be a period for the transaction of routine morning business not to extend beyond 20 minutes and that Senators may speak only on that period consent.

The PRESIDING OFFICER. Without objection, it is so ordered.

**BUDGET ACT WAIVER**

Mr. ROBERT C. BYRD. Mr. President, I ask unanimous consent that the Senate proceed to the consideration of Calendar Order No. 580, Senate Resolution 314.

Mr. President, may I say that this has been cleared with the acting Republican leader, who is represented on the floor in this matter at the moment by Mr. SCHMITT.

The PRESIDING OFFICER. The resolution will be stated by title.

The legislative clerk read as follows:

A resolution (S. Res. 314), waiving section 402(c) of the Congressional Budget Act of 1974 with respect to the consideration of S. 1991.

The PRESIDING OFFICER. Is there objection to the request of the Senator from West Virginia?

There being no objection, the Senate proceeded to consider the resolution.

The PRESIDING OFFICER. The question is on agreeing to the resolution.

The resolution (S. Res. 314) was agreed to as follows:

Resolved, That pursuant to section 402(c) of the Congressional Budget Act of 1974, the provisions of section 402(a) of such Act are waived with respect to the consideration of S. 1991, a bill to amend the Federal Trade Commission Act.

Such waiver is necessary to permit the consideration of legislation authorizing the enactment of new budget authority for fiscal year 1980 for the Federal Trade Commission.

This authorization will not delay the appropriation process, or interfere with the budget process, since authorizing legislation for the purpose was reported by the Committee on Commerce, Science, and Transportation prior to May 15, 1979 (S. 1020).

Subsequently, the committee held nine days of oversight hearings which resulted in several proposed changes to the Federal Trade Commission Act. The new legislation (S. 1991) will permit consideration of a comprehensive legislative proposal rather than dealing with individual amendments to S. 1020.

Mr. ROBERT C. BYRD. Mr. President, I move to reconsider the vote by which the resolution was agreed to.

Mr. SCHMITT. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

Mr. SCHMITT. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. ROBERT C. BYRD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

**CONCLUSION OF MORNING BUSINESS**

Mr. ROBERT C. BYRD. Mr. President, I ask that morning business be closed.

The PRESIDING OFFICER. There is no further morning business. Morning business is closed.

**UNIVERSITY AND SMALL BUSINESS PATENT PROCEDURES ACT**

The PRESIDING OFFICER. Under the previous order, the Senate will now resume consideration of the pending business, S. 414, which will be stated by title.

The assistant legislative clerk read as follows:

A bill (S. 414) to amend title 35 of the United States Code, to establish a uniform Federal patent procedure for small businesses and nonprofit organizations, to create a consistent policy and procedure concerning patentability of inventions made with Federal assistance, and for other purposes.

Mr. DOLE. Mr. President, I ask unanimous consent that the names of Senator SIMPSON and Senator JAVITS be added as cosponsors of S. 414.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. DOLE. Mr. President, S. 414 was recently reported out favorably by the Judiciary Committee. The University and Small Business Patent Procedures Act aims at facilitating the transfer to the private sector of small and nonsponsored inventions from the federally funded innovation stage. It allows universities, nonprofit organizations, and industry to obtain limited patent rights on inventions made with Federal assistance, and for other purposes.

During the hearings that were held by the Judiciary Committee in May and June 1979, testimonies were heard by scientists whose inventions were significant in terms of medical advances, and by heads of small, high-technology companies who provided shocking illustrations of the formidable obstacles placed in the field of technology transfer, in which the United States has been steadily losing its traditional leadership.

From these testimonies, it became clear that the Government's lack of a coherent patent policy had greatly contributed to increasing the factor of uncertainty, in an already uncertain area, that of investments. Indeed, the Government has been following a dual policy in encouraging the export of technology and other resources nor the expertise to do so.

When the Government owns a patent, the Government in fact does not use it. It does not need to use it. When a patent isn't used, it really isn't worth anything to anybody and has no real value by itself.

The obstacles placed in the path of U.S. industry are removed in the case of foreign firms, that are able to develop and market ideas gleaned from U.S. funded research. The Government's retention of rights, or its attempts to recoup from bidding on Government contracts, at a considerable loss to the public.

The Government's retention of rights to inventions is funded has been an event of the federalization "Why doesn't the Government engage in the development and marketing of these inventions?" The answer is that the Government has neither the financial resources nor the expertise to do so. In fact, I think many would be violently opposed to any such effort, in any event.

As a result, out of the 28,000 inventions it funded, only about 5 percent have been used. Denied the modicum of protection that the granting of patent rights for a limited period of time would afford them, these inventions, are sold to foreign firms at about 5 percent, and for a fraction of the cost of the initial research. Consequently, the most experienced and best qualified companies are often excluded from bidding on Government contracts, a clear indication that the Government reneges on its promise to the American people. That was repeatedly evidenced by the testimonies heard during the hearings held last spring. Dr. Arthur Obermayer, president of Moleculon Research Corp. in Cambridge, Mass. indicated that when the Government owns a patent, the Government in fact does not use it. It does not need to use it. When a patent isn't used, it really isn't worth anything to anybody and has no real value by itself.

The obstacles placed in the path of U.S. industry are removed in the case of foreign firms, that are able to develop and market ideas gleaned from U.S. funded research. The obstacles are removed from bidding on world markets by foreign firms. The problem was highlighted by Dr. Patrick Iannotta, president of Ecolotrol in Bethpage, N.Y., testifying in May:

Our frustration was that much of the information we gave to the Government in the way of development and the marketing of these inventions. Their position is easily understandable, in view of the development process is not only risky but expensive, and estimated to cost 10 times the cost of the initial research. Consequently, the most experienced and best qualified companies are often excluded from bidding on Government contracts, at a considerable loss to the public.

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This will involve increased government inclusions of patents by the transfer of scientists from academic projects to the private sector, officials said this week.

The government, already heavily extended in subsidizing or even jumpstarting new projects for export, hopes to improve its precarious balance of payments position in the next five years by stimulating industry to do just that, through research and development, Arie Lavie, chief scientist of the Ministry of Industry, Trade and Tourism, said Tuesday.

Coupled with an estimated $150 million that will be privately invested, the commitment will put Israel, on a per capita basis, among the world leaders in the research and development sweepstakes.

"The government recognizes the priority of exporting sophisticated industry. We have to do this thing, not in spite of our economic problems but because of them," Lavie said.

Inflation in Israel currently is running more than 100 percent annually.

He said the new policy would retain the current government grants of up to 80 percent of costs for a new product, and add government loans for working capital and broad tax incentives to industries and industrial exports. Individual investors will be encouraged private venture capital.

The export of products based on research and development, Lavie said, is one of the most effective ways to face it is by an increase in productivity, through the granting of patent rights for a limited period of time, to guarantee business the protection needed in order to provide incentives to produce more and better. Traditionally, innovative, and creative programs have emanated from small businesses and companies who, in turn, have engendered job creation and promotion.

One needs only to be reminded of Polaroid and Xerox, who were small concerns when they initially developed Xerography and the Polaroid camera, to agree that this is so. The enormous wealth of entrepreneurial spirit engendered job creation and promotion.

"There is nothing wrong with foreign competition, so long as we respond to it with vigor and imagination, and not with complacency. One of the best ways to face it is by an increase in productivity, through the granting of patent rights for a limited period of time, to guarantee business the protection needed in order to provide incentives to produce more and better. Traditionally, innovative, and creative programs have emanated from small businesses and companies who, in turn, have engendered job creation and promotion.

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clearly as to whether or not I specified that as to that the agreement would be in the usual form.

The PRESIDING OFFICER. That has not been specifically stated.

Mr. ROBERT C. BYRD. I make that unanimous-consent request at this time.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. ROBERT C. BYRD. Otherwise, the managers of the bill would not have been able to yield time from the bill to Senators on amendments, motions, and so on.

The PRESIDING OFFICER. That is correct.

Mr. ROBERT C. BYRD. I thank the Chair.

RECESS UNTIL 11:45 A.M.

Mr. ROBERT C. BYRD. Mr. President, I ask unanimous consent that the Senate stand in recess until 11:45 a.m. today.

There being no objection, the Senate, at 11:25 a.m., recessed until 11:45 a.m.; whereupon, the Senate reassembled when called to order by the Presiding Officer (Mr. Inouye).

UNIVERSITY AND SMALL BUSINESS PATENT PROCEDURES ACT

The Senate resumed the consideration of the bill (S. 414).

Mr. ROBERT C. BYRD. Mr. President, I suggest the absence of a quorum. I ask unanimous consent that the time be charged to both sides on the bill.

The PRESIDING OFFICER. Without objection, it is so ordered. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. SCHMITT. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. PELL. Mr. President, will the Senator yield for 1 minute?

Mr. SCHMITT. I am happy to yield to the distinguished Senator for an unanimous-consent request.

VISIT TO THE SENATE BY MEMBERS OF THE PARLIAMENT OF EUROPE

Mr. PELL. Mr. President, I just wanted to point out that we have the honor of having members of many national parliaments here who are here with the Parliament of Europe. And they, being fellow parliamentarians, wanted to visit the Senate Chamber. I suggest that we give them some applause. [Applause.]

RECESS

Mr. ROBERT C. BYRD. Mr. President, will the Senator allow us, without losing his right to the floor, to recess for 2 minutes so that we might meet our distinguished guests?

Mr. SCHMITT. Mr. President, the Senator from New Mexico is happy to do that.

There being no objection, the Senate, at 11:48 a.m., recessed until 11:50 a.m.; whereupon, the Senate reassembled when called to order by the Presiding Officer (Mr. Inouye).

UNIVERSITY AND SMALL BUSINESS PATENT PROCEDURES ACT

The Senate continued with the consideration of the bill (S. 414).

The PRESIDING OFFICER. Who yields time?

Mr. SCHMITT addressed the Chair. The PRESIDING OFFICER. The Senator from Illinois.

Mr. SCHMITT. Mr. President, I am happy to yield to the distinguished Senator from Illinois for the purpose of calling up his amendment.

The PRESIDING OFFICER. The Senator from Illinois.

UP AMENDMENT NO. 960

Mr. STEVENSON. Mr. President, I thank the Senator from New Mexico.

Mr. President, I call up an unprinted amendment from page 414.

The PRESIDING OFFICER. The amendment will be stated.

The assistant legislative clerk read as follows:

The Senator from Illinois (Mr. Stevenson), for himself, Mr. Cannon, Mr. Schmitt, and Mr. Packwood, offers an unprinted amendment numbered 960.

Mr. STEVENSON. Mr. President, I ask unanimous consent that further reading of the amendment be dispensed with.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment is as follows:


On page 26, line 9, strike "nonprofit organizations and small business firms" and insert in lieu thereof "government contractors."

On page 25, line 15, strike "and."

On page 26, line 17, strike "area." and insert in lieu thereof "area; and to assist in the accomplishment of the research and development missions of the Federal agencies."

