TITLE 35

Patents

CHAPTER 18 PATENT RIGHTS IN INVENTIONS MADE WITH FEDERAL ASSISTANCE

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§ 200. Policy and objective.

It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise; to promote the commercialization and public availability of inventions made in the United States by United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

§ 201. Definitions.

As used in this chapter [35 USCS §§ 200 et seq.]--

(a) The term "Federal agency" means any executive agency as defined in section 105 of title 5, United States Code [5 USCS § 105], and the military departments as defined by section 102 of title 5, United States Code [5 USCS § 102].

(b) The term "funding agreement" means any contract, grant, or cooperative agreement entered into between any Federal agency,

other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government. Such term includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as herein defined.
(c) The term "contractor" means any person, small business firm, or nonprofit organization that is a party to a funding agreement.
(d) The term "invention" means any invention or discovery which is or may be patentable or otherwise protectable under this title [35 USCS §§ 1 et seq.] or any novel variety of plant which is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.) [7 USCS §§ 2321 et seq.].
(e) The term "subject invention" means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement: Provided, That in the case of a variety of plant, the date of determination (as defined in Section 41(d) of the Plant Variety Protection Act (7 U.S.C. 2401(d)) [7 USCS § 2401(d)]) must also occur during the period of contract performance.
(f) The term "practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.
(g) The term "made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.
(h) The term "small business firm" means a small business concern as defined at section 2 of Public Law 85-536 (15 U.S.C. 632) [15 USCS § 632] and implementing regulations of the Administrator of the Small Business Administration.
(i) The term "nonprofit organization" means universities and other institutions of higher education or an organization of the type described in section 501(c)(3)] and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) [26 USCS § 501(a)] or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

§ 202. Disposition of rights.
(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention: Provided, however, That a funding agreement may provide otherwise (i) when the contractor is not located in the United States or does not have a place of business located in the United States or is subject to the control of a foreign government (ii) in exceptional circumstances when it is determined by the agency that restriction or elimination of the right to retain title to any subject invention will better

promote the policy and objectives of this chapter[,] (iii) when it is determined by a Government authority which is authorized by statute or Executive order to conduct foreign intelligence or counter-intelligence activities that the restriction or elimination of the right to retain title to any subject invention is necessary to protect the security of such activities or, [(]iv) when the funding agreement includes the operation of a Government-owned, contractor-operated facility of the Department of Energy primarily dedicated to that Department's naval nuclear propulsion or weapons related programs and all funding agreement limitations under this subparagraph on the contractor's right to elect title to a subject invention are limited to inventions occurring under the above two programs to the Department of Energy.[.] The rights of the nonprofit organization or small business firm shall be subject to the provisions of paragraph (c) of this section and the other provisions of this chapter [35 USCS §§ 200 et seq.].

(b)(1) The rights of the Government under subsection (a) shall not be exercised by a Federal agency unless it first determines that at least one of the conditions identified in clauses (i) through (iv) of subsection (a) exists. Except in the case of subsection (a)(iii), the agency shall file with the Secretary of Commerce, within thirty days after the award of the applicable funding agreement, a copy of such determination. In the case of a determination under subsection (a)(ii), the statement shall include an analysis justifying the determination. In the case of determinations applicable to funding agreements with small business firms, copies shall be sent to the Chief Counsel for Advocacy of the Small Business Administration. If the Secretary of Commerce believes that any individual determination or pattern of determinations is contrary to the policies and objectives of this chapter or otherwise not in conformance with this chapter, the Secretary shall so advise the head of the agency concerned and the Administrator of the Office of Federal Procurement Policy, and recommend corrective actions.

(2) Whenever the Administrator of the Office of Federal Procurement Policy has determined that one or more Federal agencies are utilizing the authority of clause (i) or (ii) of subsection (a) of this section in a manner that is contrary to the policies and objectives of this chapter, the Administrator is authorized to issue regulations describing classes of situations in which agencies may not exercise the authorities of those clauses.

(3) At least once each year, the Comptroller General shall transmit a report to the Committees on the Judiciary of the Senate and House of Representatives on the manner in which this chapter [35 USCS §§ 200 et seq.] is being implemented by the agencies and on such other aspects of Government patent policies and practices with respect to federally funded inventions as the Comptroller General believes appropriate.

(4) If the contractor believes that a determination is contrary to the policies and objectives of this chapter or constitutes an abuse of discretion by the agency, the

determination shall be subject to the last paragraph of section 203(2) [35 USCS § 203(2)].

(c) Each funding agreement with a small business firm or nonprofit organization shall contain appropriate provisions to effectuate the following:

(1) That the contractor disclose each subject invention to the Federal agency within a reasonable time after it becomes known to contractor personnel responsible for the administration of patent matters, and that the Federal Government may receive title to any subject invention not disclosed to it within such time.

(2) That the contractor make a written election within two years after disclosure to the Federal agency (or such additional time as may be approved by the Federal agency) whether the contractor will retain title to a subject invention: Provided, That in any case where publication, on sale, or public use, has initiated the one year statutory period in which valid patent protection can still be obtained in the United States, the period for election may be shortened by the Federal agency to a date that is not more than sixty days prior to the end of the statutory period: And provided further, That the Federal Government may receive title to any subject invention in which the contractor does not elect to retain rights or fails to elect rights within such times.

(3) That a contractor electing rights in a subject invention agrees to file a patent application prior to any statutory bar date that may occur under this title [35 USCS §§ 1 et seq.] due to publication, on sale, or public use, and shall thereafter file corresponding patent applications in other countries in which it wishes to retain title within reasonable times, and that the Federal Government may receive title to any subject inventions in the United States or other countries in which the contractor has not filed patent applications on the subject invention within such times.

(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world: Provided, That the funding agreement may provide for such additional rights; including the right to assign or have assigned foreign patent rights in the subject invention, as are determined by the agency as necessary for meeting the obligations of the United States under any treaty, international agreement, arrangement of cooperation, memorandum of understanding, or similar arrangement, including military agreement relating to weapons development and production.

(5) The right of the Federal agency to require periodic reporting on the utilization or efforts at obtaining utilization that are being made by the contractor or his licensees or assignees: Provided, That any such information as well as any information on utilization or efforts at obtaining utilization obtained as part of a proceeding under section 203 of this chapter [35 USCS § 203] shall be treated by the

Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code [5 USCS § 552].

(6) An obligation on the part of the contractor, in the event a United States patent application is filed by or on its behalf or by any assignee of the contractor, to include within the specification of such application and any patent issuing thereon, a statement specifying that the invention was made with Government support and that the government has certain rights in the invention.

(7) In the case of a nonprofit organization, (A) a prohibition upon the assignment of rights to a subject invention in the United States without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions (provided that such assignee shall be subject to the same provisions a the contractor); (B) a requirement that the contractor share royalties with the inventor; (C) except with respect to a funding agreement for the operation of a Government-owned-contractor-operated facility, a requirement that the balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, be utilized for the support of scientific research or education; (D) a requirement that, except where it proves infeasible after a reasonable inquiry, in the licensing of subject inventions shall be given to small business firms; and (E) with respect to a funding agreement for the operation of a Government-owned-contractor-operated facility, requirements (i) that after payment of patenting costs, licensing costs, payments to inventors, and other expenses incidental to the administration of subject inventions, 100 percent of the balance of any royalties or income earned and retained by the contractor during any fiscal year up to an amount equal to 5 percent of the annual budget of the facility; shall be used by the contractor for scientific research, development, and education consistent with the research and development mission and objectives of the facility, including activities that increase the licensing potential of other inventions of the facility,, including activities that increase the licensing potential of other inventions of the facility; provided that if said balance exceeds 5 percent of the annual budget of the facility, that 75 percent of such excess shall be paid to the Treasury of the United States and the remaining 25 percent shall be used for the same purposes as described above in this clause (D); and (ii) that, to the extent it provides the most effective technology transfer, the licensing of subject inventions shall be administered by contractor employees on location at the facility.

(8) The requirements of sections 203 and 204 of this chapter [35 USCS §§ 200 et seq.].

(f)(1) No funding agreement with a small business firm or

nonprofit organization shall contain a provision allowing a Federal agency to require the licensing to third parties of inventions owned by the contractor that are not subject inventions unless such provision has been approved by the head of the agency and a written justification has been signed by the head of the agency. Any such provision shall clearly state whether the licensing may be required in connection with the practice of a subject invention, a specifically identified work object, or both. The head of the agency may not delegate the authority to approve provisions or sign justifications required by this paragraph.

(2) A Federal agency shall not require the licensing of third parties under any such provision unless the head of the agency determines that the use of the invention by others is necessary for the practice of a subject invention or for the use of a work object of the funding agreement and that such action is necessary to achieve the practical application of the subject invention or work object. Any such determination shall be on the record after an opportunity for an agency hearing. Any action commenced for judicial review of such determination shall be brought within sixty days after notification of such determination.

§ 203. March-in rights.

(1) With respect to any subject invention in which a small business firm or nonprofit organization has acquired title under this chapter [35 USCS §§ 200 et seq.], the Federal agency under whose funding agreement the subject invention was made shall have the right, in accordance with such procedures as are provided in regulations promulgated hereunder to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such request, to grant such a license itself, if the Federal agency determines that such--

(a) action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(b) action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

(c) action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

(d) action is necessary because the agreement required by section 204 [35 USCS § 204] has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to section 204 [[35 USCS § 204].

(2) A determination pursuant to this section or section 202(b)(4)] shall not be subject to the contract Disputes Act (41 U.S.C. § 601 et seq.) [41 USCS §§ 601 et seq.]. An administrative appeals procedure shall be established by regulations promulgated in accordance with section 206 [35 USCS § 206]. Additionally, any contractor, inventor, assignee, or exclusive licensee adversely affected by a determination under this section may, at any time within sixty days after the determination is issued, file a petition in the United States Claims Court, which shall have jurisdiction to determine the appeal on the record and to affirm, reverse, remand or modify, (",) as appropriate, the determination of the Federal agency. In cases described in paragraphs (a) and (c), the agency's determination shall be held in abeyance pending the exhaustion of appeals or petitions filed under the preceding sentence.

§ 204. Preference for the United States industry.
Notwithstanding any other provision of this chapter, [35 USCS §§ 200 et seq.], no small business firm or nonprofit organization which receives title to any subject invention and no assignee of any such small business firm or nonprofit organization shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

§ 205. Confidentiality.
Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

§ 206. Uniform clauses and regulations.
The Secretary of Commerce may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 204 of this chapter [35 USCS §§ 202-204] and shall establish standard funding agreement provisions required under this chapter [35 USCS §§ 200 et seq.]. The regulations and the standard funding agreement shall be subject to public comment before their issuance.

§ 207. Domestic and foreign protection of federally owned inventions.

(a) Each Federal agency is authorized to--

(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title or interest;

(2) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned patent applications, patents, or other forms of protection obtained, royalty-free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 29 of this title [35 USCS §§ 281 et seq.] as determined appropriate in the public interest;

(3) undertake all other suitable and necessary steps to protect and administer rights to federally owned inventions on behalf of the Federal Government either directly or through contact; and

(4) transfer custody and administration, in whole or in part, to another Federal agency, of the right, title or interest in any federally owned invention.

(b) For the purpose of assuring the effective management of Government-owned inventions, the Secretary of Commerce is authorized to--

(1) assist Federal agency efforts to promote the licensing and utilization of Government-owned inventions;

(2) assist Federal agencies in seeking protection and maintaining inventions in foreign countries, including the payment of fees and costs connected therewith; and

(3) consult with and advise Federal agencies as to areas of science and technology research and development with potential for commercialization utilization.

§ 208. Regulations governing Federal licensing.

The Secretary of Commerce is authorized to promulgate regulations specifying the terms and conditions upon which any federally owned invention, other than inventions owned by the Tennessee Valley Authority, may be licensed on a nonexclusive, partially exclusive, or exclusive basis.

§ 209. Restrictions on licensing of federally owned inventions.

(a) No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development and/or marketing of the invention, except that any such plan may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code [5 USCS § 552].

(b) A federal agency shall normally grant the right to use or sell any federally owned invention in the United States only to a licensee that agrees that any products embodying the invention or

produced through the use of the invention will be manufactured substantially in the United States.

(c)(1) Each Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a federally owned domestic patent or patent application only if, after public notice and opportunity for filing written objections, it is determined that--

(A) the interests of the Federal government and the public will best be served by the proposed license in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

(B) the desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

(C) exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

(D) the proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public.

(2) A Federal agency shall not grant such exclusive or partially exclusive license under paragraph (1) of this subsection if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.

(3) First preference in the exclusive or partially exclusive licensing of federally owned inventions shall go to small business firms submitting plans that are determined by the agency to be within the capabilities of the firms and equally likely, if executed, to bring the invention to practical application as any plans submitted by applicants that are not small business firms.

(d) After consideration of whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced, any Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a foreign patent application or patent, after public notice and opportunity for filing written objections, except that a Federal agency shall not grant such exclusive or partially exclusive license if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with antitrust laws.

(e) The Federal agency shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

(f) Any grant of a license shall contain such terms and conditions as the Federal agency determines appropriate for the protection of the interests of the Federal Government and the public, including provisions for the following:

(1) periodic reporting on the utilization or efforts at obtaining utilization that are being made by the licensee with particular reference to the plan submitted: Provided, That any such information may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code [5 USCS § 552];

(2) the right of the Federal agency to terminate such license in whole or in part of it determines that the licensee is not executing the plan submitted with its request for a license and the licensee cannot otherwise demonstrate to the satisfaction of the Federal agency that it has taken or can be expected to take within a reasonable time, effective steps to achieve practical application of the invention;

(3) the right of the Federal agency to terminate such license in whole or in part if the licensee is in breach of an agreement obtained pursuant to paragraph (b) of this section; and

(4) the right of the Federal agency to terminate the license in whole or in part if the agency determines that such action is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license and such requirements are not reasonably satisfied by the licensee.

