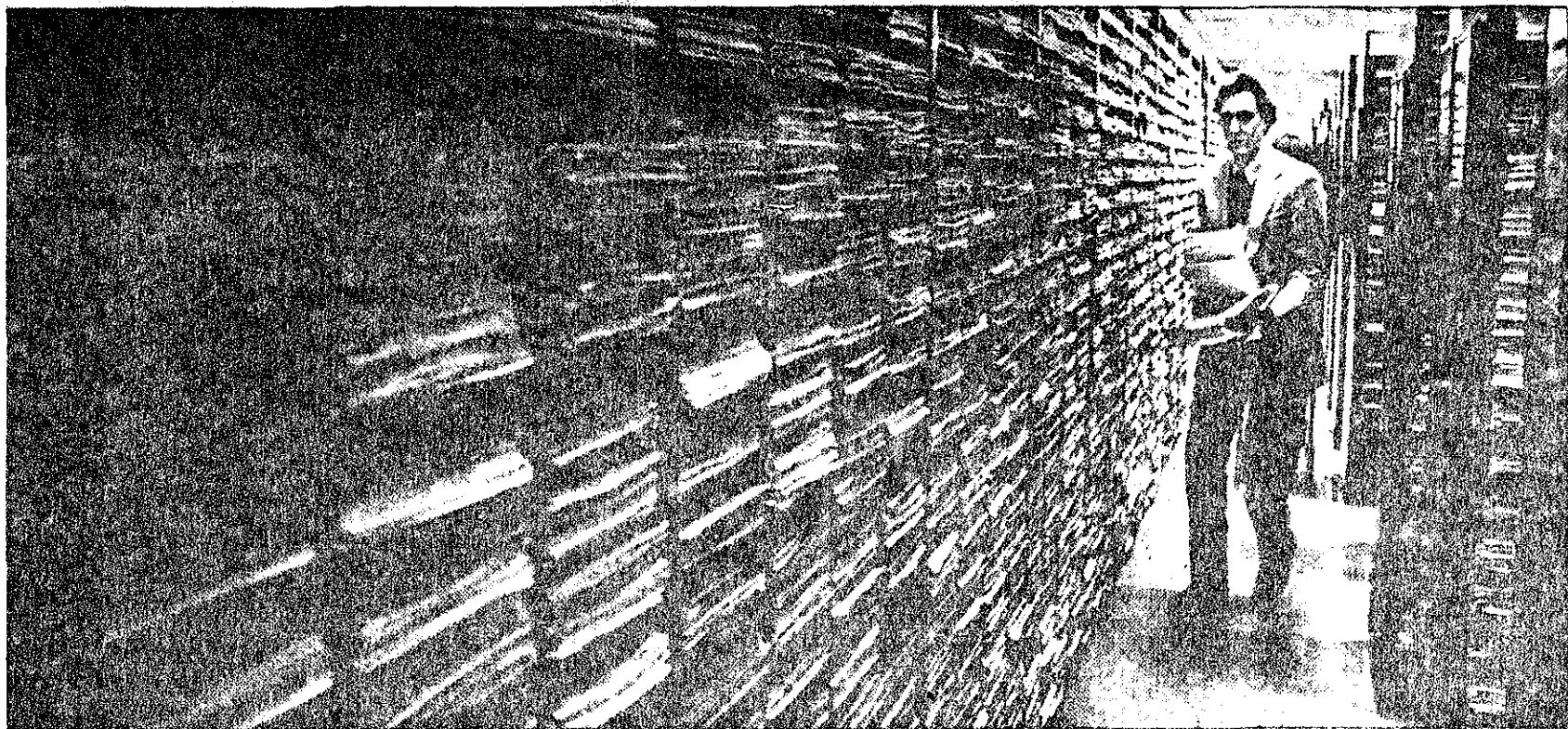


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The stacks at the Federal Patent and Trademark Office in Arlington, Va.

Improving the Mousetraps At the U.S. Patent Office

By RICHARD D. LYONS

WASHINGTON — The Conference on Small Business, which opens today and which President Carter will address tonight, should be of particular interest to Dr. George Tsao, a professor of chemical engineering at Purdue University. Patent policy and innovation are major items on the agenda, and Dr. Tsao is intimately acquainted with both.