On page 28, line 21, strike "nonprofit organization or small business firm", and insert in lieu thereof "government contractors."

On page 29, line 11, strike "nonprofit organization or small business firm", and insert in lieu thereof "government contractors."

On page 30, lines 16-15, strike "with a small business firm or nonprofit organization."

On page 38, lines 11-12, strike "small business firm or nonprofit organization", and insert in lieu thereof "government contractors."

On page 45, line 12, strike "small business firms or nonprofit organizations."

On page 48, lines 1 through 16; and on page 48, strike "d)" and insert in lieu thereof "b)."

Mr. STEVENSON. Mr. President, this amendment is offered on behalf of myself and also Senator Cannon, Senator Schmitt, and Senator Packwood.

The PRESIDING OFFICER. The amendment is intended to extend the Federal patent policy proposed in S. 414 for small businesses and universities to all Government contractors. This amendment would cause the bill to carry out its title. It would make patent policy consistent and uniform. The amendment would retain the bill's requirement for repayment to the Government when inventions lead to commercially successful innovation. It retains the Government's ability to license in cases where contractors fail to commercialize inventions in a reasonable time. It also retains the preference for domestic exploitation of inventions consistent with the bill. It would give the title to inventions to all contractors. The bill as it is establishes a policy which gives title to some but not other Government contractors.

This amendment is one product of 2 years of study of industrial technology and innovation by the Commerce, Science, and Transportation Committee, including four hearings on Government patent policy legislation.

In order for the public to benefit from inventions derived from Government supported research and development, they must be developed, marketed, and used. The Government can provide assured markets for some inventions by purchasing new products and services which can be marketed and used. The Government, for example, publicly funds space programs. In other cases, Government regulations effectively require producers to use an invention. But for new developments in health care and transportation improvements, civilian applications of military and space R. & D. and a variety of other domestic purposes, the Government depends on private markets to commercialize the technology it helps to develop. Private investors run some risks in turning these inventions into marketable products. The risks are especially high if their competitors can legally copy an invention because the Government refuses to allow a producer exclusive rights for the period necessary to recoup his investment. The principle of granting exclusivity in return for public disclosure and use of an invention is the very foundation of the patent system, but it is not recognized in many Government R. & D. grants and contracts. And so Government-financed inventions frequently go unused.

Between 1970 and 1975, the Government acquired title to more than 80 percent of publicly financed inventions. Less than 10 percent of the Government's patent portfolio has been licensed to private producers. Less than 6 percent of Government-owned inventions are used commercially.

Our capacity, Mr. President, to compete in a highly competitive world is eroding. The country cannot afford to abandon its inventions for commercial purposes.

This bill recognizes the need to exploit Government financed inventions, but it does not extend exclusivity to contractors. It establishes a Federal patent policy that discriminates among Government contractors on the basis of size, and their tax status. Small business and not-for-profit organizations get exclusive title to inventions. Agencies that do not grant exclusive title to contractors, including the Defense Department, continue to do so.

There is no rationale for this discrimination which grants title to inventions to small firms, nonprofit organizations.
and defense contractors and not to others. The testimony of Government and private sector witnesses before the Committee on Commerce almost unanimously opposed such a discriminatory Federal R & D policy.

The bill sets up categories of contractors depending upon the agencies with which they do business. It makes the Small Business Administration the authority to determine which businesses qualify as small businesses.

In the end, Mr. President, this bill, without the amendment, will require more unnecessary Government regulation and red tape, and it will penalize corporations for their success. As soon as they pass over the Small Business Administration's line and are no longer considered small business by that agency, they are deprived of exclusive title to Government financed inventions.

Our amendment gives the Route 128 companies in Massachusetts and the Silicon Valley in California the inducement to contribute to Federal R & D missions. It gives them incentives to commercialize the technologies which they develop.

In approximately 70 percent of the cases, large defense contractors already obtain unrestricted title to their inventions under DOD policy and will continue to do so under this bill.

Big businesses are able to obtain title from agencies, such as NASA, which have authority to grant it. They will continue to do so under this bill, and with no obligation to repay the Government. Our amendment would primarily affect the board range of medium-size firms engaged in energy, transportation, health, and other civilian research and development where the Government's programs are aimed at pressing national needs.

The Federal research budget of $29 billion includes nearly $10 billion for civilian research. It has authorized a massive investment in the development of synthetic fuels. The President has proposed a $500 million program to advance automotive technology. The Commerce Committee has passed legislation to support the development of new manufacturing and other generic technologies.

The country cannot afford patent policies which discourage the commercialization of inventions financed by the Government. The inventions in these areas are of special importance and they will be, to a very large extent, financed by public expenditure. And they will, to a large extent, go unused unless the amendment is adopted.

This issue has been on the agenda since the 1940's. Any number of commissions and studies have recommended a comprehensive, uniform patent policy. This amendment would, finally, establish uniformity and consistency. It would grant all industries the right to exploit the technologies they developed, while reserving to the Government its right to use the inventions.

S. 414, Mr. President, discriminates against all but the largest firms; if nonprofit organizations and small business firms are successful in commercializing or licensing their inventions, they will be required to pay back the Government a portion of their earnings. These "pay back" requirements would not apply to defense contractors or the contractors of other agencies with title waiver policies.

The policy would make the red tape uniform, the red tape should be eliminated. If the United States is to compete in this competitive world, it should encourage innovation by firms of all sizes.

Mr. President, this amendment is a test of the Senate's concern about America's ability to innovate, to produce and compete in a fiercely competitive world. I urge my colleagues to support it and then pass S. 414 so we can secure the benefits of publicly supported R. & D. for the Nation.

(Senator STEWART assumed the chair).

Mr. SCHMITT, Mr. President, I am pleased to associate myself with the remarks of the distinguished Senator from Illinois. I am pleased to join with him and the Senator from Nevada and the Senate Majority Leader in supporting this amendment to Senate bill 414, of which I am also an enthusiastic co-sponsor.

Adoption of this amendment would have the effect immediately advancing the benefits predetermined by the sponsors of this bill to all Federal contractors, regardless of size or profit status. Failure to modify S. 414 in the manner we request this amendment would further delay the development and diffusion of new technology into the domestic and export marketplace at a time when our Nation is facing ever-increasing technological challenges from our major foreign competitors. Both the distinguished Senator from Kansas (Mr. DOLE) and the sponsor of S. 414 (Mr. BAYH) have talked to this point very persuasively. Let us remember that the point will not be taken care of unless we deal with the majority of the American economy.

The bill under consideration today, S. 414, basically deals with small business and universities, which receives less than 20 percent of the entire Federal research and development funds, whereas, it all objectives the remaining 80 percent. The amendment proposed by the Senator from Illinois deals with that other 80 percent.

As I am sure most of my colleagues are aware, or are becoming increasingly aware, recent economic indicators of a broad variety suggest that the United States is experiencing a serious decline in the rate of technological innovation. One of the major factors contributing to the unbelievably high and increasing inflation rate is just this decline in technological innovation and the productivity that has accompanied it. For example, we are faced with a real decline in the rate of our national investment in Federal and private research and development at a time when our free world competitors are increasing their respective expenditures in research and development and in a coordinated, export-oriented way.

Capital investment in the United States is growing more slowly than it is elsewhere, and the U.S. trading position, even in many formerly safe high-technology areas, is declining. The number of patentable inventions made under federally-supported research has been steadily declining while the number of U.S. patents issued to foreign applicants has doubled in the last 14 years.

Statistics confirm that American productivity is growing at a much slower rate than the productivity of our major foreign competitors and is approaching a zero rate of growth.

For the past 2 years, the Senate Commerce Committee, in cooperation with the Senator from Illinois and the Banking Committee, has conducted an extensive review of the state of American technology and the role of the Federal Government in promoting technology utilization and the impact of these on our exports and our domestic economy. Witnesses before the committee have repeatedlyunderscored the need to stimulate the development and diffusion of new products and processes throughout our economy if we are to reverse the alarming downward trend in our economic growth and productivity.

Admittedly, the problems are varied and complex—overburdensome and costly regulations, lack of an overall trade policy, repressive tax policies, and inadequate funding of basic research, both public and private—to name just a few. Yet, too often, we seek solutions which require new and expensive programs rather than taking the time to reexamine and adjust existing policies which have been ineffective and oftentimes counterproductive.

My colleagues, the proposed legislation is the Federal Government's patent policy. This is one area where there has been a general consensus that existing Federal policies are ineffective and in need of revision with respect to the Federal Government's policy for managing the fruits of the billions of dollars of national expenditures on research and development, our Federal Government's policy is in serious need of revision.

Mr. STEVENSON. Mr. President, will the Senator yield for a question?

Mr. SCHMITT. I am happy to yield to the Senator from Illinois.

Mr. STEVENSON. I understood the Senator to say that the present patent policy has proved itself ineffective. Indeed, it has, in general, proved itself counterproductive. But it has the patent policy of the Department of Defense proved itself ineffective?

Mr. SCHMITT. The Senator raises an excellent point. The Senator from New Mexico was speaking in general, looking at the entire spectrum and hedgepodge of patent policies. I would grant all industries the right to exploit the technologies they developed, while reserving to the Government its right to use the inventions.

S. 414, Mr. President, discriminates against all but the largest firms; if nonprofit organizations and small business firms are successful in commercializing or licensing their inventions, they will be required to pay back the Government a portion of their earnings. These "pay back" requirements would not apply to defense contractors or the contractors of other agencies with title waiver policies.

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Mr. President, this amendment is a test of the Senate's concern about America's ability to innovate, to produce and compete in a fiercely competitive world. I urge my colleagues to support it and then pass S. 414 so we can secure the benefits of publicly supported R. & D. for the Nation.
tractor. In both cases, the statistics are extraordinarily persuasive that, by factors of four and five, the commercialization rate is higher when the contractor has title than when the Government retains title. That must be realized, whether we are talking about small business or large business, as the fundamental, factual evidence that requires a change in present policy.

Mr. STEVENSON. If the Senator would yield further, this amendment would simply extend the policy already proved effective to the other agencies of the Government. Would it not?

Mr. SCHMITT. That is entirely correct. Those agencies of Government that have had access to a title-in-contractor policy have found it extraordinarily successful. The testimony before our committee has been very persuasive on that point. Those agencies have supported a title-in-contractor policy, of course, with safeguards to the public interest. Where it is appropriate for the Government to retain title, those safeguards should be built in.

What we are saying is that the burden of proof should be on the Government.

Mr. STEVENSON. I thank the Senator and I commend him for his efforts.

Mr. SCHMITT. Mr. President, for more than a decade, Federal agencies have funded nearly one-half of this Nation's expenditures on research and development. During this past fiscal year alone, the Federal Government provided more than $29 billion in R & D support. Three-quarters of this sum is used in direct support of research in industry, universities, and other private sector laboratories.