§ 210. Precedence of chapter.

(a) This chapter [35 USCS §§ 200 et seq.]. shall take precedence over any other Act which would require a disposition of rights in subject inventions of small business firms or nonprofit organizations contractors in a manner that is inconsistent with this chapter [35 USCS §§ 200 et seq.], including but not necessarily limited to the following:

(1) section 10(a) of the Act of June 29, 1935, as added by title 1 of the Act of August 14, 1946 (7 U.S.C. 427i(a); 60 Stat. 1085) [7 USCS § 427i(a)];

(2) section 205(a) of the Act of August 14, 1946 (7 U.S.C. 1624(a); 60 Stat. 1090) [7 USCS § 1624(a)];

(3) section 501(c) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 951(c); 83 Stat. 742) [30 USCS § 951(c)];

(4) section 106(c) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395(c); 80 Stat. 721) [15 USCS § 1395(c)];

(5) section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360) [42 USCS § 1871];

(6) section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943) [42 USCS § 2182];

(7) section 305 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457) [42 USCS § 2457];

(8) section 6 of the Coal Research Development Act of 1960 (30

U.S.C. 666; 74 Stat. 337) [30 USCS § 666];
(9) section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920) [50 USCS § 167b];
(10) section 32 of the Arms Control and Disarmament Act of 1961 (22 U.S.C. 2572; 75 Stat. 634) [22 USCS § 2572];
(11) subsection (e) of section 302 of the Appalachian Regional Development Act of 1965 (40 U.S.C. App. 302(e); 79 Stat. 5) [40 USCS Appx. § 302(e)];
(12) section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901; 88 Stat. 1878) [42 USCS § 5901];
(13) section 5(d) of the consumer Product Safety Act (15 U.S.C. 2054(d); 86 Stat. 1211) [15 USCS § 2054(d)];
(14) section 3 of the Act of April 5, 1944 (30 U.S.C. 323; 58 Stat. 191) [30 USCS § 323];
(15) section 8001(c)(3) of the Solid Waste Disposal Act (42 U.S.C. 6981(c); 90 Stat. 2829) [42 USCS § 6981(c)(3)];
(16) section 219 of the Foreign Assistance Act of 1961 (22 U.S.C. 2179; 83 Stat. 806) [22 USCS § 2179];
(17) section 427(b) of the Federal Mine Health and Safety Act of 1977 (30 U.S.C. 937(b); 86 Stat. 155) [30 USCS § 937(b)];
(18) section 306(d) of the Surface Mining and Reclamation Act of 1977 (30 U.S.C. 1226(d); 91 Stat. 455) [30 USCS § 1226(d)];
(19) section 21(d) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2218(d); 88 Stat. 1548) [15 USCS § 2218(d)];
(20) section 6(b) of the Solar Photovoltaic Energy Research Development and Demonstration Act of 1978 (42 U.S.C. 5585(b); 92 Stat. 2516) [42 USCS § 5585(b)];
(21) section 12 of the Native Latex Commercialization and Economic Development Act of 1978 (7 U.S.C. 178(j); 92 Stat. 2533) [7 USCS § 178j]; and
(22) section 408 of the Water Resources and Development Act of 1978 (42 U.S.C. 7879; 92 Stat. 1360) [42 USCS § 7879].
The Act creating this chapter shall be construed to take precedence over any future Act unless that Act specifically cites this Act and provides that it shall take precedence over this Act.

(b) Nothing in this chapter [35 USCS §§ 200 et seq.] is intended to alter the effect of the laws cited in paragraph (a) of this section or any other laws with respect to the disposition of rights in inventions made in the performance of funding agreements with persons other than nonprofit organizations or small business firms.
(c) Nothing in this chapter [35 USCS §§ 200 et seq.] is intended to limit the authority of agencies to agree to the disposition of rights in inventions made in the performance of work under funding agreements with persons other than nonprofit organizations or small business firms in accordance with the Statement of Government Patent Policy issued on February 18, 1983, agency regulations, or other applicable regulations or to otherwise limit the authority of agencies to allow such persons to retain ownership of inventions. Any disposition of rights in

inventions made in accordance with the Statement or implementing regulations, including any disposition occurring before enactment of this section, are hereby authorized except that all funding agreements, including those with other than small business firms and nonprofit organizations, shall include the requirements established in paragraph 202(c)(4) and section 203 of this title [35 USCS §§ 202(c)(4) and 203].[.]
(d) Nothing in this chapter [35 USCS §§ 200 et seq.] shall be construed to require the disclosure of intelligence sources or methods or to otherwise affect the authority granted to the Director of Central Intelligence by statute or Executive order for the protection of intelligence sources or methods.

§ 211. Relationship to antitrust laws.
Nothing in this chapter [35 USCS §§ 200 et seq.] shall be deemed to convey to any person immunity from civil or criminal liability, or to create any defenses to actions, under any antitrust laws.

§ 212. Disposition of rights in education awards.
No scholarship, fellowship, training grant, or other funding agreement made by a Federal agency primarily to an awardee for educational purposes will contain any provision giving the Federal agency any rights to inventions made by the awardee.

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§ 200. Policy and objective.

It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise; to promote the commercialization and public availability of inventions made in the United States by United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

§ 201. Definitions.

As used in this chapter [35 USCS §§ 200 et seq.]--

(a) The term "Federal agency" means any executive agency as defined in section 105 of title 5, United States Code [5 USCS § 105], and the military departments as defined by section 102 of title 5, United States Code [5 USCS § 102].

(b) The term "funding agreement" means any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government. Such term includes any assignment, substitution of parties, or subcontract

of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as herein defined.
(c) The term "contractor" means any person, small business firm, or nonprofit organization that is a party to a funding agreement.
(d) The term "invention" means any invention or discovery which is or may be patentable or otherwise protectable under this title [35 USCS §§ 1 et seq.] or any novel variety of plant which is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.) [7 USCS §§ 2321 et seq.].
(e) The term "subject invention" means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement: Provided, That in the case of a variety of plant, the date of determination (as defined in Section 41(d) of the Plant Variety Protection Act [(7 U.S.C. 2401(d))] [7 USCS § 2401(d)] must also occur during the period of contract performance.
(f) The term "practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.
(g) The term "made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.
(h) The term "small business firm" means a small business concern as defined at section 2 of Public Law 85-536 (15 U.S.C. 632) [15 USCS § 632] and implementing regulations of the Administrator of the Small Business Administration.
(i) The term "nonprofit organization" means universities and other institutions of higher education or an organization of the type described in section 501(c)(3) and exempt from taxation under section 501(a) of the Internal Revenue Code [(26 U.S.C. 501(a))] [26 USCS § 501(a)] or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

§ 202. Disposition of rights.
(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention: Provided, however, That a funding agreement may provide otherwise (i) when the contractor is not located in the United States or does not have a place of business located in the United States or is subject to the control of a foreign government (ii) in exceptional circumstances when it is determined by the agency that restriction or elimination of the right to retain title to any subject invention will better promote the policy and objectives of this chapter[,] (iii) when it is determined by a Government authority which is authorized by statute or Executive order to conduct foreign intelligence or counter-intelligence activities that the restriction or elimination of the right to retain title to any

subject invention is necessary to protect the security of such activities or, [(]iv) when the funding agreement includes the operation of a Government-owned, contractor-operated facility of the Department of Energy primarily dedicated to that Department's naval nuclear propulsion or weapons related programs and all funding agreement limitations under this subparagraph on the contractor's right to elect title to a subject invention are limited to inventions occurring under the above two programs to the Department of Energy.[.] The rights of the nonprofit organization or small business firm shall be subject to the provisions of paragraph (c) of this section and the other provisions of this chapter [35 USCS §§ 200 et seq.].

(b)(1) The rights of the Government under subsection (a) shall not be exercised by a Federal agency unless it first determines that at least one of the conditions identified in clauses (i) through (iv) of subsection (a) exists. Except in the case of subsection (a)(iii), the agency shall file with the Secretary of Commerce, within thirty days after the award of the applicable funding agreement, a copy of such determination. In the case of a determination under subsection (a)(ii), the statement shall include an analysis justifying the determination. In the case of determinations applicable to funding agreements with small business firms, copies shall be sent to the Chief Counsel for Advocacy of the Small Business Administration. If the Secretary of Commerce believes that any individual determination or pattern of determinations is contrary to the policies and objectives of this chapter or otherwise not in conformance with this chapter, the Secretary shall so advise the head of the agency concerned and the Administrator of the Office of Federal Procurement Policy, and recommend corrective actions.

(2) Whenever the Administrator of the Office of Federal Procurement Policy has determined that one or more Federal agencies are utilizing the authority of clause (i) or (ii) of subsection (a) of this section in a manner that is contrary to the policies and objectives of this chapter, the Administrator is authorized to issue regulations describing classes of situations in which agencies may not exercise the authorities of those clauses.

(3) At least once each year, the Comptroller General shall transmit a report to the Committees on the Judiciary of the Senate and House of Representatives on the manner in which this chapter [35 USCS §§ 200 et seq.] is being implemented by the agencies and on such other aspects of Government patent policies and practices with respect to federally funded inventions as the Comptroller General believes appropriate.

(4) If the contractor believes that a determination is contrary to the policies and objectives of this chapter or constitutes an abuse of discretion by the agency, the determination shall be subject to the last paragraph of section 203(2) [35 USCS § 203(2)].

(c) Each funding agreement with a small business firm or nonprofit organization shall contain appropriate provisions to effectuate the following:

(1) That the contractor disclose each subject invention to the

Federal agency within a reasonable time after it becomes known to contractor personnel responsible for the administration of patent matters, and that the Federal Government may receive title to any subject invention not disclosed to it within such time.

(2) That the contractor make a written election within two years after disclosure to the Federal agency (or such additional time as may be approved by the Federal agency) whether the contractor will retain title to a subject invention: Provided, That in any case where publication, on sale, or public use, has initiated the one year statutory period in which valid patent protection can still be obtained in the United States, the period for election may be shortened by the Federal agency to a date that is not more than sixty days prior to the end of the statutory period: And provided further, That the Federal Government may receive title to any subject invention in which the contractor does not elect to retain rights or fails to elect rights within such times.

(3) That a contractor electing rights in a subject invention agrees to file a patent application prior to any statutory bar date that may occur under this title [35 USCS §§ 1 et seq.] due to publication, on sale, or public use, and shall thereafter file corresponding patent applications in other countries in which it wishes to retain title within reasonable times, and that the Federal Government may receive title to any subject inventions in the United States or other countries in which the contractor has not filed patent applications on the subject invention within such times.

(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world: Provided, That the funding agreement may provide for such additional rights; including the right to assign or have assigned foreign patent rights in the subject invention, as are determined by the agency as necessary for meeting the obligations of the United States under any treaty, international agreement, arrangement of cooperation, memorandum of understanding, or similar arrangement, including military agreement relating to weapons development and production.

(5) The right of the Federal agency to require periodic reporting on the utilization or efforts at obtaining utilization that are being made by the contractor or his licensees or assignees: Provided, That any such information as well as any information on utilization or efforts at obtaining utilization obtained as part of a proceeding under section 203 of this chapter [35 USCS § 203] shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code [5 USCS § 552].

(6) An obligation on the part of the contractor, in the event a United States patent application is filed by or on its behalf

or by any assignee of the contractor, to include within the specification of such application and any patent issuing thereon, a statement specifying that the invention was made with Government support and that the government has certain rights in the invention.

(7) In the case of a nonprofit organization, (A) a prohibition upon the assignment of rights to a subject invention in the United States without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions (provided that such assignee shall be subject to the same provisions a the contractor); (B) a requirement that the contractor share royalties with the inventor; (C) except with respect to a funding agreement for the operation of a Government-owned-contractor-operated facility, a requirement that the balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, be utilized for the support of scientific research or education; (D) a requirement that, except where it proves infeasible after a reasonable inquiry, in the licensing of subject inventions shall be given to small business firms; and (E) with respect to a funding agreement for the operation of a Government-owned-contractor-operated facility, requirements (i) that after payment of patenting costs, licensing costs, payments to inventors, and other expenses incidental to the administration of subject inventions, 100 percent of the balance of any royalties or income earned and retained by the contractor during any fiscal year up to an amount equal to 5 percent of the annual budget of the facility; shall be used by the contractor for scientific research, development, and education consistent with the research and development mission and objectives of the facility, including activities that increase the licensing potential of other inventions of the facility,, including activities that increase the licensing potential of other inventions of the facility; provided that if said balance exceeds 5 percent of the annual budget of the facility, that 75 percent of such excess shall be paid to the Treasury of the United States and the remaining 25 percent shall be used for the same purposes as described above in this clause (D); and (ii) that, to the extent it provides the most effective technology transfer, the licensing of subject inventions shall be administered by contractor employees on location at the facility.

(8) The requirements of sections 203 and 204 of this chapter [35 USCS §§ 200 et seq.].

(f)(1) No funding agreement with a small business firm or nonprofit organization shall contain a provision allowing a Federal agency to require the licensing to third parties of inventions owned by the contractor that are not subject inventions unless such provision has been approved by the head of the agency and a written justification has been signed by the head of the agency. Any such provision shall clearly state whether the licensing may be required in connection with the practice of a subject

invention, a specifically identified work object, or both. The head of the agency may not delegate the authority to approve provisions or sign justifications required by this paragraph.
(2) A Federal agency shall not require the licensing of third parties under any such provision unless the head of the agency determines that the use of the invention by others is necessary for the practice of a subject invention or for the use of a work object of the funding agreement and that such action is necessary to achieve the practical application of the subject invention or work object. Any such determination shall be on the record after an opportunity for an agency hearing. Any action commenced for judicial review of such determination shall be brought within sixty days after notification of such determination.