Dr. Tsao developed a process for converting bagasse — sugar cane husks — into the ethanol that helps form gasohol. He sought to patent his invention so that private industry could use and exploit it. No way, said officials at the Department of Energy. Federal research funds had helped underwrite the bagasse research, they explained. Granting an exclusive patent would be improper since public money would thus be used for private gain.

The counter argument is clear also. The energy crisis makes production of gasohol from agricultural wastes in the national interest. Happily, though this argument did not prevail, an ethanol factory using bagasse is nearing completion in Clewiston, Fla.

That plant might be operating today but for delays over patent procedures. This time, things were settled politically since Dr. Tsao and Purdue are in Indiana and the state's senior Senator, Birch Bayh, happens to be both a Purdue graduate and chairman of the National Alcohol Fuels Commission. He also has 17 years of Senate experience in pressuring the Federal bureaucracy. Purdue has been permitted to seek eight patents on the Tsao process.

No such luck for Bend Research Company, a small outfit in Oregon, and its innovations in membrane technology. Using funds supplied by the Departments of Energy and the Interior and by the National Science Foundation, company scientists perfected "coupled transport" — a process that separates out different metals from ores and other compounds.

Their aim: to exploit ores once considered too low grade to economically refine.

"We were aware from the beginning that Federal patent policy would not allow us to gain exclusive domestic rights, but we went ahead anyway thinking that we would gain lead time in developing the basic process," said company president Harry Lonsdale. Mr. Lonsdale explained that American companies refused to sink money into developing the process, fearing that competitors could snap up the results. The final irony, he noted, is that Federal policy does give the developer of a process foreign patent rights. Thus, while the Bend coupled transport process is a stranger to American manufacturers, the Nitto Company in Japan is using it and licensing is being offered in seven other countries.

This same patent policy has generally delayed the development of several dozen drugs and medical techniques whose scientists relied, in part, on Federal funds. More importantly, say Federal officials, existing Federal patent policy is inhibiting research and preventing the introduction of new products.

"Why should a pharmaceutical house put \$10 million into developing and testing a drug it doesn't own or isn't licensed to produce," one official asked. "Any company wants to be able to recoup its original investment, and the way it can do this is to dominate the market in the first years of a product's use."

Federal studies dating back to the Hoover Administration have sought to place Government on the side of the small inventor, such as Mr. Lonsdale, and the nonprofit corporation, such as Purdue. But of 30,000 Federally-owned, registered patents only 1,000 have actually gone into production. Although some Federally-owned patents, such as frozen concentrated orange juice, have spawned major industries, most newly patented products are shunned because corporations regarded them as poor investments.

"Experience has shown that the Government, as a purchaser or consumer of goods and services, is not

in a position to take advantage of its ownership of patents to promote enterprise," reported one Carter Administration panel on innovation a year ago. Explaining why over 90 percent of all Government patents are not used, the panel said, "Private companies... who are in a position to utilize the patent grant are ordinarily unwilling to take a nonexclusive license under a Government-owned patent and commit the necessary funds to develop the invention, since it has no protection from competition."

Trying to remedy these problems, Senator Bayh, a Democrat, and Senator Robert Dole of Kansas, a Republican, introduced the University and Small Business Patent Procedures Act last year, a bill given little chance of passage then, but which now has been adopted unanimously by the Senate Judiciary Committee and is due for floor action in a few weeks.

Support for the bill came from unexpected quarters, including the Carter Administration and some of the very people who had opposed the notion of public money for private groups. Central to their backing was the thought that some inventions become enormously profitable, and that when this happens, what Federal largesse paid for belongs to the people. Thus some, if not all, of the profits, the argument goes, should be returned to the Government.

The Bayh-Dole bill caters to this notion by allocating to the Treasury a percentage of the profits from a Federally-financed patent over a specific period of time, which roughly covers the years during which the inventors of a product or process retain virtually exclusive rights to their creation.

Also spurring support for the bill were increasing complaints about the current "climate for research" in the United States and predictions of trouble for American technology. In fact, the number of patents granted Americans has fallen dramatically in the last decade, as has the number of new, research-intensive products. High technology imports from abroad have increased.

The Bayh-Dole bill would try to reverse these trends by improving the research climate. Where 24 Federal patent policies now exist, for example, the bill would set uniform policy. It also would upgrade the Federal Patent and Trademark Office, lifting it from its subservient position in the Commerce Department and establishing it as a separate entity.

Underscoring his own concern for the future of American innovation, President Carter proposed patent reform 10 weeks ago and is expected soon to endorse the Bayh-Dole bill.