As a result of this huge national investment, thousands of inventions are identified each year which have formed a valuable source of new products and ideas. The evidence is overwhelming, however, that overly restrictive patent policies have had a serious dampening effect on the commercialization of new technology and the willingness of American industry to participate in critical national research and development programs—of course, with the exceptions that the Senator from Illinois and I just discussed.

Mr. LONG. Will the Senator yield for a question at that point?

Mr. SCHMITT. I am happy to yield. Mr. LONG. I ask the Senator, can he point out just one thing, one invention, just one good invention, that has not been developed because the Government could not get the private patent monopoly to let someone develop it? Is the light bulb not developed? Does the Senator have any doubt?

Mr. SCHMITT. Yes. I have great doubt that would happen. It would not happen for this reason. The person with the greatest financial and intellectual incentive and motivation to commercialize the invention is the person who invented it. That is the basic reason why in the bill and in our amendment we are trying to give those people access to the title of their inventions. They are the ones who will see it move.

If we have an open license policy, the evidence is extremely strong in our testimony, which the Senator has participated in, that those inventions will not be commercialized, or commercialized at a very low rate.

Mr. LONG. If the Senator will yield further, I say to the Senator that I have conducted this study for the last five years myself. I have been involved in this fight for at least 20 years. In the whole 20 years, I have yet to see anybody show me one single example of something that is any good, that has not been developed because the Government could not give away a private patent monopoly. Not one example in 20 years.

Mr. SCHMITT. If the Senator will yield, it is impossible to show him one because they have not been commercialized.

Mr. LONG. It is very simple, there are not any. That is the reason.

All we have to do is just go back to all these patents, the Senator is talking about and find something that would really be a great thing for the public if somebody would develop it and bring in a witness to demonstrate that this is something feasible that should be done, but he is not willing to do it without a patent.

Every day of the week people go in business to produce almost anything in the public domain, and if it is not being produced by somebody else, they try to move ahead as fast as they can in the area before somebody else discovers there is a market for the product.

I do not care whether it is diet food or a new mouse trap. If we have something that is any good, people will be delighted to go into business and produce it.

But, on the other hand, when the Government has paid to develop something, to then say to the Government, you developed it; but to let somebody that did not develop it, that had nothing to do with it, go out, have a private patent monopoly, and make the public pay four or five times what it ought to cost, this consumer to buy that product, what is the sense of that?

Mr. SCHMITT. The sense is, and I think it is very clear, that if the Government really continues to sit on these inventions, the consumer is never going to have any access to them. The net result is that the increase in the GNP will never occur.

Look at what is happening to the patents we do grant abroad. The patents that can be taken abroad— and this happens—are, in fact, licensed and do get commercialized, but they do abroad, not here.

I yield to the Senator from Illinois. Mr. STEVENSON addressed the Chair. Mr. LONG. Would the Senator assume just one thing? Even something we took abroad. Name just one thing that could not be developed here in this Nation.

Mind, we have 50 years of history to look at. Just name one thing, even something we took abroad, that could not have been developed here, something that is any good, even if we use that loophole to go abroad with something that could not have been developed here in the public domain, just like anything else.

Mr. SCHMITT. There is absolutely no question that in theory the Government could become a member of the free enterprise system. But the Senator knows as well as I do that is why 30,000 patents are sitting on the shelf doing nothing. That is the problem. The Government cannot do it. If it could, it would have been done.

Mr. LONG. It is very simple, that 30,000 which nobody feels like doing anything with is junk, and that is why nobody cares to fool around with them.

But if we come up with Government research, paid for 100 percent by the public, if we come up with the big one, so that instead of having to take atomic power and put that atomic power under a boiler and heat some water and use the water to turn a turbine, and the turbine to generate electricity, we could just take the atomic power, put it against the electric wire, the transformer, and put the electricity into the wire, that would be worth about $100 billion. Mr. SCHMITT. That is not what we are talking about.

Mr. LONG. Does the Senator have any doubts it would be worth $100 billion? Mr. SCHMITT. It would be worth more than that.

Mr. LONG. All right. $100 billion. But the Government paid for it, why should the Government give away the $100 billion? They have already paid for it.

Suppose this little engineer comes up with this bright idea and he is on Lockheed's payroll. Lockheed is being paid and guaranteed a profit on the deal. The only way they could lose any money is to fall adrift and don't add up the columns of figures of how much the Government will pay them.

So when Lockheed hired this little engineer, he have contractor, which is customary, that Lockheed will get the patent.

The Government has paid for the whole thing, guaranteed Lockheed the profit. Lockheed cannot lose any money except by failing to bill the Government what it owes, and the little guy with the bright idea that invents this is worth $100 billion. He does not get it. Lockheed certainly has already been stated, to begin with.
Will the Senator explain, why should Lockheed get $100 billion when they could not invent it? Mr. President, the Government paid for the whole thing and guaranteed the person a profit, and it is this little guy, working for the Government in the last analysis, because the Government could not invent it or figure it out, and the Government is paying Lockheed a consumer and the American economy well as I do. Can benefit from that invention. The community came in and almost universally Mexico has held, before he came to the hearings the Senator from New many hearings. I have held many times say,

Mr. President, a recently released report on Government patent policy prepared by the Federal Council for Science and Technology concluded that there has been a steady decline in the rate of inventive activity by both Government contractors and Federal employees. The number of inventions resulting from the Government’s R. & D. effort has dropped nearly 50 percent over the period 1968 to 1975. Fiscal year 1975 marked the lowest number of inventions reported since data collection began.

Even more disturbing is the data which confirms that very few Government-acquired inventions find their way into commercial use. In testimony before our committee, NASA’s Deputy Counsel indicated that less than 1 percent of NASA-owned inventions are commercialized, whereas, up to 20 percent of inventions to which the Agency has waived title are in use. An extensive study conducted by Harbridge House in 1968 reported a doubling of the commercialization rate when contractors with commercial background positions are encouraged to retain title to their inventions. As a result of past Government patent policies, the Federal Government presently holds title to nearly 30,000 inventions of which less than 5 percent have been effectively utilized.

Mr. President, the reasons for the Federal Government’s poor performance in developing and marketing Government-sponsored inventions are manyfold—

First and foremost is the failure of existing Federal patent policies to provide the necessary incentives to stimulate the inventive activities and to develop new technology by the contractor. The vast majority of Government research contracts include provisions which require the contractor to turn over any inventions resulting from the contract to the Federal agency. The contractor typically is left with only a nonexclusive license. Experience has demonstrated that nonexclusive rights are an insufficient incentive to justify the private contractor’s investment of the millions of dollars often essential to develop an invention to the point where it is marketable.

Even the more flexible policies which permit a case-by-case waiver of the title to the contractor have proven to be unsatisfactory because of the high administrative costs and the uncertainty for the contractors. Delays attendant to the processing of normal waiver applications average between 10 and 20 months at the Department of Commerce. In testimony before our committee, Deputy Counsel indicated that the processing of waiver requests, and that the delays experienced in the contracting process as a result of this policy can affect the commercialization of the inventions involved.

To a certain extent Federal contractors are confused and discouraged by the absence of a single, uniform Government patent policy. Federal agencies currently operate under nearly 20 different statutory and regulatory directives, immumerable regulatory interpretations, and several policies which have been reported to take over 3 years. Agency officials concede that the waiver policies by necessity involve substantial burdens on both the Government and the prospective contractors with respect to the petitioning, negotiating, and determining waiver requests, and that the delays experienced in the contracting process as a result of this policy can affect the commercialization of the inventions involved.

An additional factor is the lack of certainty attendant to the contracting process. In dealing with those agencies that insist on acquiring title to all inventions arising out of the contract, the contractor is in the uncertain position of not knowing what rights, if any, he may subsequently acquire. This problem can be particularly acute where the contractor has a strong background position in the field of the research contract and is concerned about the loss of his exclusive background capability.

Mr. President, this is not a new problem. For the past 30 years, debate has raged over the need for a uniform and as a result of this policy can affect the commercialization of the inventions involved.

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Mr. President, this is not a new problem. For the past 30 years, debate has raged over the need for a uniform and as a result of this policy can affect the commercialization of the inventions involved.

I cannot be satisfied with the current provisions of the bill. As presently drafted, the bill would establish a uniform Government patent policy. Typically, the debate, and any hope for substantial patent policy reform, becomes bogged down in the "license" arguments. A hodgepodge of agency patent policies have been implemented over the years in the misguided belief that the "public interest" precludes the co-existence of public ideas. While the argument on its face may be appealing to some, I believe the evidence is overwhelming that Federal policies have failed to operate in the public interest. A body of case law from the Supreme Court, including the entire Nation which suffers from these misguided policies by the loss of potentially valuable new products and processes.

Mr. President, today the Senate is considering a bill, S. 414, the University and Small Business Patent Procedures Act, which would go a long way toward rectifying the present system which has been stymied for the past 30 years. I commend the Senators from Indiana and Kansas for their leadership and bipartisan support of this most important measure. As a cosponsor of S. 414, I continue in my support of the basic policy and objectives enunciated in this bill. Moreover, I recognize that the stated purpose of the bill is clearly stated in the preamble to the bill, S. 1215, the Science and Technology Research and Development Utilization Policy Act, which was referred to the Senate Commerce Committee. Our committee recently concluded 4 days of hearings on this bill and the subject of Government patent policy. The testimony we received during the course of these hearings from industry, business—both large, small, and medium size—and academia was overwhelming in support of a uniform Government patent policy that placed title in the hands of the contractor to subject to a case-by-case safeguard of the public interest.

In my opinion, Mr. President, S. 414 already contains the necessary provision to insure the protection of the public interest. It does so by providing the following: (a) of the bill would permit the Government to retain title to any invention in "exceptional circumstances" when it is necessary to promote the policy and objectives of the act. Moreover, (b) of the bill, the Government is authorized to "march-in" and require the contractor to license such an invention if the contractor fails to develop the invention or such invention is necessary to alleviate health or safety needs.

It is my own belief that these provisions are adequate to insure that contractors do not utilize exclusive rights to substantially lessen competition or otherwise impact adversely upon the development of new technology. Nonetheless, I would point out that S. 414 does include an additional provision to provide for a return of the Government investment when the contractor has been successful in its commercialization efforts.

While I support the basic objectives of S. 414, I am concerned that the bill does not go far enough. As presently drafted, this bill would establish a uniform Fed-
eral patent policy for small business and nonprofit organizations. The bill would not extend the same rights to other Federal contracts. The Senate will have any opinion as to which country is ahead, or moving ahead this year, only with the development of this high technology, and with the production facilities and the marketing structure?

Mr. SCHMITT. Unfortunately, the answer, again, is Japan.

Mr. STEVENSON. It does not take an expert—all you have to do is drive an automobile to form an opinion about the relative merits of automobile technology. How about lasers? I know that the Senator has a keen interest in that technology, for the future. In fact, he has held hearings on it recently. Are we still keeping our lead in laser development?