§ 203. March-in rights.
(1) With respect to any subject invention in which a small business firm or nonprofit organization has acquired title under this chapter [35 USCS §§ 200 et seq.], the Federal agency under whose funding agreement the subject invention was made shall have the right, in accordance with such procedures as are provided in regulations promulgated hereunder to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such request, to grant such a license itself, if the Federal agency determines that such--

(a) action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(b) action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

(c) action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

(d) action is necessary because the agreement required by section 204 [35 USCS § 204] has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to section 204 [35 USCS § 204].

(2) A determination pursuant to this section or section 202(b)(4) shall not be subject to the contract Disputes Act (41 U.S.C. § 601 et seq.) [41 USCS §§ 601 et seq.]. An administrative appeals procedure shall be established by regulations promulgated in accordance with section 206 [35 USCS § 206]. Additionally, any contractor, inventor, assignee, or exclusive licensee adversely affected by a determination under this section may, at any time within sixty days after the determination is issued, file a petition in the United States Claims Court, which shall have

jurisdiction to determine the appeal on the record and to affirm, reverse, remand or modify, (",) as appropriate, the determination of the Federal agency. In cases described in paragraphs (a) and (c), the agency's determination shall be held in abeyance pending the exhaustion of appeals or petitions filed under the preceding sentence.

§ 204. Preference for the United States industry.
Notwithstanding any other provision of this chapter, [35 USCS §§ 200 et seq.], no small business firm or nonprofit organization which receives title to any subject invention and no assignee of any such small business firm or nonprofit organization shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

§ 205. Confidentiality.
Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

§ 206. Uniform clauses and regulations.
The Secretary of Commerce may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 204 of this chapter [35 USCS §§ 202-204] and shall establish standard funding agreement provisions required under this chapter [35 USCS §§ 200 et seq.]. The regulations and the standard funding agreement shall be subject to public comment before their issuance.

§ 207. Domestic and foreign protection of federally owned inventions.
(a) Each Federal agency is authorized to--
(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title or interest;
(2) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned patent applications, patents,

or other forms of protection obtained, royalty-free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 29 of this title [35 USCS §§ 281 et seq.] as determined appropriate in the public interest;

(3) undertake all other suitable and necessary steps to protect and administer rights to federally owned inventions on behalf of the Federal Government either directly or through contact; and

(4) transfer custody and administration, in whole or in part, to another Federal agency, of the right, title or interest in any federally owned invention.

(b) For the purpose of assuring the effective management of Government-owned inventions, the Secretary of Commerce is authorized to--

(1) assist Federal agency efforts to promote the licensing and utilization of Government-owned inventions;

(2) assist Federal agencies in seeking protection and maintaining inventions in foreign countries, including the payment of fees and costs connected therewith; and

(3) consult with and advise Federal agencies as to areas of science and technology research and development with potential for commercialization utilization.

§ 208. Regulations governing Federal licensing.

The Secretary of Commerce is authorized to promulgate regulations specifying the terms and conditions upon which any federally owned invention, other than inventions owned by the Tennessee Valley Authority, may be licensed on a nonexclusive, partially exclusive, or exclusive basis.

§ 209. Restrictions on licensing of federally owned inventions.

(a) No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development and/or marketing of the invention, except that any such plan may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code [5 USCS § 552].

(b) A federal agency shall normally grant the right to use or sell any federally owned invention in the United States only to a licensee that agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

(c)(1) Each Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a federally owned domestic patent or patent application only if, after public notice and opportunity for filing written objections, it is determined that--

(A) the interests of the Federal government and the public will best be served by the proposed license in view of the

applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

(B) the desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

(C) exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

(D) the proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public.

(2) A Federal agency shall not grant such exclusive or partially exclusive license under paragraph (1) of this subsection if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.

(3) First preference in the exclusive or partially exclusive licensing of federally owned inventions shall go to small business firms submitting plans that are determined by the agency to be within the capabilities of the firms and equally likely, if executed, to bring the invention to practical application as any plans submitted by applicants that are not small business firms.

(d) After consideration of whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced, any Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a foreign patent application or patent, after public notice and opportunity for filing written objections, except that a Federal agency shall not grant such exclusive or partially exclusive license if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with antitrust laws.

(e) The Federal agency shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

(f) Any grant of a license shall contain such terms and conditions as the Federal agency determines appropriate for the protection of the interests of the Federal Government and the public, including provisions for the following:

(1) periodic reporting on the utilization or efforts at obtaining utilization that are being made by the licensee with particular reference to the plan submitted: Provided, That any such information may be treated by the Federal agency as commercial and financial information obtained from a person and

privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code [5 USCS § 552];
(2) the right of the Federal agency to terminate such license in whole or in part of it determines that the licensee is not executing the plan submitted with its request for a license and the licensee cannot otherwise demonstrate to the satisfaction of the Federal agency that it has taken or can be expected to take within a reasonable time, effective steps to achieve practical application of the invention;
(3) the right of the Federal agency to terminate such license in whole or in part if the licensee is in breach of an agreement obtained pursuant to paragraph (b) of this section; and
(4) the right of the Federal agency to terminate the license in whole or in part if the agency determines that such action is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license and such requirements are not reasonably satisfied by the licensee.

§ 210. Precedence of chapter.

(a) This chapter [35 USCS §§ 200 et seq.] shall take precedence over any other Act which would require a disposition of rights in subject inventions of small business firms or nonprofit organizations contractors in a manner that is inconsistent with this chapter [35 USCS §§ 200 et seq.], including but not necessarily limited to the following:
(1) section 10(a) of the Act of June 29, 1935, as added by title 1 of the Act of August 14, 1946 (7 U.S.C. 427i(a); 60 Stat. 1085) [7 USCS § 427i(a)];
(2) section 205(a) of the Act of August 14, 1946 (7 U.S.C. 1624(a); 60 Stat. 1090) [7 USCS § 1624(a)];
(3) section 501(c) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 951(c); 83 Stat. 742) [30 USCS § 951(c)];
(4) section 106(c) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395(c); 80 Stat. 721) [15 USCS § 1395(c)];
(5) section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360) [42 USCS § 1871];
(6) section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943) [42 USCS § 2182];
(7) section 305 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457) [42 USCS § 2457];
(8) section 6 of the Coal Research Development Act of 1960 (30 U.S.C. 666; 74 Stat. 337) [30 USCS § 666];
(9) section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920) [50 USCS § 167b];
(10) section 32 of the Arms Control and Disarmament Act of 1961 (22 U.S.C. 2572; 75 Stat. 634) [22 USCS § 2572];
(11) subsection (e) of section 302 of the Appalachian Regional Development Act of 1965 (40 U.S.C. App. 302(e); 79 Stat. 5) [40 USCS Appx. § 302(e)];
(12) section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5091; 88 Stat. 1878) [42 USCS ~~§ 5908~~];

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(13) section 5(d) of the consumer Product Safety Act (15 U.S.C. 2054(d); 86 Stat. 1211) [15 USCS § 2054(d)];
(14) section 3 of the Act of April 5, 1944 (30 U.S.C. 323; 58 Stat. 191) [30 USCS § 323];
(15) section 8001(c)(3) of the Solid Waste Disposal Act (42 U.S.C. 6981(c); 90 Stat. 2829) [42 USCS § 6981(c)(3)];
(16) section 219 of the Foreign Assistance Act of 1961 (22 U.S.C. 2179; 83 Stat. 806) [22 USCS § 2179];
(17) section 427(b) of the Federal Mine Health and Safety Act of 1977 (30 U.S.C. 937(b); 86 Stat. 155) [30 USCS § 937(b)];
(18) section 306(d) of the Surface Mining and Reclamation Act of 1977 (30 U.S.C. 1226(d); 91 Stat. 455) [30 USCS § 1226(d)];
(19) section 21(d) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2218(d); 88 Stat. 1548) [15 USCS § 2218(d)];
(20) section 6(b) of the Solar Photovoltaic Energy Research Development and Demonstration Act of 1978 (42 U.S.C. 5585(b); 92 Stat. 2516) [42 USCS § 5585(b)];
(21) section 12 of the Native Latex Commercialization and Economic Development Act of 1978 (7 U.S.C. 178(j); 92 Stat. 2533) [7 USCS § 178j]; and
(22) section 408 of the Water Resources and Development Act of 1978 (42 U.S.C. 7879; 92 Stat. 1360) [42 USCS § 7879].
The Act creating this chapter shall be construed to take precedence over any future Act unless that Act specifically cites this Act and provides that it shall take precedence over this Act.

(b) Nothing in this chapter [35 USCS §§ 200 et seq.] is intended to alter the effect of the laws cited in paragraph (a) of this section or any other laws with respect to the disposition of rights in inventions made in the performance of funding agreements with persons other than nonprofit organizations or small business firms.
(c) Nothing in this chapter [35 USCS §§ 200 et seq.] is intended to limit the authority of agencies to agree to the disposition of rights in inventions made in the performance of work under funding agreements with persons other than nonprofit organizations or small business firms in accordance with the Statement of government Patent Policy issued on February 18, 1983, agency regulations, or other applicable regulations or to otherwise limit the authority of agencies to allow such persons to retain ownership of inventions. Any disposition of rights in inventions made in accordance with the Statement or implementing regulations, including any disposition occurring before enactment of this section, are hereby authorized except that all funding agreements, including those with other than small business firms and nonprofit organizations, shall include the requirements established in ~~paragraph 202(c)(4) and section 203 of this title [35 USCS §§ 202(c)(4) and 203].~~[.]
(d) Nothing in this chapter [35 USCS §§ 200 et seq.] shall be construed to require the disclosure of intelligence sources or methods or to otherwise affect the authority granted to the Director of Central Intelligence by statute or Executive order for the protection of intelligence sources or methods.

§ 211. Relationship to antitrust laws.

Nothing in this chapter [35 USCS §§ 200 et seq.] shall be deemed to convey to any person immunity from civil or criminal liability, or to create any defenses to actions, under any antitrust laws.

§ 212. Disposition of rights in education awards.

No scholarship, fellowship, training grant, or other funding agreement made by a Federal agency primarily to an awardee for educational purposes will contain any provision giving the Federal agency any rights to inventions made by the awardee.

THE WHITE HOUSE

Office of the Press Secretary
(Santa Barbara, California)

For Immediate Release November 9, 1984

STATEMENT BY THE PRESIDENT

I am pleased to sign today H.R. 6163, the "Federal District Court Organization Act of 1984." This legislation accomplishes a number of key reforms that significantly improve the environment for technological innovation. By strengthening the rights of people who are willing to risk commercializing new ideas to reap their just rewards, this legislation encourages individuals to create and develop new technologies.

The most important provision in this Act is the creation of a new form of intellectual property protection for semiconductor chip products. It is easy to copy chip designs. Innovators can invest tens of millions of dollars to create and market these semiconductors, while others can copy these designs at a tiny fraction of the cost. By creating penalties against copying, this legislation significantly enhances the incentives for firms to invest in new designs. Furthermore, the legislation includes a provision encouraging other countries to provide comparable protection for U.S. semiconductors sold abroad.

The stakes in this area are tremendous. Not only does the semiconductor industry annually ship about $14 billion of semiconductors, it also employs about 200,000 people. Perhaps most important, increasingly more powerful and cheaper semiconductors are at the heart of a wide range of technologies that have increased American productivity, competitiveness, and our standard of living.

The legislation also reaffirms certain basic principles of trademark law upon which all American businesses have traditionally relied to protect the marks enabling them to distinguish their products from those of others. Moreover, it extends the principle of contractor ownership of Federally funded inventions to those made in government-owned, contractor-operated laboratories, which takes advantage of the private sector's ability to commercialize these inventions more effectively than the government.

The Congress passed this legislation with strong bipartisan support. My Administration strongly supported these provisions that strengthen intellectual property rights. This legislation takes a major step in spurring the creative genius of America's entrepreneurs.

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through (a)(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above.

(c) This certification is not applicable to a foreign bidder or offeror submitting a bid or proposal for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A bid or proposal will not be considered for award where (a)(1), (a)(3), or (b) above has been deleted or modified. Where (a)(2) above has been deleted or modified, the bid or proposal will not be considered for award unless the bidder or offeror furnishes with the bid or proposal a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

(b) The fact that a firm: (1) Has published pricelists, rates, or tariffs covering items being procured by the Government, (2) has informed prospective customers of proposed or pending publication of new or revised pricelists for such items, or (3) has sold the same items to commercial customers at the same prices being offered the Government does not constitute, without more, a disclosure within the meaning of paragraph (a)(2) of the Certificate.

(c) It is not required that a separate written authorization be given to the signer of the bid or proposal for each procurement involved where the signer makes the certification provided in paragraph (b)(2) of the Certificate: *Provided*, That with respect to any blanket authorization given: (1) The procurement to which the Certificate applies is clearly within the scope of such authorization, and (2) the person giving such authorization is the person responsible within the bidder's or offeror's organization for the decision as to the prices being bid or offered at the time the Certificate is made in a particular procurement.

(d) After the execution of an initial certificate and the award of a contract in connection therewith, the contractor need not submit additional certificates in connection with proposals submitted on "work orders" or similar ordering instruments issued pursuant to the terms of that contract, where the government's requirements cannot be met from another source.

(e) The authority to make the determination described in paragraph (d) of the above certification shall not be delegated to an official below the level of the head of a procuring activity of the agency.

(f) Where a certification is suspected of being false or there is indication of collusion, the matter shall be processed in accordance with Subpart 1–1.9 and appropriate agency procedures. For rejection of bids which are suspected of being collusive and for the negotiation of procurements subsequent to such rejection, see §§ 1–2.404–1(b)(6) and 1–3.214.

[29 FR 10104, July 24, 1964, as amended at 30 FR 9589, July 31, 1965; 40 FR 60020, Dec. 31, 1975]

§ 1–1.318 Disputes.

