

The federal squeeze on university research *Notes*

A cut in allowable expenses and threats to existing patent and licensing rights

A springtime of distress for university researchers is turning into open confrontation with the federal government. At issue has been a recent proposal from the White House Office of Management & Budget to restrict severely the types of overhead expense that universities may charge for government-sponsored research.

But even more ominous for the flow of new ideas and inventions from basic research—the segment of the nation's research and development that now is conducted in overwhelming proportion by universities—has been a move within Congress and among consumer advocates to restructure the terms under which universities may patent and then license the ideas developed through federally financed research. "Both of these actions," says Robert M. Johnson, dean of graduate studies and research at Florida State University, "will make it difficult for us to do business with the federal government."

Most universities complain that it is already hard enough to deal with the government, and some go so far as to predict a day when their institutions may refuse money rather than wrestle with the maze of paperwork and conflicting regulations. The situation is all the more confusing because President Carter and his science adviser, Frank Press, have made it clear that the health of university research is a top-priority item within the Administration.

Loss of millions. What the OMB budget hawks are now proposing—and would make effective on Jan. 1 of next year—is the curtailment of such overhead expenses as library use and pay for graduate assistants and other students from costs billable to the government for research it supports. "For the Massachusetts Institute of Technology," Thomas F. Jones, vice-president for research, says, "the regulations represent a loss of more than \$1 million a year." At Stanford University, officials estimate a potential loss of \$7.5 million.

Although their direct effect on the pace of academic research is difficult to gauge now, the regulations could have a serious impact on the training of future scientists. Today "the federal government is supporting the graduate programs," says Dennis W. Barnes, asso-

ciate provost for research at the University of Virginia. But while the White House has noted that the average age of university researchers is going up—and has plans to help lure more young minds to science—Gerald J. Lieberman, Stanford's dean of research, says that the OMB rules would eliminate 75 to 100 graduate research slots at his school. And that means a contracting talent pool for industry. "These are the future scientists that will make up the labor force," says Lieberman.



Senator Nelson: He is conducting hearings on possible "government giveaways" to universities and industry.

While the universities continue to lobby against the OMB regulations, they must also contend with the patent issue. Four months ago, the General Services Administration published regulations that would have allowed the so-called Institutional Patent Agreement (IPA) used by the Health, Education & Welfare Dept. and the National Science Foundation to be substituted for the 22 different arrangements universities now make with government funders. Under an IPA, the school has exclusive patent and licensing rights to its government-funded research for up to five years.

Giveaway? At the request of Senator Gaylord Nelson (D-Wis.), the OMB delayed the regulations, and Nelson's subcommittee on monopoly and anti-competitive activities recently began hearings on the whole issue of university patents. Nelson has said that he is particularly concerned about possible "government giveaways" of the millions of dollars that industry and universities might realize from the commercializa-

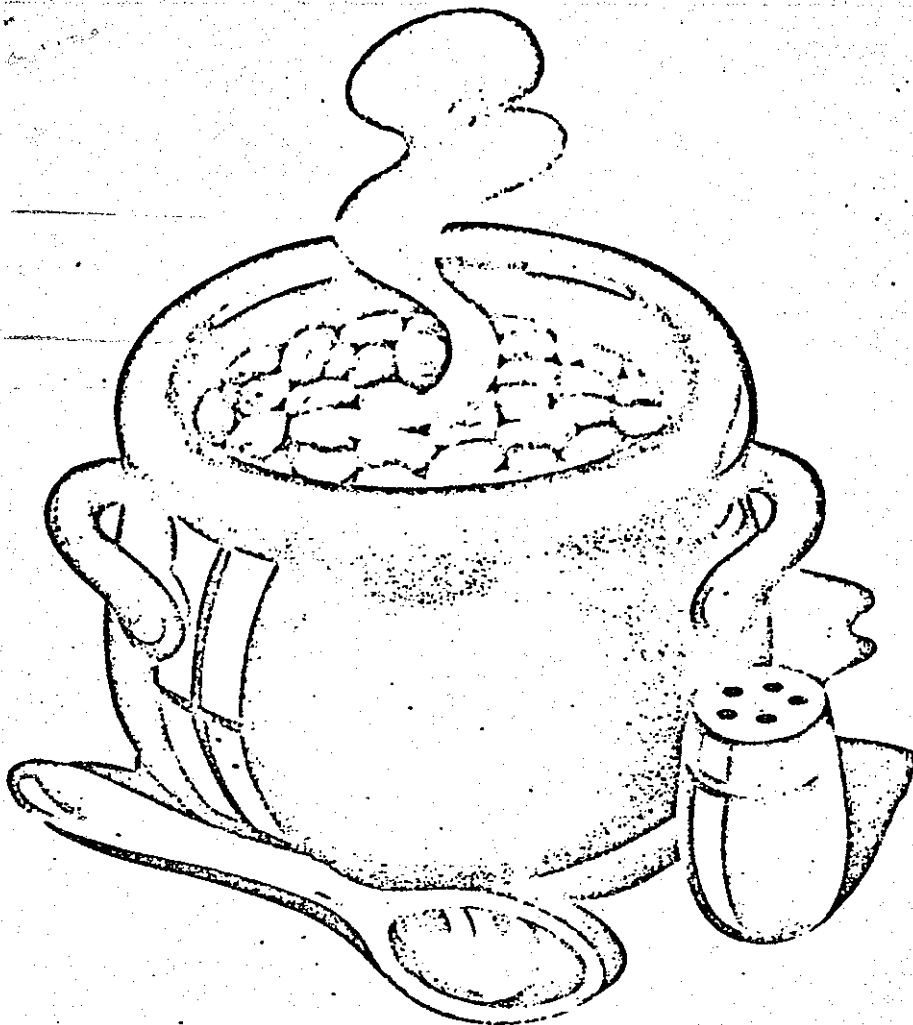
tion of research that was originally supported by Washington. Ralph Nader, too, has joined the fray, suggesting that IPAs might be unconstitutional. While Nelson now says that the universities "made a good presentation" at the hearings, he told BUSINESS WEEK that "other issues could come up in the next set of hearings," scheduled for later this month.