Mr. SCHMITT. Lasers is an excellent example of where a great deal of new, innovative activity is being undertaken under Government contract. But if the research and development technology developed outside the Defense Department will have a difficult time getting into our economy and very probably will be usurped by other nations that will recognize the value and undertake to gather the information, which they can get freely in scientific conferences and other mechanisms in this open and free society we have, and begin to take that technology away from us, as they have done in many other areas.

Those who would oppose either the basic bill, S. 414, or its expansion to the larger portion of the economy are defending the status quo, and the status quo has not worked. It obviously has not worked.

Mr. STEVENSON. I ask the Senator about robotics and the most advanced manufacturing processes. Our rates of productivity are declining. In other countries, they are increasing. Does the Senator have an opinion about the relative status of technology for the most advanced manufacturing procedures? Are we ahead of the world or is it moving ahead of us in this case, too?

Mr. SCHMITT. Once again, the Senator, I am sure, is aware of the answer. The rest of the world is moving and has moved rapidly ahead of us in advanced manufacturing techniques with the combination of microelectronics, to which he has referred, and new concepts of manufacturing and what he refers to as robotics. There is particularly a large effort in Europe, on small- and medium-sized machinery and large machinery of this kind.

All one has to do is to walk into the major manufacturing firms that recently bought equipment for manufacturing, and he will find where that equipment is coming from—from Europe and Japan. A very little of it is coming from this country.

Mr. STEVENSON. And they are developing fully automated manufacturing units, which they will sell worldwide and with Government support. I could prolong this. We could discuss the materials of the future. We could discuss ocean-bed mining. However, I cannot identify, on the basis of recent hearings, any technology outside of military and space research with some exception for space, in which, by the end of this year, the United States will have a preeminent position in the world. At the end of this year they will manufacture, produce, and sell nothing that is unique or of superior quality, and the rest of the world will continue to move ahead.

Mr. SCHMITT. In every instance in which we are under severe competition from other nations and industries, it is clear that the Government and business have found a way to work together in order to capture those markets, to do the basic research and development necessary to bring these new markets, to bring the inventions to fruition in the commercial sector, and to market those inventions throughout the world.

The Senator is correct: There is a cooperative relationship in other countries which has ceased to exist in this country. The patent policy is one example of that, but it clearly is not the only problem we must face in Congress—and we must face it very quickly.

Mr. STEVENSON. If I may indulge the Senator's patience, let me ask one more question.

The very distinguished Senator from Louisiana mentioned Thomas Edison. If Thomas Edison were today conducting research which produced the electric light bulb, in his laboratory, with little expense but at Government expense, would he not, under this bill, receive title to his invention?

Mr. SCHMITT. The chances are under this bill he would get title. The chances are under the present policy he would not unless he happened to be doing that for some reason for the Department of Defense.

Mr. STEVENSON. Let me ask the Senator, is Thomas Edison's counterpart, the researcher at his little laboratory today, conducting any of the research which we have mentioned, that is, producing the semiconductors, the computers, the biotechnological products, the lasers, and the automotive technology of the future? On the whole, is it being conducted today by small businesses?

Mr. SCHMITT. They may be a few examples of where that is happening, but the major new innovative technologies of which we have been speaking take such an immense investment of capital in order just to conduct the research and the preliminary development that it is beyond the capacity of the small inventor. It does not mean that there are not some very important
things happening within small business and certainly within the university community. But much of what the Senator is talking about, if it is happening in this country at all, it is happening in the big research institutions that are associated with contractors and under Government contract.

Mr. STEVENSON. Frequently, it must be because of the magnitude, the complexity and the expense involved in the kind of research at the cutting edge of technology in a highly developed world which did not exist a few years ago. I thank the Senator.

Mr. LONG. Mr. President, will the Senator yield for a question at that point?

Mr. STEVENSON. Could we yield on the bill?

Mr. BAYH. Mr. President, I am glad to yield to the Senator from Louisiana if we run out of time.

Mr. LONG. Mr. President, will the Senator yield for a question?

Mr. STEVENSON. Just as long as it is not on our time.

The PRESIDING OFFICER. The Senator is recognized on the time of Senator Bayh.

Mr. LONG. Let me ask the Senator. Is he seriously contending that if Thomas Edison had been working for the Federal Government when he invented the light bulb and the Government had taken title to the light bulb no one would have built a light bulb because he could not reap the public monopoly profits?

Mr. STEVENSON. No. I am contending that under this bill, it would be, as it was, developed. But today Thomas Edison and his laboratory do not even exist. Today much of the leading research is done in institutions such as Bell Laboratories. And often it does not take place in Bell Laboratories. It takes place in Japan. It takes place in West Germany. It takes place in France.

All one has to do is set foot on Constitution Avenue and he can see the results. He can go to the Finance Committee, which has jurisdiction over trade, and see the results.

Mr. LONG. Mr. President, if the Senator will yield for a question, is the Senator aware of the fact that the United States right now, so far as I know, is ahead of the whole wide world in the area of agricultural research? Our agriculture is the most productive in the world.

Mr. STEVENSON. In terms of gross production, yes, if one wishes to get technical.

Mr. LONG. In terms of efficiency, in terms of what the farmer produces, is the Senator aware of the fact the United States is ahead of the world right now?

Mr. STEVENSON. The Senator is aware that many countries produce more food per acre than the United States. I am aware of the fact that gross production is in the United States and much of that production is owing to Government-supported research.

Mr. LONG. The point I am getting to is that we produce more per worker than any nation anywhere in the world. We have better machinery and better agricultural machinery than anyone else. Generally we are just ahead of the whole wide world in agriculture. I wonder if the Senator inquired that. I wish to ask him if he does know it.

Mr. STEVENSON. I think that is, in general, true, but it is not that simplistic. Mr. LONG. Is the Senator aware of the fact that nothing abroad developed under Government research programs without private patents?

Mr. STEVENSON. No, I am not aware of that. We see the results of what has already happened, I think of some that originated in land grant college research with Government support. Much of it originated in USDA laboratories and was transferred free of charge, and we should continue with successful arrangements of that sort.

Mr. LONG. The point is we are ahead of the whole world in the area and we got there without giving away patents on any research financed by the Federal Government. Is the Senator aware of the fact that the law does not permit the Department of Agriculture to patent its research programs to give away private patents?

Mr. STEVENSON. And under this bill it would be permitted.

Mr. LONG. Why? Can the Senator show me anything, just anything that has been developed under any of these research programs that is not being developed because someone cannot get a private monopoly patent on it?

Mr. STEVENSON. The Senator does not recognize that the production of soybeans, which I am familiar, is a little different from the production of computers, let alone the most advanced aircraft, let alone the genetic engineering which could do more than anything that has already been done to increase agricultural production. The Senator is looking backwards. Senator SCHMITT and I are suggesting that, like the Japanese, we should be looking to the future. Our welfare in this world does not depend exclusively on our ability to produce food. The most undeveloped countries can produce food and, like Japan, they can incorporate high technology, including the technology that flows from Government supported inventions. The most undeveloped countries can incorporate high technology, including the technology that flows from Government supported inventions.

Mr. LONG. Mr. President, will the Senator yield for a question at that point?

Mr. STEVENSON. The Secretary for Agriculture will yield further, let me just ask the Senator: If we assume at Government expense someone develops something that is very good, worth hundreds of millions of dollars for a private patent, would it not seem fair that in view of the fact that the taxpayer pays for it but never gets a monopoly profit, should the taxpayer have a right to come in and propose that he be permitted to compete in producing a product? What is wrong with that?

Mr. STEVENSON. That is a great theory, but unfortunately, it has no value in practice, and that is why the country is not working, that the $100 million investment does not materialize and, therefore, the taxpayer pays for it but never gets a benefit from it nor does the consumer nor the economy.

It is a great program for Japan. It is a Japan-first program. It is a continuation of what we are doing in some agencies. We also have other agencies which have a ratio which is one to one to stimulate innovation and, therefore, a return to the taxpayer. The taxpayer does not get a thing from an invention that goes unutilized.

Mr. LONG. Mr. President, will the Senator yield for a question at that point?

Mr. STEVENSON. The sake of argument that somebody is interested in developing that bunch of junk over there to which reference has been made, a bunch of patents in which the taxpayer has any interest, I do not think they can make any money out of it and, therefore, they have not made any application to use it.

Let us assume for the sake of argument that we should just say, "All right,
all that stuff will be made available on a monopoly basis to anyone who wants a monopoly on this, provided, if he asked for a patent monopoly, if somebody else wanted to produce the same thing on a competitive basis and make it available to the public, I do not think we should have an opportunity to make an offer as well."

Why should we not have that right to make a better offer? Mr. STEVENSON. It is wonderful if it works, but that is the policy now, and it does not work. If you want to see what works, you can go to Japan and also to the Department of Defense.

Mr. LONG. Mr. President, it somewhat surprises me, and I would like to ask the Senator if it is correct, that he is of the view that the Japanese are making headway not because they are working like a bunch of beavers but because they are organized in a more monopolistic fashion than we are. Is that the Senator's argument?

Mr. STEVENSON. No, that is not correct, and I do not think that should be simplified the comparisons. Certainly one of the bases for harder work, more innovation, is a greater incentive to work. The fact that we are suggesting here, to provide a monopoly to someone to contract with the Government, to improve the quality of work for the Government, provide to innovate, and to commercialize. It does not reduce the amount of work that the Government gets whatever rights there may be and then does not utilize them or let anybody else utilize them, and by the time you get through the red tape nobody is who has done the work.

Mr. LONG. No, I ask the Senator, why is it that with all these defense contracts, and one would like to have private monopoly rights on them so they can work harder. And also to the Department of Defense. It is very important that we get through the red tape, nobody is who has done the work.

Mr. STEVENSON. Senator, why is it that with all these defense contracts, and one would like to have private monopoly rights on that invention? Why can they not produce one example after repeated challenges for the last 20 years before the committees? I know every time I was there I asked Why is it they cannot produce a single example to support their case after all these years?

Mr. STEVENSON. Well, we can if you want examples, although you are asking us the public he ought to have. But if you just want an example: The video tape recorder technology came from the space program, as I recall, but the equipment is also used in Japan or under license from Japan. Critical wing technology appeared on Russian aircraft before it appeared on American aircraft.

Mr. LONG. Russia does not give away patent monopolies. How can the Senator explain the fact that Russia did it? They cannot give away patent monopolies out there.

Mr. SCHMITT. Mr. President, if the Senator will yield, it is because they took it from us. We could not get it commercialized.

Mr. LONG. You would say that someone in Japan if he had a patent monopoly, he would develop something? What can you give as an example?

Mr. SCHMITT. It is happening every day. If the contractor has title and if he does not.

Mr. LONG. I believe I have the floor. The PRESIDING OFFICER (Mr. BRADLEY). The Senator from Louisiana has the floor.