[45 FR 10789, Feb. 19, 1980]

§ 1–1.318–1 General.

The Contract Disputes Act of 1978 (Pub. L. 95–563; November 1, 1979, 41 U.S.C. 601–613) provides a statutory basis for the resolution of disputes under Government contracts. It is the Government's policy, consistent with that Act, to try to resolve all disputes by mutual agreement at the contracting officer's level without litigation. In appropriate circumstances, before issuance of a contracting officer's decision, informal discussions between the parties, conducted to the extent feasible by individuals who have not participated substantially in the matter in dispute, could aid in the resolution of differences by mutual agreement and should be considered. The contracting officer is authorized (within any specific limitations in his or her warrant) to settle all disputes relating to a contract containing the Disputes clause prescribed by § 1–1.318–7.

[45 FR 10789, Feb. 19, 1980]

§ 1–1.318–2 Applicability of Act and exceptions.

(a) *Applicability.* (1) Unless otherwise specifically provided herein, the Contract Disputes Act of 1978 applies to any express or implied contract entered into by an executive agency for the procurement of:

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(i) Property, other than real property in being,

(ii) Services, or

(iii) Construction, alteration, repair, or maintenance of real property.

(2) The contracts to which the Act applies include the contracts of:

(i) The nonappropriated fund activities described in 28 U.S.C. 1346 and 1491.

(ii) The Tennessee Valley Authority which contain a disputes clause requiring that a contract dispute be resolved through an agency administrative process (see exception in § 1–1.318–2(b)).

(3) The Act also applies to certain kinds of relief, such as alleged legal entitlement to revision or reformation for mutual mistake, which formerly were: (i) Available within an agency only under Pub. L. 85–804 (50 U.S.C. 1431–1435) and (ii) not within the contracting officer's authority. Contracting officers should obtain legal advice regarding their authority to settle or decide these claims.

(4) Maritime contracts are subject to the Act to the extent provided in 41 U.S.C. 603.

(b) *Exceptions.* The Act does not apply to:

(1) Contracts with a foreign government or an agency thereof, or with an international organization or a subsidiary body thereof, if the head of the agency determines that application of the Contract Disputes Act of 1978 to the contract would not be in the public interest;

(2) Any claim or dispute for penalties or forfeitures prescribed by statute or regulation which another Federal agency is specifically authorized to administer, settle, or determine;

(3) Any claim involving fraud;

(4) Requests for relief under Pub. L. 85–804 because they are not considered claims under the Act (see § 1–1.318–2(a)); or

(5) Contracts of the Tennessee Valley Authority for the sale of fertilizer or electric power or related to the conduct or operation of the electric power system.

[45 FR 10789, Feb. 19, 1980]

§ 1–1.318–3 Contractor certification for claims over $50,000.

Any contractor claim over $50,000 (either initially or as amended) must be certified under paragraph (c) of the Disputes clause before settlement or decision on the claim (see § 1–7.102–12).

[45 FR 10789, Feb. 19, 1980]

§ 1–1.318–4 Contracting officer's decision.

(a) When a claim cannot be satisfied or settled by agreement and a decision on the claim is necessary, the contracting officer shall:

(1) Review the facts pertinent to the claim,

(2) Secure assistance from legal and other advisors, and

(3) Coordinate with the contract administration office or contracting office, when appropriate.

(b) The contracting officer shall furnish a copy of the decision to the contractor by certified mail—return receipt requested or any other method that provides evidence of receipt. The decision shall include:

(1) A paragraph substantially as follows:

This is the final decision of the contracting officer. This decision may be appealed to (insert the address of the cognizant Board of Contract Appeals). If you decide to make such an appeal, you must mail or otherwise furnish written notice thereof to the Board of Contract Appeals within 90 days from the date you receive this decision. A copy thereof shall be furnished to the contracting officer from whose decision the appeal is taken. The notice shall indicate that an appeal is intended, should reference this decision, and identify the contract number. Instead of appealing to the Board of Contract Appeals, you may bring an action directly to the U.S. Court of Claims within 12 months of the date you receive this decision

(2) A description of the claim or dispute;

(3) A reference to pertinent contract provisions;

(4) A statement of the factual areas of agreement or disagreement;

(5) A statement of the contracting officer's decision, with supporting rationale;

(6) A notification that the small claims procedure of the cognizant

Board of Contract Appeals is applicable at the sole election of the contractor in the event the amount in dispute as a result of the final decision is $10,000 or less; and

(7) A notification that the accelerated procedure of the cognizant Board of Contract Appeals is applicable at the sole election of the contractor in the event the amount in dispute as a result of the final decision is $50,000 or less.

(c) The contracting officer shall issue the decision within the following time limitations:

(1) For submitted claims not exceeding $50,000, within 60 days after the Contracting Officer receives a written request for a decision.

(2) For submitted certified claims exceeding $50,000, within 60 days after the Contracting Officer receives a certified claim. However, if a decision is not to be issued within 60 days, the contracting officer shall notify the contractor, within the 60 days, of the time within which the contracting officer will make the decision. The decision of the contracting officer on submitted claims shall be issued within a reasonable time. The reasonableness of this time period will depend on the size and complexity of the claim and the adequacy of the contractor's supporting data and any other relevant factors.

(d) (1) Within 30 days of receipt of an appeal, or notice that an appeal has been filed, the contracting officer shall assemble and transmit to the cognizant Board (through the agency's General Counsel) an appeal file consisting of all documents pertinent to the appeal, including:

(i) The decision from which the appeal is taken;

(ii) The contract, including specifications and pertinent amendments, plans, and drawings;

(iii) All correspondence between the parties relevant to the appeal, including the letter or letters of claim in response to which the decision was issued;

(iv) Transcripts of any testimony taken during the course of proceedings, and affidavits or statements of any witnesses on the matter in dispute made prior to the filing of the notice of appeal with the Board; and

(v) Any additional information considered relevant to the appeal.

(2) Documents in the appeal file may be originals or legible facsimiles or authenticated copies, and shall be arranged in chronological order where practicable, numbered sequentially, tabbed, and indexed to identify the contents of the file.

(3) Within the same 30 days as specified for furnishing the appeal file to the cognizant Board, the contracting officer shall also furnish a copy of the appeal file to the appellant. However, the contracting officer may substitute a list of specific contractual documents in place of the documents themselves as required in paragraph (d)(1)(ii) of this section.

(4) Upon request by either party, the Board may waive the requirement to furnish to the other party copies of bulky, lengthy, or out-of-size documents in the appeal file when inclusion would be burdensome. At the time a party files with the Board a document as to which such a waiver has been granted, he or she shall notify the other party that the document or a copy is available for inspection at its own offices or at the offices of the Board.

(e) The amount determined payable under the decision, less any portion already paid, normally should be paid without awaiting contractor action concerning appeal. The payment shall be without prejudice to the rights of either party.

[45 FR 10789, Feb. 19, 1980]

§ 1-1.318-5 Government claims against the contractor.

All claims asserted by the Government against a contractor relating to a contract that cannot be settled by agreement shall be the subject of a decision by the contracting officer and shall be processed in accordance with § 1-1.318-4.

[45 FR 10790, Feb. 19, 1980]

§ 1-1.318-6 Payment of interest on contractors' claims.

The Government shall pay interest on contractors' claims as prescribed in paragraph (d) of the Disputes clause (see § 1-7.102-12).

[45 FR 10790, Feb. 19, 1980]

§ 1-1.318-7 Contract clause.

The contracting officer shall insert the Disputes clause set forth in § 1-7.102-12 in all contracts to which the Contract Disputes Act of 1978 applies (see § 1-1.318-2).

[45 FR 10790, Feb. 19, 1980]

§ 1-1.318-8 Applicability of clause.

(a) With respect to contracts awarded before the effective date of the Act (March 1, 1979), the contractor may elect to proceed under the Disputes clause included in the contract or the clause in § 1-7.102-12, if:

(1) The claim was initiated before the effective date of the Act and the contracting officer has not rendered a final decision, or

(2) The claim was initiated on or after the effective date of the Act.

(b) With respect to processing claims asserted after the effective date of the Act, the clause set forth in § 1-7.102-12 applies. The clause was prescribed by the Office of Federal Procurement Policy on February 26, 1979 (44 FR 12519, March 7, 1979).

[45 FR 10790, Feb. 19, 1980]

§ 1-1.319 Procurement of items using jewel bearings.

(a) *General.* To maintain a jewel bearing production facility in the United States as a part of the industrial mobilization base, the Government owns and, through a contractor, operates the William Langer Jewel Bearing Plant at Rolla, N. Dak. The Director, Office of Emergency Preparedness, has requested that agencies use this source in order to promote the use of this plant as an established domestic source of jewel bearings.

(b) *Definitions.* As used in this subpart the following terms have the meanings set forth in this paragraph:

(1) "Jewel bearing" means a piece of synthetic sapphire or ruby of any shape, except a phonograph needle, which has one or more polished surfaces and which is suitable for use in an instrument, mechanism, subassembly, or part without any additional processing. A jewel bearing may be either unmounted or mounted into a ring or bushing. Examples of jewel bearings are: Watch holes—olive, watch holes—straight, pallet stones, roller jewels (jewel pins), end stones (caps), vee (cone) jewels, instrument rings, cups, double cups, and orifice jewels. As used herein, the term "jewel bearings" includes "related items."

(2) "Related items" means other synthetic sapphire or ruby components. Examples of related items are pivots, knife edges, insulators, spacers, windows, and striking surfaces other than pallet stones.

(3) "Price list" is the official U.S. Government Jewel Bearing Price List for jewel bearings produced by the William Langer Jewel Bearing Plant. This list is issued periodically by the General Services Administration.

(4) "Plant" means the Government-owned William Langer Jewel Bearing Plant, Rolla, N. Dak.

(5) "Military Standard Jewel Bearing" means a jewel bearing conforming to Military Specification No. MIL-B-27497 (latest revision) entitled "Bearings, Jewel, Sapphire or Ruby, Synthetic."

(c) *Policy.* (1) The Office of Emergency Preparedness has determined that the William Langer Jewel Bearing Plant is an essential part of the national mobilization base and that its continued operation as a domestic source of jewel bearings is in the interest of the United States. Therefore, all direct Government purchases of jewel bearings shall be made from the Plant. In addition, all procurements of items in the Federal Supply Classes and Groups listed in paragraph (d) of this section, or subassembly, component, or part thereof, whether procured by the Government direct or through contractors, shall provide a requirement in the solicitations and resulting contracts that jewel bearings in the quantities and of the types and sizes (including tolerances) necessary for the end items to be supplied under the contract must be purchased from the

Subtitle A—Federal Procurement Regulations System

The Office of the Federal Register published the following document at 50 FR 26987, July 1, 1985.

EDITORIAL NOTE: On September 19, 1983 (48 FR 42103), a joint document issued by the General Services Administration, the Department of Defense and the National Aeronautics and Space Administration, established a new Federal Acquisition Regulation in Title 48 of the Code of Federal Regulations (CFR). The general Federal Acquisition Regulation (FAR) published on that date is codified at Chapter 1 of Title 48. Chapters 2 through 49 of Title 48 were reserved and established for individual agency implementations and supplementations of the FAR. The FAR in Chapter 1 together with the agency regulations in Chapters 2 to 49 comprise the Federal Acquisition Regulations System that went into effect on April 1, 1984.

The FAR system replaced both the Federal Procurement Regulations System (FPRS) for civilian contracts (41 CFR Subtitle A, Chapters 1 to 49) and the Defense Acquisition Regulations (DAR) for defense contracts (32 CFR Chapter 1, Parts 1 to 39). While the new FAR regulations in Title 48 replaced the Title 32 DAR and Title 41 FPR regulations as of April 1, 1984, both the DAR and FPR provisions continue to apply to those contracts which preceded the effective date of the FAR.

The Office of the Federal Register (OFR) normally reissues its CFR revisions of both Title 32 and Title 41 volumes as of July of each year. Because of numerous amendments published to both the DAR and FPR during the July 1, 1983 to July 1, 1984 CFR revision cycle, the Office of the Federal Register issued full text revisions as of July 1, 1984, for each of the CFR volumes containing DAR or FPR regulations.

These 14 CFR volumes are:

DEFENSE ACQUISITION REGULATIONS

Title 32
- (Part 1-39), volume I
- (Part 1-39), volume II
- (Part 1-39), volume III

FEDERAL PROCUREMENT REGULATIONS

Title 41,
- Chapter 1, (Parts 1-1 to 1-10)
- Chapter 1, (Part 1-11 to Appendix)—Chapter 2
- Chapters 3 to Chapter 6
- Chapter 7
- Chapter 8
- Chapter 9
- Chapters 10 to 17
- Chapter 18:
  - Volume I (Parts 1-5)
  - Volume II (Parts 6-19)
  - Volume III (Parts 20-52 and Appendix)
- Chapter 19 to Chapter 100

These CFR volumes represent the final codified versions of the former procurement systems which continue to apply to those contracts entered into prior to the adoption of the FAR. Because the former FPR and DAR regulations do not apply to contracts entered into subsequent to the effectiveness of the FAR on April 1, 1984, it is unlikely that there will be any further amendments to these regulations. Since July 1, 1984 there has been only one amendment published in the FEDERAL REGISTER which affected the former FPR or DAR regulations. This amendment was not a substantive amendment; it was a clarifying statement to a Labor Department procurement regulation in 41 CFR 29-70.103 (see 49 FR 38108, Sept. 27, 1984).

The FPR and DAR regulations issued in the July 1, 1984 CFR editions are substantively unchanged. The Office of the Federal Register normally does not reissue CFR volumes when there have been no amendments issued to a particular volume during the revision cycle. A cover is usually issued and sent to CFR subscribers indicating that the last edition should be retained. The Superintendent of Documents, Governnment Printing Office continues to sell the "old" edition until supplies are exhausted.