Exclusivity. The critics say that the government has been denied income from such famous university innovations as the computer magnetic-core memory, developed under federal grants in 1948 by Jay Forrester at MIT. That technology alone has earned MIT more than \$20 million. Another favored example is Gatorade, the thirst-quencher formulated by Robert Cade at the University of Florida.

But university spokesmen argue that federally controlled patents available to everyone end up being exploited by no one. "Industry is not going to touch inventions held by the government, without exclusive licensing," says William D. Carey, executive officer of the American Association for the Advancement of Science.

Statistics developed by the Commerce Dept.'s National Technical Information Service (NTIS), which is charged with trying to license federal patents, dramatically illustrate Cary's point. Of 28,000 government-owned patents, says the NTIS, companies have taken licenses for a scant 15%. "The government," notes Jones of MIT, "has never distinguished itself at running a business." And the government's overall success with selling new ideas compares badly with the experience at HEW, where IPAs have been used since 1968. "Before 1968, no inventions reached the marketplace," says Norman Latker, patent counsel for HEW. "Since that date, 60 inventions were delivered."

Unexploited. At the University of Wisconsin, where numerous patents have been negotiated over the years, officials cite an example of a good idea now insufficiently protected by a federal patent. With funding from the Interior Dept., Roger W. Boom, a metallurgical engineering professor, has developed a process by which superconductive mag-



FRANKLIN MAKES MOTORS FOR BAKED BEANS.

We make fractional horsepower motors for farm irrigation systems. We also make motors for computer applications, hospital beds, heating and air conditioning units, copying machines, commercial freezers, kitchen ventilating fans, swimming pools and paint sprayers. We have a full line of fractional horsepower motors for just about any product. Remember our name. Franklin Electric, the motor specialists.



Franklin Electric
Bluffton, Indiana 46714

nets might extract iron ore weak in magnetism from a slurry. Such a process, Boom argues, could help a mining company begin recovering hematite, for example, and thereby postpone spending the \$50 million to \$100 million it takes to open a new mine. Several companies approached him about the process, says Boom, but none would touch it without patent protection. "If the university had an IPA, we think we could attract the commercial support," he says.

On the other hand, universities are by no means unanimous in their enthusiasm for patent rights to research. Richard M. Cyert, president of Carnegie-Mellon University, calls patents "sink-holes for funds" because the school must

The hard-line Energy Dept. is a particular target of the angry researchers

spend its own money to develop them. What is more, Cyert favors retention of patent rights only with the stern proviso that commercial possibilities should not dominate research aims. "The university should have two objectives," he says, "the transmission of knowledge and the creation of knowledge." And, he adds, "publication is more important to us than patents."

Yet without patent protection, the commercial prospects for new technology are dimmed. University researchers angrily claim that, in particular, the Energy Dept.'s hard-line opposition to IPA deals has stifled innovation. "We have weathered a strong attack from the university community," concedes the department's patent counsel, Robert M. Poteat. "The DOE approach," says Barnes of the University of Virginia, "has killed a lot of ideas."

An undeclared President. Whether or not the OMB rules and the congressional patent hearings end up killing even more ideas remains to be seen. Both OMB and Press's office have circulated a patent options paper among executive agencies asking for comment. HEW is conducting an internal review of its patent policies, and Jordan J. Baruch, Assistant Commerce Secretary for science and technology, is leading an even more ambitious study of the problems.

In the meantime, John J. Lordan, chief of the OMB's financial management branch, contends, "We are not trying to harm universities," and he points out that the OMB move is less strict than one suggested by HEW and does not go nearly as far as some proposals in Congress. The President has yet to declare himself on the patent issue, nor are there signs of internal pressure on OMB to scale back its expense-limitation regulations. In that climate, says an official in Press's office, "universities should be worried."