Mr. LONG. The Senator wants to contend that there is something we knew about and the Russians knew about, and they did something about it and we did not. He takes an example of the Soviet Union, when the Soviet Union does not even have free enterprise, much less patent monopolies, so that the whole thing is in the Government as the Government has over there is concerned. This would tend to prove my point rather than his.

Sure, you may find something the Russians would do that we would not do. But the Senator has referred to about 30,000 patents out there that nobody is interested in; the Senator said that, in order to develop those patents, we have got to give private monopoly power on things yet to be invented. My reaction to all that is you just find any one of that pile of junk and see if you can find somebody willing to develop it, and if you can, I would be glad to go along and support legislation and say that here is somebody who would like to develop something and he is ready to make us the best offer. If so, OK, let us permit him to have it. What is wrong with that?

Mr. SCHMITT. Mr. President, if the Senator will yield. If you will let me get it in a timely fashion, it will show you a whole bunch of things to develop.

Mr. LONG. I challenge the Senator to show me one. You are the man who conducted the hearings and you are interested in; the Senator said that, in order to develop those patents, we have got to give private monopoly power on things yet to be invented. My reaction to all that is you just find any one of that pile of junk and see if you can find somebody willing to develop it, and if you can, I would be glad to go along and support legislation and say that here is somebody who would like to develop something and he is ready to make us the best offer. If so, OK, let us permit him to have it. What is wrong with that?

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Mr. SCHMITT. No. 1, that is the whole concept of the monopoly rights that are in this bill and should and shall then stay there. I am an owner of a patent that does not have that opportunity. And there is nobody suggesting that that should be changed.

What the Senator from Louisiana is suggesting is that the public should be denied the benefits of the research that is being paid for by taxpayers' money. That is what I am saying today. If the Senator likes the policy of today, then he must defend it. It is not working. Almost everybody testifying before our committee, and almost everybody who has written on this subject knows that present policy is not working and the Senator is defending present policy.

Mr. LONG. Mr. President, I am not defending what they are doing over there at the Department of Defense, where they are giving away monopoly contracts on Government research. I am not defending that. I always thought that was wrong.

I went over and told John Kennedy, when he was President, "You ought to stop that." He had the power of the President of the United States to sign executive orders to stop that giveaway and he ought to stop it.

Mr. SCHMITT. At least the public is receiving benefits from the research that is being done from the Department of Defense and other agencies are not getting the benefit.

Mr. LONG. The Senator has been challenged to produce one single example and he has not been able to produce it. I would be glad to keep this debate going long enough for him to go through that whole file of 30,000 patents sitting over there that he says have been developed to see if he can find something and make a convincing case that this is something that would have been developed. But you have to give somebody a private monopoly right in order to develop it and you cannot do that under the law. That being the case, "Sorry, but it can't be developed, so let's let somebody develop it.

Now, if the Senator can find one out of the whole 30,000 he refers to, then, in that case, the Senator from Louisiana would be willing to go along with him and say, "All right, let's say that that one can be parcelled out to just anybody who would like to get involved in it and just let him have monopoly rights. Because it looks like nobody wants to develop it, so he can have it.

But when you really get down to saying who ought to have these monopoly rights, Mr. President, in terms of equity, if you are going to give away something that belongs to Government, you must make a better case, or just as good a case, if you want to just give something away; to say that the scientist, the engineer, that guy gets it? He has been paid and I have been paid. I am not going to be able to have a private monopoly patent and get rich and he shouldn't be able to further enrich himself on that.

That is the logic that applies in this type situation, as far as the Senator from Louisiana is concerned. I have discussed this matter with the floor down through the years. I have made my views known to the Members on this Senate on occasion that the Government should spend large amounts of money in developing knowledge. But when we develop that knowledge, it ought to be freely available to all Americans.

I should be limited only to a few, claiming the fellow who got the advantage or somebody who comes up here saying, "give this to me."
mending a continuation of the status quo. That status quo is not working. It is my understanding that Senator Stevens is opposed to the bill that the Senator from Louisiana also is opposed to the bill that we are trying to amend, not just to our amendment.

Mr. President, the justification for the expansion of S. 414 to cover medium and larger businesses who are contractors to the Government, is still very, very good. In a recent "Dear Colonel" letter that the President put out opposing Senator Stevenson's amendment, one of the grounds that they gave in opposition was that small business is discriminated against and this would help to remedy that discrimination.

Mr. President, I agree that small business does have very special problems, and in the instance of the tax structure and the regulatory structure of this country they are discriminated against. As a member of the Small Business Committee and other committees, I hope that we can begin to do something about that.

It would be very comforting to know that we not penalize medium size and larger businesses in order to address a problem that is not a problem of patent policy. Current patent policy penalizes all business. Unfortunately, I fear that S. 414 would further the discrimination to patent policy by requiring small businesses and universities to pay recoupment which would not now apply to big businesses that receive title through some other policy to patents developed under Government contracts.

The Stevenson amendment would eliminate the discriminatory differential proposed for a Governmentwide patent policy different from that proposed in S. 414 or by the Stevenson amendment, but, nevertheless, which would provide exclusive rights to title, but exclusive rights in the field of use.

There are problems with that concept which I will not get into today, but, nevertheless, it appears that the Justice Department has overcome any questions they may have had with respect to anti-trust issues on this matter.

Maybe the most unfortunate argument that is put forward against this amendment is that it would be anticompetitive to small business. There is no evidence, Mr. President, no data, or other information, by our hearings or any other of which I am aware, that would support this claim. Experience would clearly indicate it is not a problem. The Justice Department apparently no longer believes that this is true since it supports the administration's bill, as I indicated earlier. S. 414 contains march-in rights which would guard against this possibility of anticompetitive behavior.

Patents cover only an infinitesimal area of technology and not something of the scale described by the Senator from Louisiana an often unfortunate misconception of what patents are all about. The patent clearly was designed by our forefathers as an incentive for the investor to commercialize and, indirectly, it can be assumed to be an incentive to competitors to come up with alternatives to that patent.

The World Intellectual Property Organization analysis of this issue was conducted by Harbridge House in 1969 and recently updated by the Department of Energy. They concluded that there has never been "little, if any, anticompetitive effect from contractor ownership of inventions."

I ask unanimous consent to have printed in the Record at this point testimony given by Mr. James Denny, Assistant General Counsel for Patents, which covers this issue very well from the perspective of the Department of Energy on the question of whether there are anticompetitive aspects of granting title to the contractor. His conclusion, as I have indicated, is that there is not.

Therefore, the testimony was ordered to be printed in the Record, as follows:

STATEMENT OF JAMES DENNY, ASSISTANT GENERAL COUNSEL FOR PATENTS

In an analysis of the issue, one always hears charges of windfall profits going to Government contractors, concerns expressed regarding Government giving away technology, suggestions that valuable technology is either being suppressed by industry or utilized in an anti-competitive manner, beliefs that making inventions available to all through Government ownership will achieve widespread commercial use. Government support, it is said, can break new ground not only in fact for these charges, concerns, and beliefs. Approximately 10 years ago, the Federal Council for Science and Technology supported the most comprehensive study ever conducted on the issue of Government patent policy—commonly referred to as the Harbridge House Report. This report made the following findings:

Government ownership with an offer of free public use does not alone result in commercialization of research results;

The commercial utilization rate of Government-claimed inventions was low (approximately 12 percent), but that the rate doubled when contractors with commercial backgrounds were allowed to keep exclusive commercial rights to the inventions;

Windfall profits do not result from contractors retaining title to such inventions; and

Little, if any, anti-competitive effect resulted from contractor ownership of inventions because contractors normally licensed such technology, and where they did not, alternative technologies were available.

In our effort to complete the report to Congress on the issue of mandatory or compulsory licensing, DOE recently funded an additional study with Harbridge House which is presently under analysis. This study shows that there are few, if any, adverse effects resulting in exclusive patent rights, and, in fact, indicates some stimulation of research occurs when exclusive rights are enforced. Accordingly, this data seems to reinforce the original study which found no anti-competition effects when exclusive rights were left with the contractors.

Mr. SCHMITT. Mr. President, I conclude by saying the arguments made against extending this policy more broadly than to just small business and universities just do not hold up. If we expect to have this country moving again in technology and productivity, in exports and in jobs, then we are going to have to move, not only in this area but in many others, to supply the incentives in the free enterprise system to all inventors to commercialize and utilize their products so that the taxpayers can benefit from their investment.

The taxpayer literally is not benefiting today from those investments except possibly in those areas concerning the patentability of inventions made with Federal assistance. It will, in my judgment, vigorously encourage the development and utilization of inventions arising from Federal Government sponsored university and small business research.

The problems addressed by S. 414 are clear and disturbing. The Federal Government, which co-sponsors research that leads to hundreds of valuable technological discoveries in such fields as medicine and energy, lacks the resources to develop and market a product. Yet, the Government, in most cases, retains patent rights to those discoveries and is unwilling to relinquish them. This situation discourages private industry from investing the money necessary for product development.

As many of my colleagues are aware, the Office of Patents and Trademarks is encountering severe difficulties. The case-by-case review of each patent application has resulted in lengthy delays. These delays have caused the United States to fall behind in its traditional role of international leadership in technological innovation. The number of patents issued each year has declined since 1973, while the number granted to foreign concerns has increased to 35 percent of all patents filed in this country.

Mr. President, we now have a situation where less than 4 percent of 30,000 patents held by the Government have been successfully licensed. These circumstances act as a significant deterrent to the participation of many of our country's leading scientists in high-technology careers.

More importantly, the absence of any incentive for commercial development in these areas costs the United States an
inestimable amount of potential revenue. In 1978, we suffered a $24 billion deficit on the importation of foreign manufactured goods. This growing deficit partially reflects stunted American technological development.

The ability of small businesses and universities to obtain patent rights is essential to the stimulation of private-sector interest in product development. This bill, S. 414, will enable them to obtain limited patent protection, if they spend private resources necessary for commercialization.

From my own State, Rhode Island, the presidents of Brown University and the University of Rhode Island have written me in strong support of this measure. Mr. President, I want to emphasize that small businesses, particularly, would benefit from S. 414. Currently, less than 4 Mr. LONG. The Federal research and development expenditure is directed to small businesses. The major reason that many innovative small companies have avoided Federal grants is the uncertainty that they would not be allowed to retain the patent rights on resulting inventions. The University and Small Business Patent Procedures Act would end this uncertainty.

I commend the distinguished Senator from Indiana (Mr. BAYH) and the distinguished Senator from Kansas (Mr. DOLE) for their leadership in this area and urge my colleagues to support the bill.

Mr. President, I thank the Senator from New Mexico.

Mr. LONG. Mr. President, how much time remains?

The PRESIDING OFFICER. The Senator from Indiana has 28 minutes and 51 seconds. The Senator from Illinois has 11 minutes and 53 seconds.

Mr. LONG. Mr. President, since the Senator from Indiana is not here, I assume I have the right to use the Senator's time.

There is here. I should like to have an additional 6 minutes.

Mr. BAYH. Mr. President, I yield 6 minutes to the Senator from Louisiana.