Since the 1984 FPR and DAR regulations were printed in the 14 volumes listed above, OFR will not reprint the full text of these regulations in the July 1, 1985 CFR revisions. Users should retain the 1984 edition of these volumes. The 1985 revision of Titles 32 and 41 will contain only text of those parts not affected by the FAR and a note referring the reader to the 1984 edition for the text of the FPR (41 CFR Chapters 1 to 49) and DAR (32 CFR Parts 1 to 39).

Note from 1989 CFR

and this was recognized by plaintiff's expert, the patentee was not entitled to claim all structures which exercised the desired function, but only those which he himself invented, and a device which produces the same result through translation of force operates in a substantially different manner than one in which force is directly applied. This is not infringement, Westinghouse v. Boyden Power Brake Co., 170 U. S. 537, 568, especially where the patent is not a generic one and the patentee is entitled to but a narrow range of equivalents. See Directoplate Corp. v. Donaldson Lith. Co., 51 Fed. (2d) 199 (C. C. A. 6). There are two tests of equivalency (1) identity of function, and (2) substantial identity of way of performing that function. Walker on Patents, 6th Ed. 511. Primary as well as secondary patents are infringed by no substitutions that do not fully respond to these tests. Even if identity of function were present, the patent not being a primary one, the requirement of substantial identity of way should not be considered so elastic [illegible] the important difference [illegible] manner of operation.

There is no infringement, and the decree below is affirmed.

Supreme Court of the United States

UNITED STATES OF AMERICA v. DUBILIER CONDENSER CORPORATION

Nos. 316, 317, 318 Decided Apr. 10, 1933

Patents—Patents—

Patent is not, accurately speaking, a monopoly, for it is not created by executive authority at expense of and to prejudice of all community except grantee of patent; inventor deprives public of nothing which it enjoyed before his discovery but gives something of value to community by adding to sum of human knowledge; he may keep invention secret and reap its fruits indefinitely; in consideration of its disclosure and consequent benefit to community, patent is granted.

Patents—Specification—Sufficiency of disclosure—

Law requires such disclosure to be made in application for patent that others skilled in art may understand invention and how to put it to use.

Patents—Title—Employer and employee—

Patent is property and title can pass only by assignment; if not yet issued, agreement to assign when issued, if valid as contract, will be specifically enforced; respective rights and obligations of employer and employee, touching invention conceived by latter, spring from contract of employment; one employed to make invention who succeeds during term of service in accomplishing that task is bound to assign to employer patent obtained; on other hand if employment be general, albeit it covers field of labor and effort in performance of which employee conceived the invention for what he obtained patent, contract is not so broadly construed as to require assignment of patent.

Patents—Patentability—Invention—

Invention consists neither in finding out laws of nature nor in fruitful research as to operation of natural laws but in discovering how those laws may be utilized or applied for beneficial purpose by a process, a device or a machine; it is result of inventive act, birth of an idea, and its reduction to practice; product of original thought; concept demonstrated to be true by practical application or embodiment in tangible form; embodiment is not the invention and is not subject of a patent.

Patents—Title—Employer and employee—

Employment merely to design or construct or devise methods of manufacture is not same as employment to invent; shop right is that, where servant during hours of employment working with master's materials and appliances conceives and perfects invention for which he obtains patent, he must accord master non-exclusive right to practice invention; but employer has no equity to demand conveyance of invention; this remains property of him who conceived it together with right conferred by patent to exclude all others than employer from accruing benefits.

Patents—Title—

Title of the patentee is subject to no superior right of Government; grant is not, as in England, a matter of grace or favor so that conditions may be annexed at

pleasure of executive; laws passed by Congress alone may be looked to for guidance as to extent of limitations of respective rights of inventor and public; Constitution evinces no public policy which requires holder of patent to cede use or benefit of invention to United States.

Patents—Applicants—

No servant of United States has by statute been disqualified for applying for and receiving patent for his invention save officers and employees of Patent Office during period for which they hold their appointments.

Patents—Title—Government employees—

Supreme Court has applied rules enforced as between private employers and servants to relation between Government and its officers and employees; United States is entitled, in same way and to same extent as private employer, to shop rights, that is, free and non-exclusive use of patent which results from efforts of those employed in their working hours and with material belonging to Government; statutes, decisions and administrative practice negate existence of duty binding one in service of Government different from obligation of one in private employment; United States like any other employer, if it desires assignment of employee's rights, must prove contractual obligation on part of employee to assign patents to Government; employees of Bureau of Standards who did not agree to exercise inventive faculties in their work and who made invention not within its scope need not assign patents to Government; written evidence of employment does not mention research, much less invention; never was word said to employees prior to discoveries concerning invention or patents or duties or obligations respecting these matters; other employees of Bureau of Standards and other departments had, while so employed, received numerous patents and enjoyed exclusive rights against all private persons without let or hindrance from Government;* no act of Congress authorizes United States to take patent or to hold one by assignment; no statutory authority exists for transfer of patents to any department or officer of Government or for administration of patents or issuance of licenses on behalf of the United States; inventors do not hold patents in trust for Government.

Patents—Title—Government employee—

Act of 1883 and as amended in 1928 provides patent without fee for Government employee who in course of employ conceives invention; he should afford Government free use thereof but should be protected in right to exclude all others; similar right accrues to Government employee paying fees for patent.

Patents—Jurisdiction of courts—

Until 1910 Court of Claims was without jurisdiction to award compensation to owner of patent for unauthorized use by United States or its agents; power extended only to trial of claims based upon express or implied contracts for such use; in 1910 Congress enlarged jurisdiction to embrace former class of claims, but imposing restriction that it should not extend to owners of patents obtained by employees of Government while in service.

Patents—Title—Government employees—

Congress has refrained from imposing upon Government servants contract obligation to assign to Government patent for invention discovered or developed during period of Government service and incidental to line of official duties, and court will not assume such contract obligations.

Patents—Radio Receiving Apparatus title transfer refused—

1455141, Lowell & Dunmore, Radio Receiving Apparatus, title transfer refused.
1606212, Dunmore & Lowell, Power Amplifier, title transfer refused.
1635117, Dunmore, Signal Receiving System, title transfer refused.

On writs of certiorari to the United States Circuit Court of Appeals for the Third Circuit.

THOMAS D. THACHER, Solicitor General (CHARLES B. RUGG, Assistant Attorney General, ALEXANDER HOLTZOFF, PAUL D. MILLER and H. BRIAN HOLLAND with him on the brief) for petitioner; JAMES H. HUGHES, JR. (E. ENNALLS BERL, JOHN B. BRADY and WARD & GRAY with him on the brief) for respondent.

Mr. Justice ROBERTS delivered the opinion of the Court.—Three suits were

*The remaining portion of the syllabus was based upon a paragraph deleted from the opinion by order of the court. (See Note, p. 161.)

brought in the District Court for Delaware against the respondent as exclusive licensee under three separate patents issued to Francis W. Dunmore and Percival D. Lowell. The bills recite that the inventions were made while the patentees were employed in the radio laboratories of the Bureau of Standards, and are therefore, in equity, the property of the United States. The prayers are for a declaration that the respondent is a trustee for the Government, and, as such, required to assign to the United States all its right, title and interest in the patents, for an accounting of all moneys received as licensee, and for general relief. The District Court consolidated the cases for trial, and after a hearing dismissed the bills.[1] The Court of Appeals for the Third Circuit affirmed the decree.[2]

The courts below concurred in findings which are not challenged and, in summary, are:

The Bureau of Standards is a subdivision of the Department of Commerce.[3] Its functions consist in the custody of standards; the comparison of standards used in scientific investigations, engineering, manufacturing, commerce, and educational institutions with those adopted or recognized by the Government; the construction of standards, their multiple or subdivisions; the testing and calibration of standard measuring apparatus; the solution of problems which arise in connection with standards; and the physical properties of materials. In 1915 the Bureau was also charged by Congress with the duty of investigation and standardization of methods and instruments employed in radio communication, for which special appropriations were made.[4] In recent years it has been engaged in research and testing work of various kinds for the benefit of private industries, other departments of the Government, and the general public.[5]

The Bureau is composed of divisions, each charged with a specified field of activity, one of which is the electrical division. These are further subdivided into sections. One section of the electrical division is the radio section. In 1921 and 1922 the employees in the laboratory of this section numbered approximately twenty men doing technical work and some draftsmen and mechanics. The twenty were engaged in testing radio apparatus and methods and in radio research work. They were subdivided into ten groups, each group having a chief. The work of each group was defined in outlines by the chief or alternate chief of the section.

Dunmore and Lowell were employed in the radio section and engaged in research and testing in the laboratory. In the outlines of laboratory work the subject of "airplane radio" was assigned to the group of which Dunmore was chief and Lowell a member. The subject of "radio receiving sets" was assigned to a group of which J. L. Preston was chief, but to which neither Lowell nor Dunmore belonged.

In May, 1921, the Air Corps of the Army and the Bureau of Standards entered into an arrangement whereby the latter undertook the prosecution of forty-four research projects for the benefit of the Air Corps. To pay the cost of such work, the Corps transferred and allocated to the Bureau the sum of $267,500. Projects Nos. 37 to 42, inclusive, relating to the use of radio in connection with aircraft, were assigned to the radio section and $25,000 was allocated to pay the cost of the work. Project No. 38 was styled "visual indicator for radio signals," and suggested the construction of a modification of what was known as an "Eckhart recorder." Project No. 42 was styled "airship bomb control and marine torpedo control." Both were problems of design merely.

In the summer of 1921 Dunmore, as chief of the group to which "airplane radio" problems had been assigned, without further instructions from his superiors, picked out for himself one of these navy problems, that of operating a relay for remote control of bombs on airships and topedoes in the sea, "as one of particular interest and having perhaps a rather easy solution, and worked on it." In September he solved it,

In the midst of aircraft investigations and numerous routine problems of the section, Dunmore was wrestling in his own mind, impelled thereto solely by his own scientific curiosity, with the subject of substituing house-lighting alternating current for direct battery current in radio apparatus. He obtained a relay for operating a telegraph instrument which was in no way related to the remote control relay devised for aircraft use. The conception of the application of alternating current concerned partic-

[1] 49 F. (2d) 806 [9 U. S. Pat. Q. 181].

[2] 59 F. (2d) 881 [18 U. S. Pat. Q. 887].

[3] See Act of March 3, 1901, 31 Stat. 1449; Act of February 14, 1903, Sec. 4, 32 Stat. 826.

[4] Act of March 4, 1915, 38 Stat. 1044; Act of May 29, 1920, 41 Stat. 684; Act of March 3, 1921, 41 Stat. 1303.

[5] The fees charged cover merely the cost of the service rendered, as provided in the Act of June 30, 1932, Sec. 312, 47 Stat. 410.

ularly broadcast reception. This idea was conceived by Dunmore August 3, 1921, and he reduced the invention to practice December 16, 1921. Early in 1922 he advised his superior of his invention and spent additional time in perfecting the details. February 27, 1922, he filed an application for a patent.

In the fall of 1921 both Dunmore and Lowell were considering the problem of applying alternating current to broadcast receiving sets. This project was not involved in or suggested by the problems with which the radio section was then dealing and was not assigned by any superior as a task to be solved by either of these employees. It was independent of their work and voluntarily assumed.

While performing their regular tasks they experimented at the laboratory in devising apparatus for operating a radio receiving set by alternating current with the hum incident thereto eliminated. The invention was completed on December 10, 1921. Before its completion no instructions were received from and no conversations relative to the invention were held by these employees with the head of the radio section, or with any superior.

They also conceived the idea of energizing a dynamic type of loud speaker from an alternating current house-lighting circuit and reduced the invention to practice on January 25, 1922. March 21, 1922, they filed an application for a "power amplifier." The conception embodied in this patent was devised by the patentees without suggestion, instruction, or assignment from any superior.

Dunmore and Lowell were permitted by their chief, after the discoveries had been brought to his attention, to pursue their work in the laboratory and to perfect the devices embodying their inventions. No one advised them prior to the filing of applications for patents that they would be expected to assign the patents to the United States or to grant the Government exclusive rights thereunder.

The respondent concedes that the United States may practice the inventions without payment of royalty, but asserts that all others are excluded, during the life of the patents, from using them without the respondent's consent. The petitioner insists that the circumstances require a declaration either that the Government has sole and exclusive property in the inventions or that they have been dedicated to the public so that anyone may use them.

First. By Article I, Section 8, clause 8 of the Constitution, Congress is given power to promote the progress of science and the useful arts by securing for limited times to inventors the exclusive rights to their respective discoveries. R. S. 4886 as amended (U. S. Code, Title 35, § 31) is the last of a series of statutes which since 1793 have implemented the constitutional provision.

Though often so characterized a patent is not, accurately speaking, a monopoly, for it is not created by the executive authority at the expense and to the prejudice of all the community except the grantee of the patent. Seymour v. Osborne, 11 Wall. 516, 533. The term monopoly connotes the giving of an exclusive privilege for buying, selling, working or using a thing which the public freely enjoyed prior to the grant.[6] Thus a monopoly takes something from the people. An inventor deprives the public of nothing which it enjoyed before his discovery, but gives something of value to the community by adding to the sum of human knowledge. United States v. Bell Telephone Co., 167 U. S. 224, 239; Paper Bag Patent Case, 210 U. S. 405, 424; Brooks v. Jenkins, 3 McLean 432, 437; Parker v. Haworth, 4 McLean 370, 372; Allen v. Hunter, 6 McLean 303, 305-306; Attorney General v. Rumford Chemical Works, 2 Bann. & Ard. 298, 302. He may keep his invention secret and reap its fruits indefinitely. In consideration of its disclosure and the consequent benefit to the community, the patent is granted. An exclusive enjoyment is guaranteed him for seventeen years, but upon the expiration of that period, the knowledge of the invention enures to the people, who are thus enabled without restriction to practice it and profit by its use. Kendall v. Winsor, 21 How. 322, 327; United States v. Bell Telephone Co., *supra*, p. 239. To this end the law requires such disclosure to be made in the application for patent that others skilled in the art may understand the invention and how to put it to use.[7]

A patent is property and title to it can pass only by assignment. If not yet issued an agreement to assign when issued, if valid as a contract, will be specifically enforced. The respective rights and obligations of employer and employee, touching an invention conceived by the latter, spring from the contract of employment.

[6] Webster's New International Dictionary: "Monopoly."

[7] U. S. Code, Tit. 35, § 33.

One employed to make an invention, who succeeds, during his term of service, in accomplishing that task, is bound to assign to his employer any patent obtained. The reason is that he has only produced that which he was employed to invent. His invention is the precise subject of the contract of employment. A term of the agreement necessarily is that what he is paid to produce belongs to his paymaster. Standard Parts Company v. Peck, 264 U. S. 52. On the other hand, if the employment be general, albeit it covers a field of labor and effort in the performance of which the employee conceived the invention for which he obtained a patent, the contract is not so broadly construed as to require an assignment of the patent. Hapgood v. Hewitt, 119 U. S. 226; Dalzell v. Dueber Watch Case Mfg. Co., 149 U. S. 315. In the latter case it was said:

"But a manufacturing corporation, which has employed a skilled workman, for a stated compensation, to take charge of its works, and to devote his time and services to devising and making improvements in articles there manufactured, is not entitled to a conveyance of patents obtained for inventions made by him while so employed, in the absence of express agreement to that effect."

The reluctance of courts to imply or infer an agreement by the employee to assign his patent is due to a recognition of the peculiar nature of the act of invention, which consists neither in finding out the laws of nature, nor in fruitful research as to the operation of natural laws, but in discovering how those laws may be utilized or applied for some beneficial purpose, by a process, a device or a machine. It is the result of an inventive act, the birth of an idea and its reduction to practice; the product of original thought; a concept demonstrated to be true by practical application or embodiment in tangible form. Clark Tread Co. v. Willimantic Linen Co., 140 U. S. 481, 489; Symington Co. v. National Castings Co., 250 U. S. 383, 386; Pyrene Mfg. Co. v. Boyce, 292 Fed. 480, 481.

Though the mental concept is embodied or realized in a mechanism or a physical or chemical aggregate, the embodiment is not the invention and is not the subject of a patent. This distinction between the idea and its application in practice is the basis of the rule that employment merely to design or to construct or to devise methods of manufacture is not the same as employment to invent. Recognition of the nature of the act of invention also defines the limits of the so-called shop right, which shortly stated, is that where a servant, during his hours of employment, working with his master's materials and appliances, conceives and perfects an invention for which he obtains a patent, he must accord his master a non-exclusive right to practice the invention. McClurg v. Kingsland, 1 How. 202; Solomons v. United States, 137 U. S. 342; Lane & Bodley Co. v. Locke, 150 U. S. 193. This is an application of equitable principles. Since the servant uses his master's time, facilities and materials to attain a concrete result, the latter is in equity entitled to use that which embodies his own property and to duplicate it as often as he may find occasion to employ similar appliances in his business. But the employer in such a case has no equity to demand a conveyance of the invention, which is the original conception of the employee alone, in which the employer had no part. This remains the property of him who conceived it, together with the right conferred by the patent, to exclude all others than the employer from the accruing benefits. These principles are settled as respects private employment.

Second. Does the character of the service call for different rules as to the relative rights of the United States and its employees?

The title of a patentee is subject to no superior right of the Government. The grant of letters patent is not, as in England, a matter of grace or favor, so that conditions may be annexed at the pleasure of the executive. To the laws passed by the Congress, and to them alone, may we look for guidance as to the extent and the limitations of the respective rights of the inventor and the public. Attorney General v. Rumford Chemical Works, *supra*, at pp. 303-4. And this court has held that the Constitution evinces no public policy which requires the holder of a patent to cede the use or benefit of the invention to the United States, even though the discovery concerns matters which can properly be used only by the Government; as, for example, munitions of war. James v. Campbell, 104 U. S. 356, 358. Hollister v. Benedict Mfg. Co., 113 U. S. 59, 67.

No servant of the United States has by statute been disqualified from applying for and receiving a patent for his invention, save officers and employees of the Patent Office during the period for which they hold their appointments.[8]

[8] R. S. 480; U. S. Code, Tit. 35, § 4.

This being so, this court has applied the rules enforced as between private employers and their servants to the relation between the Government and its officers and employees.

United States v. Burns, 12 Wall. 246, was a suit in the Court of Claims by an army officer as assignee of a patent obtained by another such officer for a military tent, to recover royalty under a contract made by the Secretary of War for the use of the tents. The court said, in affirming a judgment for the plaintiff:

"If an officer in the military service, not specially employed to make experiments with a view to suggest improvements, devises a new and valuable improvement in arms, tents, or any other kind of war material, he is entitled to the benefit of it, and to letters-patent for the improvement from the United States, equally with any other citizen not engaged in such service; and the government cannot, after the patent is issued, make use of the improvement any more than a private individual, without license of the inventor or making compensation to him."

In United States v. Palmer, 128 U. S. 262, Palmer, a lieutenant in the army, patented certain improvements in infantry accoutrements. An army board recommended their use and the Secretary of War confirmed the recommendation. The United States manufactured and purchased a large number of the articles. Palmer brought suit in the Court of Claims for a sum alleged to be a fair and reasonable royalty. From a judgment for the plaintiff the United States appealed. This court, in affirming, said:

"It was at one time somewhat doubted whether the government might not be entitled to the use and benefit of every patented invention, by analogy to the English law which reserves this right to the crown. But that notion no longer exists. It was ignored in the case of Burns."

These principles were recognized in later cases involving the relative rights of the Government and its employees in instances where the subject-matter of the patent was useful to the public generally. While these did not involve a claim to an assignment of the patent, the court reiterated the views earlier announced.

In Solomons v. United States, 137 U. S. 342, 346, it was said:

"The government has no more power to appropriate a man's property invested in a patent than it has to take his property invested in real estate; nor does the mere fact that an inventor is at the time of his invention in the employ of the government transfer to it any title to, or interest in it. An employe, performing all the duties assigned to him in his department of service, may exercise his inventive faculties in any direction he chooses, with the assurance that whatever invention he may thus conceive and perfect is his individual property. There is no difference between the government and any other employer in this respect."

And in Gill v. United States, 160 U. S. 426, 435:

"There is no doubt whatever of the proposition laid down in Solomons case, that the mere fact that a person is in the employ of the government does not preclude him from making improvements in the machines with which he is connected, and obtaining patents therefor, as his individual property, and that in such case the government would have no more right to seize upon and appropriate such property, than any other proprietor would have. * * *"

The distinction between an employment to make an invention and a general employment in the course of which the servant conceives an invention has been recognized by the executive department of the Government. A lieutenant in the navy patented an anchor while he was on duty in the Bureau of Equipment and Recruiting, which was charged with the duty of furnishing anchors for the navy; he was not while attached to the bureau specially employed to make experiments with a view to suggesting improvements to anchors or assigned the duty of making or improving. The Attorney General advised that as the invention did not relate to a matter as to which the lieutenant was specially directed to experiment with a view to suggesting improvements he was entitled to compensation from the Government for the use of his invention in addition to his salary or pay as a navy officer.[9]

A similar ruling was made with respect to an ensign who obtained a patent for improvements in "B. L. R. ordnance" and who offered to sell the improvements, or the right to use them, to the Government. It was held that the navy might properly make a contract with him to this end.[10]

[9] 19 Opinions Attorney-General, 407.

[10] 20 Opinions Attorney-General, 329. And compare Report Judge Advocate General of the Navy, 1901, p. 6; Digest, Opinions Judge Advocate General of the Army, 1912-1930, p. 287; Opinions, Judge Advocate General of the Army, 1918, Vol. 2, pp. 529, 988, 1066.

The United States is entitled, in the same way and to the same extent as a private employer, to shop-rights, that is, the free and non-exclusive use of a patent which results from efforts of its employee in his working hours and with material belonging to the Government. Solomons v. United States, *supra*, pp. 346-7; McAleer v. United States, 150 U. S. 424; Gill v. United States, *supra*.

The statutes, decisions and administrative practice negate the existence of a duty binding one in the service of the Government different from the obligation of one in private employment.

Third. When the United States filed its bills it recognized the law as heretofore declared; realized that it must like any other employer, if it desired an assignment of the respondent's rights, prove a contractual obligation on the part of Lowell and Dunmore to assign the patents to the Government. The averments clearly disclose this. The bill in No. 316 is typical. After reciting that the employees were laboratory apprentice and associate physicist and laboratory assistant and associate physicist respectively and that one of their duties was "to carry on investigation research and experimentation in such problems relating to radio and wireless as might be assigned to them by their superiors," it is charged "in the course of his employment as aforesaid, there was assigned to said Lowell by his superiors in said radio section, for investigation and research, the problem of developing a radio receiving set capable of operation by alternating current. * * *"

Thus the Government understood that respondent could be deprived of rights under the patents only by proof that Dunmore and Lowell were employed to devise the inventions. The findings of the courts below show how far the proofs fell short of sustaining these averments.

The Government is consequently driven to the contention that though the employees were not specifically assigned the task of making the inventions (as in Standard Parts Co. v. Peck, *supra*) still, as the discoveries were "within the general field of their research and inventive work" the United States is entitled to an assignment of the patents. The courts below expressly found that Dunmore and Lowell did not agree to exercise their inventive faculties in their work and that invention was not within its scope. In this connection it is to be remembered that the written evidence of their employment does not mention research, much less invention; that never was there a word said to either of them, prior to their discoveries, concerning invention or patents or their duties or obligations respecting these matters; that as shown by the records of the patent office, employees of the Bureau of Standards and other departments had while so employed received numerous patents and enjoyed the exclusive rights obtained as against all private persons without let or hindrance from the Government.[11]

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[11] No exhaustive examination of the official records has been attempted. It is sufficient, however, for present purposes, to call attention to the following instances.

Dr. Frederick A. Kolster was employed in the radio section, Bureau of Standards, from December, 1912, until about March 1, 1921. He applied for the following patents: No. 1,609,866, for radio apparatus, application dated November 26, 1920. No. 1,447,165, for radio method and apparatus, application dated January 30, 1919. No. 1,311,654, for radio method and apparatus, application dated March 25, 1916. No. 1,394,560, for apparatus for transmitting radiant energy, application dated November 24, 1916. The Patent Office records show assignments of these patents to Federal Telegraph Company, San Francisco, Cal., of which Dr. Kolster is now president. He testified that these are all subject to a non-exclusive license in the United States to use and practice the same.

Burten McCollum was an employee of the Bureau of Standards between 1911 and 1924. On the dates mentioned he filed the following applications for patents, which were issued to him. No. 1,085,878, alternating current induction motor, March 11, 1912. No. 1,156,364, induction motor, February 25, 1915. No. 1,226,091, alternating current induction motor, August 2, 1915. No. 1,724,495, method and apparatus for determining the slope of subsurface rock boundaries, October 24, 1923. No. 1,724,720, method and apparatus for studying subsurface contours, October 12, 1925. The last two inventions were assigned to McCollum Geological Explorations, Inc., a Delaware corporation.

Herbert B. Brooks, while an employee of the Bureau between 1912 and 1930, filed November 1, 1919, an application on which patent No. 1,357,197, for an electric transformer, was issued.

William W. Coblentz, an employee of the Bureau of Standards from 1918, and still such at the date of the trial, on the dates mentioned, filed applications on which patents issued as follows: No. 1,418,862, for electrical resistance, September 22, 1920. No. 1,458,165, system of electrical control, September 22, 1920. No. 1,450,061, optical method for producing pulsating electric current, August 6, 1920. No. 1,563,557, optical means for rectifying alternating currents, September 18, 1923. The Patent Office records show that all of these stand in the name of Coblentz, but are subject to a license to the United States of America.

August Hund, who was an employee of the Bureau from 1922 to 1927, on the dates mentioned filed applications on which letters patent issued, No. 1,649,828, method of preparing Piezo-electric plates, September 30, 1925. No. 1,688,713, Piezo-electric-crystal oscillator system, May 10, 1927. No. 1,688,714, Piezo-electric-crystal apparatus, May 12, 1927. No. 1,648,689, condenser transmitter, April 10, 1926. All of these patents are shown of record to have been assigned to Wired Radio Inc., a corporation.

Paul R. Heyl and Lyman J. Briggs, while employees of the Bureau, filed an application January 11, 1922, for patent No. 1,660,751, on inductor compass, and assigned the same to the

In no proper sense may it be said that the contract of employment contemplated invention; everything that Dunmore and Lowell knew negatived the theory that they were employed to invent; they knew, on the contrary, that the past and then present practice was that the employees of the Bureau were alowed to take patents on their inventions and have the benenfits thereby conferred save as to use by the United States. The circumstances preclude the implication of any agreement to assign their inventions or patents.

*Moreover no court could, however clear the proof of such a contract, order the execution of an assignment. No Act of Congress has been called to our attention authorizing the United States to take a patent or to hold one by assignment. No statutory authority exists for the transfer of a patent to any department or officer of the Government, or for the administration of patents, or the issuance of licenses on behalf of the United States. In these circumstances no public policy requires us to deprive the inventor of his exclusive rights as respects the general public and to lodge them in a dead hand incapable of turning the patent to account for the benefit of the public.

The record affords even less basis for inferring a contract on the part of the inventors to refrain from patenting their discoveries than for finding an agreement to assign them.

The bills aver that the inventions and patents are held in trust for the United States, and that the court should so declare. It is claimed that as the work of the Bureau, including all that Dunmore and Lowell did, was in the public interest, these public servants had dedicated the offspring of their brains to the public, and so held their patents in trust for the common weal, represented here in a corporate capacity by the United States. The patentees, we are told, should surrender the patents for cancellation, and the respondent must also give up its rights under the patents.