Mr. LONG. Mr. President, the Senator has made reference to the fact that the Constitution states that Congress would have the right to pass legislation conveying patents. As a student of the Constitution, it seems to me that what clearly has to do with the general traditional concept that when a person does the inventing at his own expense, as an incentive for innovation and an incentive to make invention, that person could be permitted to have a private patent on something that he invents that will be of patentable novelty. That is how the patent law has worked for many years.

Mr. President, I honestly doubt, and I would challenge the sponsors of the proposal for private patents of Government research to find anywhere, in the history of our Constitution or the Founding Fathers ever conceived of an idea where the Government would pay for all of this, that the Government would pay citizens money for the research, and then give away a private patent monopoly to anybody, be it a contractor or anybody else, so that that person can exploit the public in the understanding that the people have paid to invent.

Mr. President, the idea of public taxation for private gain is contrary to every concept of democracy. In a democracy, you are not going to give the people for the private advantage or the monopoly advantage of the few. That is what we would be doing. Mr. President, if we said that we shall give General Motors a contract to develop something of tremendous benefit to the public, pay them a guaranteed price, then, if they find and develop something worthwhile, give them the right to charge the public through the nose to pay for something that has been developed at public expense.

The Atomic Energy Commission was established during World War II—at least, the Manhattan Project, which led to the Atomic Energy Commission. At that time, Congress very wisely realized that here we were going to develop a weapon that would probably never be developed of which we would like. We would like to have the benefit of that for which the public has paid.

Now, other nations were engaged in this endeavor at the same time we were working at it. Germany tried it, and perhaps others, but the United States led the way. The United States not only went out front, but stayed out front, year after year, in the people's use of atomic power in situations where the Government did not give any patent rights to any group to exploit the public.

When the public has paid for the research, the public is entitled to the benefit of it. And some of this stuff does not come cheap. Mr. President, this Government is spending, and will continue to spend many billions of dollars on research. That being the case, the Government should keep it, and they should not have to pay anybody, be it a fine organization like General Motors, a credit to the free enterprise system, or a small business, Mr. President, for the benefit of that for which they have already paid.

They have paid for it once. They have paid for the research, they have bought the research. They bought the right to use all of it, however the public should desire.

Then to suggest, Mr. President, that the people of this Nation should not have the unfettered use of it, but that, instead, it would be given away—literally given away—as some Government favor, on any basis, I do not care where it is the contractor, the engineer, or anybody else, is contrary to the concept that, in a democracy, all are entitled to have the benefit of that for which they have paid.

The PRESIDING OFFICER. The Senator's 6 minutes have expired.

Mr. BAYH. I yield 2 more minutes, Mr. President.

Mr. LONG. So, for us to suggest now that all of these billions of dollars will be spent, and then people will be permitted to make a fortune out of it, at the public expense, Mr. President, is contrary to everything that dedicated public servants are taught to be working for, in my judgment.

Admiral Rickover gave us an example that would cause anyone to take pause about some of this.

I would like to bring it about a family of doctors who first developed the forces to help in child birth. A very simple invention, but it saved the lives of many mothers, and the lives of many children. Those people kept that in their family for generations. They were preeminent in the field of childbirth because they had these forces, and they worked. They kept it a secret in the family for generations.

Think of the needless suffering that occurred. Think of all the mothers and children who died because these people, having this knowledge, were unwilling to share it with their fellow man.

The PRESIDING OFFICER. The Senator's 2 minutes have expired.

Mr. BAYH. I yield the Senator 2 more minutes.

Mr. LONG. But, Mr. President, at least, these men developed that themselves. They did not develop it at the taxpayers' expense.

But here we have a proposal that someone who is a beneficiary of a contract, usually they make proposals to the Government, but they do not have to bid on a competitive basis and will be unwilling to have to be able to prove that the Government is going to get more, putting the money with this contractor or that contractor. They come in here and have been given a favor when they are selected to be the contractor, to begin with.

Most of these contracts call for a guaranteed profit. So, that they get this contract with a guaranteed profit, they do not have to do the research. Then, having developed something that conceivably can be of untold benefit to all citizens, to make sure citizens of this country pay over and over again for something, when they paid for it to begin with, is contrary to every concept of justice and fairness in the law.

Mr. President, I wish the sponsors of this legislation, who would contend we cannot get people to develop something, I wish we could get them to take this Government research to do something because the contractor cannot develop anything. I wish they would go down and do some research to try to prove a single case, just one, to prove their point.

I would be glad, Mr. President, if they could produce it, to join with them in saying that anybody, whoever they would like to give it to, can have it, no cost, just give it to him. I would be glad to have them do it, but they cannot produce a single example.

The PRESIDING OFFICER. The Senator's time has expired.

Mr. BAYH. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER. The Senator will state it.
Mr. BAYH. What is the time situation? The PRESIDING OFFICER. The Senator from Indiana has 18 minutes and 10 seconds. The Senator from Illinois has 11 minutes and 51 seconds.

Mr. BAYH. Mr. President, the distinguished Senator from Louisiana has been very articulate, but we have some others who would like to have time if he is through.

Mr. LONG. I am finished.

Mr. BAYH. Mr. President, I yield 10 minutes to the Senator from South Carolina.

Mr. LONG. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER. The Senator will state it.

Mr. LONG. Mr. President, have the yeas and nays been ordered?

The PRESIDING OFFICER. The Senator from South Carolina.

Mr. THURMOND. Mr. President, I rise in opposition to the amendment offered by the distinguished Senators from Illinois and New Mexico, Mr. STEVENSON and Mr. SCHMITT.

I do so reluctantly because the amendment would extend the new patent policy procedures of S. 414 to a broader range of American industry. The United States is now losing the technological battle. Japan and Western European nations are fast becoming the world leaders in technological advancement. Senator SCHMITT's amendment would go a great step forward in once again making America the No. 1 innovator and innovator in the world.

Mr. President, our current patent policy is not serving America's needs. It is a policy that frustrates innovation and new technological advancement. Almost 30,000 patents, created through Government grants, rest unused in the Patent and Trademark Office. The Stevenson-Schmitt amendment could help reverse that situation. I am sympathetic to it, but cannot support it as an amendment to S. 414 at this time. There are several reasons for my opposition.

First, as I understand the situation, any expanded coverage of S. 414 will result in its being killed in the House. Any delays would not help the chances of S. 414 getting passed this year.

Second, I am told there are still unresolved issues surrounding the original Schmitt bill, S. 1215, which is pending before the Senate Commerce Committee. Therefore, I think it would be better for the Senate to consider a bill that has been fully discussed and considered in committee.

Finally, Mr. President, I have generally taken the position that the committee system should be respected whenever possible in decisions when events move so swiftly that time is of the essence. But in this case there seems to be ample time for the Commerce Committee to consider Senator Schmitt's legislation this year and report it to the Senate floor. I believe it is the best way to proceed in this particular case.

Mr. President, for these reasons I am opposed to the Schmitt amendment.

Mr. President, I ask unanimous consent that the Senate from Indiana, (Mr. HATCH) be added as cosponsors to S. 414, the University and Small Business Patent Procedures Act.

The PRESIDING OFFICER. Without objection, it is so ordered.

UP AMENDMENT NO. 991

(Purpose: To provide for clarification of the word "person" to a funding agreement.)

Mr. THURMOND. Mr. President, the distinguished Senator from Utah (Mr. HARKIN) has been delayed on his way back to Washington, but has an amendment he would like to offer to S. 414.

To amend the bill so as to clarify the use of the word "person" in section 201 (b) and would make no substitute change in the bill.

This amendment has been agreed to by the majority manager of the bill (Mr. BAYH).

Mr. BAYH. Mr. President, if the Senator from Utah will yield, I have no objection to this amendment. That is a perfection of the bill at large.

I do not know what the parliamentary procedure is, but I have no objection to accepting it.

Mr. President, I ask unanimous consent to revise the bill and incorporate therein the modification proposed by the Senator from South Carolina for the Senator from Utah.

The PRESIDING OFFICER. It would take unanimous consent to set aside the pending amendment and adopt another amendment.

Mr. BAYH. Mr. President, I ask unanimous consent that the present amendment be temporarily set aside, that the Senator from South Carolina's amendment, proposed for the Senator from Utah, be added to the original text of the bill sponsored by the Senator from South Carolina for the Senator from Utah.

The PRESIDING OFFICER. It would take unanimous consent to set aside the pending amendment and adopt another amendment.

Mr. BAYH. Mr. President, I ask unanimous consent that the present amendment be temporarily set aside, that the Senator from South Carolina's amendment, proposed for the Senator from Utah, be added to the original text of the bill sponsored by the Senator from South Carolina for the Senator from Utah.

The PRESIDING OFFICER. Without objection, it is so ordered.

The clerk will state the amendment.

The assistant legislative clerk read as follows:

The Senator from South Carolina (Mr. TAWAKOLI) and the Senator from Utah (Mr. HATCH) proposes an unprinted amendment numbered 991:

On page 27, line 5, strike out "person" and insert in lieu thereof "contractor".

On page 27, line 12, insert a small business firm or organization immediately after "person".

The PRESIDING OFFICER. Without objection, the amendment is agreed to.

Mr. BAYH. Mr. President, I ask unanimous consent that Mr. Allen Neece, of the Small Business Committee, have the privilege of the floor during debate on this bill and amendments thereto as the PRESIDING OFFICER. Without objection, it is so ordered.

Mr. NELSON. Mr. President, I congratulate my distinguished colleagues from Illinois and New Hampshire (Mr. HUMPHREY) and the Senator from Minnesota (Mr. BOSCHWITZ) be added as cosponsors to S. 414, the University and Small Business Patent Procedures Act.

When Senator Bayh and I introduced a series of patent law reform bills last year, we did so in the interest of correcting the problems being created by the current maze of patchwork patent arrangements and in particular, of the problems these arrangements are creating for small business. The bills we introduced, S. 414, the University and Small Business Patent Procedures Act; S. 1679, the Patent Law Amendments Act; and S. 2079, the Independent Patent and Trademark Office Act, would go a long way to correcting problems in our patent system. Both S. 414 and S. 1679 have been incorporated as amendments to the Small Business Innovation Act which I introduced last year and which is supported by 20 of my colleagues.

The University and Small Business Patent Procedures Act makes it possible for all small businesses to retain exclusive patent rights on inventions made under federally supported research. The Patent Law Amendments Act enables the Patent and Trademark Office to arbitrate patent disputes and thereby reduce the cost of patent reexaminations.

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In Small Business Committee hearings witnesses have repeatedly pointed out that one of the greatest discouragements to innovation is a prohibitively costly, un­dependable, in­

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In the meantime, productivity growth in the United States—a key source of our economic growth in the early sixties and a remarkable achievement of American prosperity—has come to a virtual standstill. By last year, the growth rate had dropped so drastically that we trailed all of our major foreign competitors, including Britain. Then, last week, the Labor Department reported an absolute decline in output per work-hour of nearly 1 percent in 1979—only the second time since World War II, and the first in a period of economic growth rather than recession. Combined with high inflation, which itself also fuels, the productivity slump is gradually eroding our standard of living and ability to generate new jobs.