The trust cannot be express. Every fact in the case negatives the existence of one. Nor can it arise *ex maleficio*. The employees' conduct was not fraudulent in any respect. They promptly disclosed their inventions. Their superiors encouraged them to proceed in perfecting and applying the discoveries. Their note books and reports disclosed the work they were doing, and there is not a syllable to suggest their use of time or material was clandestine or improper. No word was spoken regarding any claim of title by the Government until after applications for patents were filed. And, as we have seen, no such trust has been spelled out of the relation of master and servant, even in the cases where the employee has perfected his invention by the use of his employer's time and materials. The cases recognizing the doctrine of shop rights may be said to fix a trust upon the employee in favor of his master as respects the use of the invention by the latter, but they do not affect the title to the patent and the exclusive rights conferred by it against the public.

The Government's position in reality is, and must be, that a public policy, to be declared by a court, forbids one employed by the United States, for scientific research, to obtain a patent for what he invents, though neither the Constitution nor any satute so declares.

Where shall the courts set the limit of the doctrine? For confessedly, it must be limited. The field of research is as broad as that of science itself. If the petitioner is entitled to a cancellation of the patents in this case, would it be so entitled, if the employees had done their work at home, in their own time and with their own appliances and materials? What is to be said of an invention evolved as the result of the solution of a problem in a realm apart from that to which the employee is assigned by his official superiors? We have seen that the Bureau has numerous divisions. It is entirely possible that an employee in one division may make an invention falling within the work of some other division. Indeed this case presents that exact situation, for the inventions in question had to do with radio reception, a matter assigned to a group of which Dunmore and Lowell were not members. Did the mere fact of their employment by the Bureau require these employees

Aeronautical Instrument Company of Pittsburgh, Pennsylvania.

C. W. Burrows was an employee of the Bureau of Standards between 1912 and 1919. While such employee he filed applications on the dates mentioned for patents which were issued, No. 1,322,405, October 4, 1917, method and apparatus for testing magnetizable objects by magnetic leakage; assigned to Magnetic Analysis Corporation, Long Island City, N. Y. No. 1,329,578, relay, March 13, 1918; exclusive license issued to make, use and sell for the field of railway signaling and train control, to Union Switch & Signal Company, Swissvale, Pa. No. 1,459,970, method of and apparatus for testing magnetizable objects, July 25, 1917; assigned to Magnetic Analysis Corporation, Long Island City, N. Y.

John A. Willoughby, an employee of the Bureau of Standards between 1918 and 1922, while so employed, on June 26, 1919, applied for and was granted a patent, No. 1,555,345, for a loop antenna.

*This paragraph was deleted from the opinion by order of May 8, 1933.

to cede to the public every device they might conceive?

Is the doctrine to be applied only where the employment is in a bureau devoted to scientific investigation *pro bono publico?* Unless it is to be so circumscribed the statements of this court in Burns v. United States, *supra*, Solomons v. United States, *supra*, and Gill v. United States, *supra*, must be held for naught.

Again, what are to be defined as bureaus devoted entirely to scientific research? It is common knowledge that many in the Department of Agriculture conduct researches and investigations, that divisions of the War and Navy Departments do the like, and doubtless there are many other bureaus and sections in various departments of government where employees are set the task of solving problems all of which involve more or less of science. Shall the field of the scientist be distinguished from the art of as killed mechanic? Is it conceivable that one working on a formula for a drug or an antiseptic in the Department of Agriculture stands in a different class from a machinist in an arsenal? Is the distinction to be that where the government department is, so to speak, a business department operating a business activity of the government, the employee has the same rights as one in private employment, whereas if his work be for a bureau interested more particularly in what may be termed scientific research he is upon notice that whatever he invents in the field of activity of the bureau, broadly defined, belongs to the public and is unpatentable? Illustrations of the difficulties which would attend an attempt to define the policy for which the Government contends might be multiplied indefinitely.

The courts ought not to declare any such policy; its formulation belongs solely to the Congress. Will permission to an employee to enjoy patent rights as against all others than the Government tend to the improvement of the public service by attracting a higher class of employees? Is there in fact greater benefit to the people in a dedication to the public of inventions conceived by officers of government, than in their exploitation under patents by private industry? Should certain classes of invention be treated in one way and other classes differently? These are not legal questions, which courts are competent to answer. They are practical questions, and the decision as to what will accomplish the greatest good for the inventor, the Government and the public rests with the Congress. We should not read into the patent laws limitations and conditions which the legislature has not expressed.

Fourth. Moreover, we are of opinion Congress has approved a policy at variance with the petitioner's contentions. This is demonstrated by examination of two statutes, with their legislative history, and the hearings and debates respecting proposed legislation which failed of passage.

Since 1883 there has been in force an act [12] which provides:

"The Secretary of the Interior [now the Secretary of Commerce, act of February 14, 1903, c. 552, Sec. 12, 32 Stat. 830] and the Commissioner of Patents are authorized to grant any officer of the government, except officers and employees of the Patent Office, a patent for any invention of the classes mentioned in section forty-eight hundred and eighty-six of the Revised Statutes, when such invention is used or to be used in the public service, without the payment of any fee: Provided, That the applicant in his application shall state that the invention described therein, if patented, may be used by the government or any of its officers or employees in the prosecution of work for the government, or by any other person in the United States, without the payment to him of any royalty thereon, which stipulation shall be included in the patent."

This law was evidently intended to encourage government employees to obtain patents, by relieving them of the payment of the usual fees. The condition upon which the privilege was accorded is stated as the grant of free use by the government, "its officers or employees in the prosecution of work for the government, *or by any other person in the United States.*" For some time the effect of the italicized phrase was a matter of doubt.

In 1910 the Judge Advocate General of the Army rendered an opinion to the effect that one taking a patent pursuant to the act threw his invention "open to public and private use in the United States." [13] It was later realized that this view made such a patent a contradiction in terms, for it secured no exclusive right to anyone. In 1918 the Judge Advocate General gave a well-reasoned opinion [14] holding that if the statute were construed to involve a dedication to the public, the so-called patent would at most amount to

[12] Act of March 3, 1883, c. 143, 22 Stat. 625.

[13] See Squier v. American T. & T. Co., 21 F. (2d) 747, 748.

[14] November 30, 1918; Opinions of Judge Advocate General, 1918, Vol. 2, p. 1029.

a publication or prior reference. He concluded that the intent of the act was that the free use of the invention extended only to the Government or those doing work for it. A similar construction was adopted in an opinion of the Attorney General.[15] Several federal courts referred to the statute and in *dicta* indicated disagreement with the views expressed in these later opinions.[16]

The departments of government were anxious to have the situation cleared and repeatedly requested that the act be amended. Pursuant to the recommendations of the War Department an amendment was enacted April 30, 1928.[17] The proviso was changed to read:

"Provided, That the applicant in his application shall state that the invention described therein, if patented, may be manufactured or used by or for the Government for governmental purposes without the payment to him of any royalty thereon, which stipulation shall be included in the patent."

The legislative history of the amendment clearly discloses the purpose to save to the employee his right to exclude the public.[18] In the report of the Senate Committee on Patents submitted with the amendment, the object of the bill was said to be the protection of the interests of the Government, primarily by securing patents on inventions made by officers and employees, presently useful in the interest of the national defense or those which may prove useful in the interest of national defense in the future; and secondarily, to encourage the patenting of inventions by officers and employees of the Government with the view to further protection of the Government against suits for infringement of patents. The Committee stated that the bill had the approval of the Commissioner of Patents and was introduced at the request of the Secretary of War. Appended to the report is a copy of a letter of the Secretary of War addressed to the committees of both Houses stating that the language of the legislation then existing was susceptible of two interpretations contrary to each other. The letter quoted the proviso of the section as it then stood, and continued:

"It is clear that a literal construction of this proviso would work a dedication to the public of every patent taken out under the act. If the proviso must be construed literally we would have a situation wherein all the patents taken out under the act would be nullified by the very terms of the act under which they were granted, for the reason that a patent which does not carry with it the limited monopoly referred to in the Constitution is in reality not a patent at all. The only value that a patent has is the right that it extends to the patentee to exclude all others from making, using, or selling the invention for a certain period of years. A patent that is dedicated to the public is virtually the same as a patent that has expired."

After referring to the interpretation of the Judge Advocate General and the Attorney General and mentioning that no satisfactory adjudication of the question has been afforded by the courts, the letter went on to state:

"Because of the ambiguity referred to and the unsettled condition that has arisen therefrom, it has become the policy of the War Department to advise all its personnel who desire to file applications for letters patent, to do so under the general law and pay the required patent-office fee in each case."

And added:

"If the proposed legislation is enacted into law, Government officers and employees may unhesitatingly avail themselves of the benefits of the act with full assurance that in so doing their patent is not dedicated to the public by operation of law. The War Department has been favoring legislation along the lines of the proposed bill for the past five or six years."

When the bill came up for passage in the House a colloquy occurred which clearly disclosed the purpose of the amendment.[20] The intent was that a gov-

[15] 32 Opinions Attorney General, 145.

[16] See Squier v. American Tel. & Tel. Co., 7 F. (2d) 831, 21 F. (2d) 747; Hazeltine Corporation v. Electric Service Engineering Corp., 18 F. (2d) 662; Hazeltine Corporation v. A. W. Grebe & Co., 21 F. (2d) 648; Selden Co. v. National Aniline & Chemical Co., 48 F. (2d) 270.

[17] 45 Stat. 467, 468.

[18] Report No. 871, 70th Cong., 1st Sess., House of Representatives, to accompany H. R. 6108; Report No. 765, 70th Cong., 1st Sess., Senate, to accompany H. R. 6108; Cong. Rec., House of Representatives, March 19, 1928, 70th Cong., 1st Sess., p. 5018; Cong. Rec., Senate, April 24, 1928, 70th Cong., 1st Sess., p. 7066.

[20] Cong. Rec., 70th Cong., 1st Sess., Vol. 69, Part 5, p. 5018:

"Mr. LaGuardia. Mr. Speaker, reserving the right to object, is not the proviso too broad? Suppose an employee of the Government invents some improvement which is very valuable, is he compelled to give the Government free use of it?

"Mr. Vestal [who reported the bill for the Committee and was in charge of it]. If he is employed by the Government and the invention is made while working in his capacity as an agent of the Government. If the head of the bureau certifies this invention will be used by the Government, then the Government, of course, gets it without the payment of any royalty.

"Mr. LaGuardia. The same as a factory rule?

"Mr. Vestal. Yes; but the man who takes out the patent has his commercial rights outside.

"Mr. LaGuardia. Outside of the Government?

"Mr. Vestal. Yes.

"Mr. LaGuardia. But the custom is, and with-

ernment employee who in the course of his employment conceives an invention should afford the government free use thereof, but should be protected in his right to exclude all others. If Dunmore and Lowell, who tendered the Government a non-exclusive license without royalty, and always understood that the Government might use their inventions freely, had proceeded under the act of 1883, they would have retained their rights as against all but the United States. This is clear from the executive interpretation of the act. But for greater security they pursued the very course then advised by the law officers of the Government. It would be surprising if they thus lost all rights as patentees; especially so, since Congress has now confirmed the soundness of the views held by the law officers of the Government.

Until the year 1910 the Court of Claims was without jurisdiction to award compensation to the owner of a patent for unauthorized use by the United States or its agents. Its power extended only to the trial of claims based upon an express or implied contract for such use.[20] In that year Congress enlarged the jurisdiction to embrace the former class of claims.[21] In giving consent to be sued, the restriction was imposed that it should not extend to owners of patents obtained by employees of the Government while in the service. From this it is inferred that Congress recognized no right in such patentees to exclude the public from practicing the invention. But an examination of the legislative record completely refutes the contention.

The House Committee in reporting the bill, after referring to the law as laid down in the Solomons case, said: "The United States in such a case has an implied license to use the patent without compensation, for the reason that the inventor used the time or the money or the material of the United States in perfecting his invention. The use by the United States of such a patented invention without any authority from the owner thereof is a lawful use under existing law, and we have inserted the words 'or lawful right to use the same' in order to make it plain that we do not intend to make any change in existing law in this respect, and do not intend to give the owner of such a patent any claim against the United States for its use."[22] From this it is clear that Congress had no purpose to declare a policy at variance with the decisions of this court.

The executive departments have advocated legislation regulating the taking of patents by government employees and the administration by government agencies of the patents so obtained. In 1919 and 1920 a bill sponsored by the Interior Department was introduced. It provided for the voluntary assignment or license by any government employee, to the Federal Trade Commission, of a patent applied for by him, and the licensing of manufacturers by the Commission, the license fees to be paid into the Treasury and such part of them as the President might deem equitable to be turned over to the patentee.[23] In the hearings and reports upon this measure

out this bill, the Government has the right to the use of the improvement without payment if it is invented in Government time and in Government work.

"Mr. Vestal. That is correct; and then on top of that, may I say that a number of instances have occurred where an employee of the Government, instead of taking out a patent had some one else take out the patent and the Government has been involved in a number of suits. There is now $600,000,000 worth of such claims in the Court of Claims."

It will be noted from the last statement of the gentleman in charge of the bill that Congress was concerned with questions of policy in the adoption of the amendment. These, as stated above, are questions of business policy and business judgment—what is to the best advantage of the Government and the public. They are not questions as to which the courts ought to invade the province of the Congress.

[20] See Belknap v. Schild, 161 U. S. 10, 16; Eager v. United States, 35 C. Cls. 556.

[21] Act of June 25, 1910, 36 Stat. 851: (See Crozier v. Krupp, 224 U. S. 290.)