The solutions lie in increased investment in new plants and equipment, new products, and new firms. They lie in reform of economic and environmental and safety regulation. They lie in consolidation of industry, trade, and technology analysis and promotion in a single Federal Government. They lie in cooperative efforts to develop new manufacturing technologies, as we propose in S. 1250. They lie in efforts to small-business investment and growth.

But, in no small part, the solution also lies in encouraging the widest possible use of Government-supported technologies, removing disincentives to participation in Federal research and development programs, and promoting collaboration, rather than antagonism, between Government and industry.

We are, therefore, encouraged that the Senate Judiciary Committee has recognized the contribution of technology to economic revitalization, and has taken a lead in reforming Federal patent policy. We commend Senator Byrd, as well as Senator Schmertz, for their initiatives in this area, and for their efforts to remedy the problems of the patent system. And we are merely appointed that the bill reported by the Judiciary Committee, S. 414, addresses only part of the problem that its sponsors acknowledge and have attempted to resolve.

In the course of our innovation study, the Commerce Committee has held 4 days of hearings on Government patent policy, the most recent one in cooperation with the Judiciary Committee. The committee has heard testimony from representatives of universities, venture-capital investors, and businesses of all sizes, as well as officials of the Department of Defense, Department of Energy, Department of Commerce, and the National Science Foundation. With a single exception, the witnesses strongly endorsed the principle of allowing exclusive commercial use of Government-supported inventions as a necessary incentive, in most cases, to provide development. Overwhelmingly, they favored a policy of granting title to contractors without discrimination on the basis of size or tax status.

The amendment I am cosponsoring with Senator Packwood, Senator Stevenson, and Senator Schmertz would simply extend the policy of S. 414, and the policy followed by the Department of Defense in the vast majority of military R & D contracts to the remainder of Federal research and development transactions. It would allow contractors of all sizes, and primarily those engaged in energy, transportation, health, and other vital civil research and development, to acquire title to the inventions they make under Federal grants and contracts.

We recognize the contributions of small businesses and universities to industrial innovation and competitiveness, and encourage them. Small businesses' share of Government R & D procurement is pitifully low and ought to be increased. The President's economic policy must, to an extent, encourage small businesses and universities to be more productive, more innovative, and more competitive. We fail to accomplish that if we ignore firms which, taken as a whole, have a much larger share of Federal R & D contracts, and a greater impact on the Nation's ability to produce and compete.

Our amendment would accomplish a second important purpose. It would remove inequities by extending other provisions of S. 414 across the board. All contractors, not just small business and universities, would be required to pay the Government a reasonable share of their returns on successfully commercialized or licensed inventions. All contractors, not just small businesses, would be required to observe the preference for domestic production and with technologies developed with public funds. Together with the Government's right to require licensing in cases where contractors fail to commercialize inventions in a reasonable time, these provisions adequately protect the public interest. And, they are fair so long as they, too, are applied on a non-discriminatory basis.

For these reasons, I urge my colleagues to support our amendment, and S. 414, in order to increase the return on the public's investment in research and development, and benefit the Nation's economy.

Mr. STEVENSON. Mr. President, how much time remains to me?

The PRESIDING OFFICER. The Senator from Indiana has 11 minutes and 51 seconds. The Senator from Indiana has 5 minutes and 55 seconds.

Mr. STEVENSON. Mr. President, I do not intend to take any more time to debate the amendment.

I commend my good friend the Senator from Indiana for his efforts which have led the Senate to its consideration today of S. 414. I believe our objectives are the same. We differ somewhat in method and the extent to which we feel it appropriate to pursue those objectives at this point.

I am especially grateful to him for his expressed interest in cooperation on further attempts to assure that supported research does produce increases in productivity and innovation for our economy.

As he mentioned, there is a bill on the subject that is pending in the Commerce Committee. However, it has been referred jointly to that committee and the Committee on Governmental Affairs, so there are as least three committees with some jurisdiction on this subject.

We have spent more than 2 years on this matter in the Commerce Committee and already have held 4 days of hearings on the proposal now incorporated in my amendment. Many members of that committee, including its chairman, are strongly of the opinion that we need to do far more to assure that Government-funded research is commercialized.

So I do welcome the expression of interest by the Senator from Indiana in continued cooperation and in working on the subject. As long as this amendment is not adopted today, this will be but one step toward our objective. Indeed, even if the amendment I have offered is adopted, there have not been exhausted. More would remain to be done to improve Federal patent policy.

This amendment is a modest step and far short than many of us in the Commerce Committee would like to do to insure that publicly-financed research and development benefits the American public rather than our foreign competitors.

With that, I am prepared to yield back the remainder of my time.

Mr. DOLE. Mr. President, will the Senator yield?

Mr. BAYH. I yield to the distinguished Senator from Kansas.

Mr. DOLE. Mr. President, I vigorously oppose the attempt that is being made by my distinguished colleagues to amend the pending legislation in the Commerce Committee which would like to do to insure that publicly-financed research and development benefits the American public rather than our foreign competitors.

With that, I am prepared to yield back my time.
persons other than nonprofit organizations or small business firms. This translates in the fact that S. 414 changes nothing in the instance, or can vary according to gross sales, anywhere between $2 million to $22 million. There are about 10 million “small business” firms in this country, in addition to 3 million farmers classified as small businesses. Ninety-seven percent of firms in this country are small businesses, accounting for 43 percent of the gross national product.

The Senator from Kansas urges his colleagues to join him in opposing any amendment designed to alter the purpose and the contents of S. 414. I point out, in addition, that Senator Sasser’s amendment has not been studied by the Judiciary Committee to the extent that it can be attached to S. 414.

Byrd, Armstrong, and the Senator from South Dakota (Mr. McGovern) and the Senator from Montana (Mr. Metcalf) are necessarily absent.

Mr. CRANSTON. I announce that the Senator from Tennessee (Mr. Baker) and the Senator from Utah (Mr. Hatch) are necessarily absent.

With a further point of order that, if present and voting, the Senator from Utah (Mr. Hatch), would vote “yes.”

The PRESIDING OFFICER. The question is on agreeing to the amendment. On this question the yeas and nays have been ordered, and the clerk will call the roll.

The assistant legislative clerk called the roll.

Mr. CRANSTON. I announce that the Senator from California (Mr. Inouye), the Senator from Massachusetts (Mr. Kennedy), the Senator from South Dakota (Mr. McGovern), and the Senator from Montana (Mr. Metcalf) are necessarily absent.

Mr. STEVENS. I announced that the Senator from Tennessee (Mr. Baker) and the Senator from Utah (Mr. Hatch) are necessarily absent.

Mr. President, despite these impressive contributions by small, innovative businesses, they are being squeezed out of our national research and development picture. They receive an inadequate and disproportionate share of Federal research and development money. They are prejudiced by regulations and a tax structure which encourages profit at the expense of long-term growth, thereby diminishing the firm’s desire to take major risks and plan for innovation.

In addition to assisting these deserving,
small, innovative firms, S. 414 will further basic research, most of which is carried out by universities. While the goal of basic research is to add to our knowledge of the areas under study, it is not uncommon for a potentially patentable invention to arise as a by-product of this effort. Because of the amount of public funds invested in research programs in medicine, energy, and the basic sciences, Federal patent policy may well determine whether these potential inventions must be handled. There are many delays and disincentives in the procedures which must now be followed, procedures which in general frustrate the goal of getting a worthwhile product into the marketplace at a reasonable price. These problems will be remedied by the provisions of S. 414.

Most inventions arising out of university research need a great deal of development and testing before they are ready to be marketed. A new drug, for example, frequently requires careful testing on laboratory animals. If successful, years of carefully controlled clinical trials will follow. This involves an investment which not infrequently exceeds $1,600,000, or more. After this, the developer will invest the time and money to bring the product to the marketplace only if there is a reasonable certainty that the investment will be recovered through sales.

Supporters of the existing Federal patent policies argue that a loosening of the Government's control over such patents could result in "wasteful proliferation of those who bring the products to the marketplace. S. 414 addresses this concern by providing for reimbursement of the original Federal investment if income from licenses or sale of products exceeds specified levels within a 10-year period. Existing Federal policy as implemented by some Federal agencies requires a review of each invention before decisions regarding title and licensing are made. In some cases, title remains with the Government, and nonexclusive licenses are offered to any firm. In recent years, the agency review takes months or even years. The result is that potentially beneficial ideas or products remain unused or reach the market years later than they might. By granting ownership to the universities first, these companies the right of first refusal for patents arising from their Federal grants or contracts, S. 414 remedies this defect in present Federal patent policy.

Mr. President, I urge my colleagues to support this legislation. We must enact meaningful reforms to encourage the expansion of small innovative firms and to assist universities. S. 414 will go a long way toward meeting this goal. Mr. HATCH. Mr. President, the author of a recent Harper's magazine article is quoted as saying, "Invention absolutely depends on the willingness of the government to allow the future to prevail..." Mr. President, we must be willing to bring on the future, and we must do it by removing our outdated, institutionalized barriers to innovation. I, for one, am ready for that long overdue Yankee ingenuity to come home again.

We have witnessed an unusual phenomenon in recent years: The dominance of the U.S. share of the world's innovation market has begun to dwindle. Since the 1950s, the United States has declined from 80 percent of the world's major innovations to 67 percent in the mid-60's to about 50 percent today. An obvious reason for this alarming trend has been the decline of domestic research and development investment during that same period, while foreign R. & D. investment sharply increased.

Mr. President, small, innovative companies accounted for over one-half of this country's major innovations over the past two decades. Why are these small businesses, who have been highly successful in the past, allocating fewer of their dollars for research? A prime factor is Government bureaucracy. Currently there are 2 dozen different patent policies administered by 2 dozen different agencies. These agencies hold R. & D. funds while applying many different license retention policies. Is it any wonder that a small business would turn its back on R. & D. funds which are conditioned upon an endless maze of redtape?

These small businesses are the very lifeblood of our innovative success. A recent National Science Foundation study indicated that the same firms which have given us half of our major innovations also produce four times as many innovations per R. & D. dollar as big businesses. And over the last decade these same firms have been responsible for the creation of 86 percent of our private sector employment, while the top Fortune 1000 have accounted for only 4 percent of the job growth for the same period.

Mr. President, the conclusion is inescapable: R. & D. funds provided to the most dynamic sector of our economy—small, innovative businesses—is the most efficient way, perhaps the only way, to innovation leadership, increased employment, and economic growth.

Mr. President, as a member of the Judiciary Committee, and as an original cosponsor of S. 414, the University and Small Business Patent Procedures Act, I feel we have been able to fulfill an important need. No longer will small business be faced with a myriad of Government patent policies, but rather, we have provided for a uniform, Government-wide policy for inventions of nonprofit organizations, universities, and small businesses created with the help of Government-supported R. & D. programs.

This uniform policy also affects Government-licensing agreements. No longer will 96 percent of Government-sponsored patents gather dust, but rather, licensing agreements will encourage utilization and commercialization of Government-supported inventions.

Mr. President, this bill is a great effort at removing a major barrier to the inventive genius of America. In a very real sense, it promotes a Government policy of "allowing our future to prevail." Our Yankee ingenuity will do the rest.
had an opportunity to take a good look at it and to make my plans to offer amendments and to oppose the bill if the bill could not be amended.

I must admit that I am guilty of oversight or forgetting about something, just like anybody else does. I neglected to mention that when I saw him. So, perhaps my rights have been prejudiced purely as a result of my own fault; the Senator from Louisiana simply not informing the majority leader of his concern about the matter.

But I am very much concerned about this measure. I would have to oppose the measure and offer amendments, with very little preparation, to do the best I can to protect the public interest, as I see it, if the Senate insists on going forward with this measure this afternoon.

The Senator from Louisiana is the chairman of the committee on the windfall profits tax bill. That is something of a priority matter. The Senator from Louisiana would like to attend that conference if he cannot make the time to work on resolving the differences on that bill, hoping that we might be able to resolve the differences on that bill this week. But he will not be able to do that, he will be in Louisiana. That is why the Senator wants to stay with this bill.

Mr. ROBERT C. BYRD. Will the Senator answer a question?

Mr. LONG. Mr. President, I do not understand the Senator to mean that he intends to oppose the bill and defeat the bill.

I should like to have an amendment that we could vote on that would take care of his concerns about the bill and dispose of that amendment within the next half an hour or so, so that we could vote on the bill and get on with the other bill?

Mr. LONG. Mr. President, I do not have an amendment in the nature of a compromise. This Senator is not as concerned about the measure as permitting private patent rights on Government research to be the exclusive right of a university, especially if the university were given the right to license it out to people who would like to develop that invention. He would not have nearly the objection to that that he does to letting other companies, private corporations, organizations for profit, have the benefit of Government research to gain monopoly rights for their private advantage.

I hope the Senator would fulfill the commitments that he has made to others about bringing up certain other legislation, and that would give us some time to look at this matter and see to what extent we might be able to resolve our differences before we finally vote on the bill.

Mr. BAYH. Mr. President, I did not want to interrupt the Senator, but I feel, as many others who have been involved in this legislation for a good long period of time, that I should at least make some comments here. The Senator from Kansas has been equally involved, as well as certain other colleagues.

I shared the concern of the Senator from Louisiana about the previous amendment. Basically, it was because of the concern which he instilled in me probably 10 or 15 years ago, and which we were previously discussing in relation to the Stevenson-Schmitt amendment that led the supporters of S. 414 to limit its coverage to small businesses, universities, and nonprofit organizations.

To address the concerns which the Senator from Indiana shares with the Senator from Louisiana, that we provided a recoupment provision in S. 414 so that we would not be led down that winding road, even if it is the Red Cross or Louisiana State University or Purdue University, whoever might get it, they have to repay the cost of that research if they begin to tap substantial profits from the discovery.

I was hopeful that this might relieve the concern of the Senator from Louisiana. Certainly, he is within his rights to utilize his parliamentary right to amend the bill. As concerned as I am with this legislation which has been reported unanimously out of the Judiciary Committee and has been pending now for 3 months and, anxious as I am to vote on it, I guess there is not a whole lot I can do, except to try to appeal to the understanding and the sense of fairness of the Senator from Louisiana.

Mr. LONG. I was not aware that this bill was going to be called up today. I indicated that I cannot complain about not being present to protect my rights.

But, in the last analysis, what we ought to try to do here is to decide what is best for the Nation. This should not be decided on the basis of who is right, but what is best for our country.

I really, honestly feel that the situation is such that those who feel as I do ought to be offered at least 24 hours to see what we can do about resolving our differences.

I know the majority leader is not one who believes in running over opposition roughshod. I have seen him do it sometimes, but he does it only when he finds it necessary.

I think the Senator should move on to the other measures that Senators wish to discuss. I hope that, maybe between now and the time we finally vote on this measure, we might come to terms on some accommodation that might satisfy everyone involved in this matter.

It is true that this measure has been on the calendar for some time, but this Senator did not expect it to be called up at this point. He was very busy with other matters.

Mr. President, I suggest the absence of a quorum without it being charged to either side.

The PRESIDING OFFICER (Mr. DeConcini). Without objection, it is so ordered.

The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. LONG. Mr. President, I ask unanimous consent that the quorum for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.
advantaged the distinguished Senator from Indiana. He accepted it in the finest spirit. I see that the Senator from Louisiana has some problems with this bill now and, as is characteristic of the Senator from Indiana, he is willing to try to work out these concerns with the Senator from Louisiana.

It will take some time. In the meantime, we shall proceed with the FTC bill and dispose of it on Friday or before Friday noon. At that time, the patent bill automatically will come back before the Senate. If the two Senators are still working on this matter, I shall do everything I can temporarily to lay this patent bill aside further so that they will have more time. But eventually, the Senate ought to dispose of the bill.

It was called up in good faith. The agreement was gotten in good faith; nobody charges anything to the contrary. But I feel obligated to try to dispose of the bill at some point. I think both sides ought to have a reasonable opportunity, however, to work out their concerns. I am prepared to move to the other bill as soon as the distinguished Senator from Indiana speaks to the matter.

Mr. BAYH. Mr. President, I appreciate the ability of the impossible task that our distinguished majority leader, the Senator from West Virginia has, in trying to reconcile the different interests, different positions, different schedules, different workloads of all of us who are trying our best to fulfill our responsibility. I think it would not be wise to insist on getting a vote, a passage vote, on this measure at this time because of the concerns of the Senator from Louisiana.

I think the matter before us is important, certainly the FTC measure is important; the windfall profits tax being worked on by the Senator from Louisiana is important. Certainly, there is no other than the Senator from Louisiana, so I am sympathetic to him. I hope in the interim, we can do our best—I know the Senator from Louisiana will, but I hope other Senators will, also to work out an agreement for speedy consideration of S. 445.

I say to the Senator from Louisiana and the majority leader that I have a little obligation to those people who have been counting on me to be the chief spear carrier on this measure. We have had hearings in the Committee on the Judiciary, we reported it out without any dissenting votes. It has been out here for 3 months. I should not want anyone to interpret my willingness now to accommodate the Senator from Louisiana as being a retreat from the bill, because I think S. 445 is important.

In the debate that transpired on the Stevenson-Schmitt amendment, there were several questions—I thought good questions—raised by the Senator from Louisiana about the inability to get patents covered in inventions from the large companies and small business. Some of them involved a diagnosis for cancer that has not yet been marketed because of HEW patent policies. I think we can deal with that issue. The large businesses and universities and nonprofit organizations are concerned about the satisfaction of the Senator from Louisiana.

I hope the payback provision in our bill, under the agreement, will enable the Senator from Louisiana to recover the money invested in the initial research will satisfy him. If not, I hope we can at least agree to disagree and let the Senate work on this bill. In that spirit, I am more than happy to relinquish the floor at this time.

Mr. ROBERT C. BYRD. Mr. President, will the distinguished Senator yield?

Mr. LONG. Yes.

Mr. ROBERT C. BYRD. I should like to acknowledge the interest the Senator from Kansas has had in this matter. He is also involved in the conference on the windfall profit tax. If I understood him correctly, I think possibly he appreciates the need at this point to move on with the other bill.

Mr. BAYH. Mr. President, I must say I am surprised I did not find the distinguished Senator from Louisiana as a co-sponsor of this amendment. It is my hope that he will be able to take charge on the bill, because there are numerous protections of the Government interest, as the Senator from Louisiana may have already determined, in addition to the windfall profit tax.

I certainly agree to that request as long as the bill is not brought up before the week of the 16th. Some of my colleagues who would not like it brought up, say, next Thursday or Friday when they will not be present. Senator Thurmond, for example, cannot be here next Thursday or Friday. This would come back, as I understand it, and be the pending business, unless it is further laid aside until the following Monday.

There is some hope that we may be finished with the windfall profit tax conference. Of course, maybe the Senator from Louisiana would be willing to lay that aside for a year or 2. That would be all right with some of us.

I am prepared to accommodate the majority leader and the distinguished chairman of the Committee on Finance.

Mr. BAYH. Mr. President, if the Senator from Kansas were here, I would, again, express my appreciation to my friend and colleague from Kansas for the role he has played in this. We have been a two-horse team and it has pulled very well until we got to this bend in the road. Now, I guess, we are going to have to let the horses rest temporarily and, hopefully, we shall be able to have the Senator from Kansas driving the wagon when we get it started again.

UNANIMOUS-CONSENT AGREEMENT

Mr. ROBERT C. BYRD. Mr. President, I ask unanimous consent that the majority leader may be authorized, so as to expedite Senate business, to add a provision that this bill might be before the Senate next week, that the bill in no event be called up next week, that, in no event, it be before the Senate in the week after next and that the majority leader be authorized, at any time, beginning with Monday, the 18th of this month, again to call up the patent bill and make it the pending business before the Senate. In this way, I hope the Senator from Louisiana may have all the likelihood of the bill's being up next week by virtue of its automatically coming back before the Senate upon the disposition of the FTC bill. But I would have the amendment, that the bill be back up the week after next at any time beginning with that Monday.

The PRESIDING OFFICER. Is there objection to the unanimous-consent request of the majority leader?

Without objection, it is so ordered.

Mr. ROBERT C. BYRD. Mr. President, with apologies to the Senator from Indiana, the Senator from Louisiana, and the Senator from Kansas and other Senators, and also with expressions of appreciation to them for their understanding and cooperation, I am authorized after consultation with the distinguished acting Republican leader, to call up the FTC bill. In the meantime, I suggest the absence of a quorum and ask that I may be recognized following the quorum call.

The PRESIDING OFFICER. Does the Senator make that a unanimous-consent request?

Mr. ROBERT C. BYRD. Yes.

The PRESIDING OFFICER. Without objection, it is so ordered. The clerk will call the roll.

The second assistant legislative clerk proceeded to call the roll.

Mr. ROBERT C. BYRD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

FEDERAL TRADE COMMISSION ACT OF 1979

Mr. ROBERT C. BYRD. Mr. President, under the agreement of yesterday, I now ask the clerk to lay before the Senate S. 1891.

The PRESIDING OFFICER. The bill will be stated by title.

The legislative clerk read as follows: A bill (S. 1891) to amend the Federal Trade Commission Act to change procedures for agency adjudications and rulemaking, to extend authorizations for appropriations for the fiscal year ending September 30, 1980, and for other purposes. The Senate proceeded to consider the bill, which had been reported from the Committee on Commerce, Science, and Transportation with an amendment to