"That whenever an invention described in and covered by a patent of the United States shall hereafter be used by the United States without license of he owner thereof or lawful to use the same, such owner may recover reasonable compensation for such use by suit in the Court of Claims: Provided, however, That said Court of Claims shall not entertain a suit or reward compensation under the provisions of this Act where the claim for compensation is based on the use by the United States of any article heretofore owned, leased, used by, or in the possession of the United States: Provided further, That in any such suit the United States may avail itself of any and all defenses, general or special, which might be pleaded by a defendant in an action for infringement, as set forth in Title Sixty of the Revised Statutes, or otherwise: And provided further, That the benefits of this Act shall not inure to any patentee, who, when he makes such claim is in the employment or service of the Government of the United States; or the assignee of any such patentee; nor shall this Act apply to any device discovered or invented by such employee during the time of his employment or service."

The Act was amended in resepcts immaterial to the present question, July 1, 1918, 40 Stat. 705. See William Cramp & Sons Co. v. Curtis Turbine Co., 246 U. S. 28; Richmond Screw Anchor Co. v. United States, 275 U. S. 331, 343. As amended it appears in U. S. C., Tit. 35, § 68.

[22] House Report 1288, 61st Cong., 2d Sess.

[23] S. 5265, 65th Cong., 3d Sess.; S. 3223, 66th Cong., 2d Sess.; H. R. 9932, 66th Cong., 2d Sess.; H. R. 11984, 66th Cong., 3d Sess.

stress was laid not only upon the fact that action by an employee thereunder would be voluntary, but that the inventor would be protected at least to some extent in his private right of exclusion. It was recognized that the Government could not compel an assignment, was incapable of taking such assignment or administering the patent, and that it had shop rights in a patent perfected by the use of government material and in government working time. Nothing contained in the bill itself or in the hearings or reports indicates any intent to change the existing and well understood rights of government employees who obtain patents for their inventions made while in the service. The measure failed of passage.

In 1923 the President sent to the Congress the report of an interdepartmental patents board created by executive order to study the question of patents within the government service and to recommend regulations establishing a policy to be followed in respect thereof. The report adverted to the fact that in the absence of a contract providing otherwise a patent taken out by a government employee, and any invention developed by one in the public service, is the sole property of the inventor. The committee recommended strongly aganist public dedication of such an invention, saying that this in effect voids a patent, and, if this were not so, "there is little incentive for anyone to take up a patent and spend time, effort, and money * * * on its commercial development without at least some measure of protection against others free to take the patent as developed by him and compete in its use. In such a case one of the chief objects of the patent law would be defeated." [24] In full accord is the statement on behalf of the Department of the Interior in a memorandum furnished with respect to the bill introduced in 1919.[25]

With respect to a policy of permitting the patentee to take a patent and control it in his own interest (subject, of course, to the government's right of use, if any) the committee said:

"* * * it must not be lost sight of that in general it is the constitutional right of every patentee to exploit his patent as he may desire, however expedient it may appear to endeavor to modify this right in the interest of the public when the patentee is in the Government service." [26]

Concerning a requirement that all patents obtained by government employees be assigned to the United States or its agent the committee said:

"* * * it would, on the one hand, render difficult securing the best sort of technical men for the service and, on the other, would influence technical workers to resign in order to exploit inventions which they might evolve and suppress while still in the service. There has always been more or less of a tendency for able men in the service to do this, particularly in view of the comparative meagerness of Government salaries; thus the Government has suffered loss among its most capable class of workers." [27]

The committee recommended legislation to create an Interdepartmental Patents Board; and further that the law make it part of the express terms of employment, having the effect of a contract, that any patent application made or patent granted for an invention discovered or developed during the period of government service and incident to the line of official duties, which in the judgment of the board should, in the interest of the national defense, or otherwise in the public interest, be controlled by the government, should upon demand by the board be assigned by the employee to an agent of the Government. The recommended measures were not adopted.

Fifth. Congress has refrained from imposing upon government servants a contract obligation of the sort above described. At least one department has attempted to do so by regulation.[28] Since the record in this case discloses that the Bureau of Standards had no such regulation, it is unnecessary to consider whether the various departments have power to impose such a contract upon employees without authorization by act of Congress. The question is more difficult under our form of government than under that of Great Britain, where such departmental regulations seem to settle the matter.[29]

All of this legislative history emphasizes what we have stated—that the courts are incompetent to answer the difficult question whether the patentee is to be allowed his exclusive right or compelled to dedicate his invention to the public. It is suggested that the election rests with the authoritative officers of the Government. Under what power, express or implied, may such officers, by

[24] Sen. Doc. No. 83, 68th Cong., 1st Sess., p. 3.

[25] Hearings, Senate Patent Committee, 66th Cong., 2d Sess., January 28, 1920, p. 11.

[26] Sen. Doc. No. 83, 68th Cong., 1st Sess., p. 3.

[27] *Ibid.*, p. 4.

[28] See Annual Report, Department of Agriculture, for 1907, p. 775. See Selden Co. v. National Aniline & Chemical Co. Inc., 48 F. (2d) 270, 278.

[29] Queen's Regulations (Addenda 1895, 1st February); Ch. 1, Instructions for Officers in General, pp. 15-16.

administrative fiat, determine the nature and extent of rights exercised under a charter granted a patentee pursuant to constitutional and legislative provisions? Apart from the fact that express authority is nowhere to be found, the question arises, who are the authoritative officers whose determination shall bind the United States and the patentee? The Government's position comes to this—that the courts may not reexamine the exercise of an authority by some officer, not named, purporting to deprive the patentee of the rights conferred upon him by law. Nothing would be settled by such a holding, except that the determination of the reciprocal rights and obligations of the Government and its employee as respects inventions are to be adjudicated, without review, by an unspecified department head or bureau chief. Hitherto both the executive and the legislative branches of the Government have concurred in what we consider the correct view,—that any such declaration of policy must come from Congress and that no power to declare it is vested in administrative officers.

The decrees are affirmed.

Mr. Justice STONE, dissenting.—I think the decrees should be reversed.

The Court's conclusion that the employment of Dunmore and Lowell did not contemplate that they should exercise inventive faculties in their service to the government, and that both courts below so found, seems to render superfluous much that is said in the opinion. For it has not been contended and I certainly do not contend, that if such were the fact there would be any foundation for the claim asserted by the government. But I think the record does not support the Court's conclusion of fact. I am also unable to agree with the reasoning of the opinion, although on my view of the facts it would lead to the reversal of the decree below, which I favor.

When originally organized[1] as a subdivision of the Department of Commerce, the functions of the Bureau of Standards consisted principally of the custody, comparison, construction, testing and calibration of standards and the solution of problems arising in connection with standards. But in the course of its investigation of standards of quality and performance it has gradually expanded into a laboratory for research of the broadest character in various branches of science and industry and particularly in the field of engineering.[2] Work of this nature is carried on for other government departments,[3] the general public[4] and private industries.[5] It is almost entirely supported by public funds,[6] and is maintained in the public interest. In 1915, as the importance of radio to the government and to the public increased, Congress appropriated funds[7] to the Bureau "for investigation and standardization of methods and instruments employed in radio communication." Similar annual appropriations have been made since and public funds were allotted by Acts of July 1, 1916, c. 209, 39 Stat. 262, 324 and October 6, 1917, c. 79, 40 Stat. 345, 375, for the construction of a

[1] Act of March 3, 1901, 31 Stat. 1449; Act of February 14, 1903, § 4, 32 Stat. 825, 826. For an account of the origin and development of the Bureau and its predecessor, see Weber, The Bureau of Standards, 1-75.

[2] Much of the expansion of the Bureau's activities in this direction took place during the war. See Annual Report of the Director, Bureau of Standards, for 1919, p. 25; War Work of the Bureau of Standards (1921), Misc. Publications of the Bureau of Standards No. 46. The scope of the Bureau's scientific work is revealed by the annual reports of the Director. See also the bibliography of Bureau publications for the years 1901-1925, Circular of the Bureau of Standards No. 24 (1925).

[3] The Act of May 29, 1920, 41 Stat. 631, 683, 684, permitted other departments to transfer funds to the Bureau of Standards for such purposes, though even before that time it was one of the major functions of the Bureau to be of assistance to other branches of the service. See e. g. Annual Reports of the Director for 1915, 1916, 1917, p. 16; Annual Report for 1918, p. 18; compare Annual Report for 1921, p. 25; for 1922, p. 10.

[4] The consuming public is directly benefited not only by the Bureau's work in improving the standards of quality and performance of industry, but also by the assistance which it lends to governmental bodies, state and city. See Annual Reports of the Director for 1915, 1916, 1917, p. 14; Annual Report for 1918, p. 16; National Bureau of Standards, Its Functions and Activity, Circular of the Bureau of Standards, No. 1 (1925), pp. 28, 33.

[5] Cooperation with private industry has been the major method relied upon to make the accomplishments of the Bureau effective. See Annual Report for 1922, p. 7; Annual Report for 1923, p. 3. A system of research associates permits industrial groups to maintain men at the Bureau for research of mutual concern. The plan has facilitated co-operation. See Annual Report for 1923, p. 4; Annual Report for 1924, p. 85; Annual Report for 1925, p. 88; Annual Reports for 1926, 1928, 1929, 1931, 1932, p. 1; Research Associates at the Bureau of Standards, Bureau Circular No. 296 (1926). For a list of cooperating organizations as of December 1, 1926, see Misc. Publications No. 96 (1927).

[6] No fees have been charged except to cover the cost of testing, but the Act of June 30, 1932, c. 314, § 312, 47 Stat. 410, directs that "for all comparisons, calibrations, tests or investigations, performed" by the Bureau, except those performed for the Government of the United States or a State, "a fee sufficient in each case to compensate the * * * Bureau * * * for the entire cost of the services rendered shall be charged. * * *"

[7] Act of March 4, 1915, c. 141, 38 Stat. 997, 1044.

fireproof laboratory building "to provide additional space to be used for research and testing in radio communication," as well as "space and facilities for cooperative research and experimental work in radio communication" by other departments of the government. Thus, the conduct of research and scientific investigation in the field of radio has been a duty imposed by law upon the Bureau of Standards since 1915.

Radio research has been conducted in the Radio Section of the Electrical Division of the Bureau. In 1921 and 1922, when Dunmore and Lowell made the inventions in controversy, they were employed in this section as members of the scientific staff. They were not, of course, engaged to invent, in the sense in which a carpenter is employed to build a chest, but they were employed to conduct scientific investigations in a laboratory devoted principally to applied rather than pure science with full knowledge and expectation of all concerned that their investigations might normally lead, as they did, to invention. The Bureau was as much devoted to the advancement of the radio art by invention as by discovery which falls short of it. Hence, invention in the field of radio was a goal intimately related to and embraced within the purposes of the work of the scientific staff.

Both courts below found that Dunmore and Lowell were impelled to make these inventions "solely by their own scientific curiosity." They undoubtedly proceeded upon their own initiative beyond the specific problems upon which they were authorized or directed to work by their superiors in the Bureau, who did not actively supervise their work in its inventive stages. But the evidence leaves no doubt that in all they did they were following the established practice of the Section. For members of the research staff were expected and encouraged to follow their own scientific impulses in pursuing their researches and discoveries to the point of useful application, whether they involved invention or not, and even though they did not relate to the immediate problem in hand. After the inventions had been conceived they were disclosed by the inventors to their chief and they devoted considerable time to perfecting them, with his express approval. All the work was carried on by them in the government laboratory with the use of government materials and facilities, during the hours for which they received a government salary. Its progress was recorded throughout in weekly and monthly reports which they were required to file, as well as in their laboratory notebooks. It seems clear that in thus exercising their inventive powers in the pursuit of ideas reaching beyond their specific assignments, the inventors were discharging the duties expected of scientists employed in the laboratory; Dunmore as well as his supervisors, testified that such was their conception of the nature of the work. The conclusion is irresistible that their scientific curiosity was precisely what gave the inventors value as research workers; the government employed it and gave it free rein in performing the broad duty of the Bureau of advancing the radio art by discovery and invention.

The courts below did not find that there was any agreement between the government and the inventors as to their relative rights in the patents and there was no evidence to support such a finding. They did not find, and upon the facts in evidence and within the range of judicial notice, they could not find that the work done by Dunmore and Lowell leading to the inventions in controversy was not within the scope of their employment. Such a finding was unnecessary to support the decisions below, which proceeded on the theory relied on by the respondent here, that in the absence of an express contract to assign it, an employer is entitled to the full benefit of the patent granted to an employee, only when it is for a particular invention which the employee was specifically hired or directed to make. The bare references by the court below to the obvious facts that "research" and "invention" are not synonymous, and that all research work in the Bureau is not concerned with invention fall far short of a finding that the work in the Bureau did not contemplate invention at all. Those references were directed to a different end, to the establishment of what is conceded here, that Dunmore and Lowell were not specifically hired or directed to make the inventions because in doing so they proceeded beyond the assignments given them by their superiors. The court's conception of the law, applied to this ultimate fact, led inevitably to its stated conclusion that the claim of the government is without support in reason or authority "unless we should regard a general employment for research work as synonymous with a particular employment (or assignment) for inventive work."

The opinion of this Court apparently rejects the distinction between specific employment or assignment and general

employment to invent, adopted by the court below and supported by authority, in favor of the broader position urged by the government that wherever the employee's duties involve the exercise of inventive powers, the employer is entitled to an assignment of the patent on any invention made in the scope of the general employment. As I view the facts, I think such a rule, to which this Court has not hitherto given explicit support, would require a decree in favor of the government. It would also require a decree in favor of a private employer, on the ground stated by the court that as the employee "has only produced what he is employed to invent," a specifically enforcible "term of the agreement necessarily is that what he is paid to produce belongs to his paymaster." A theory of decision so mechanical is not forced upon us by precedent and cannot, I think, be supported.

What the employee agrees to assign to his employer is always a question of fact. It cannot be said that merely because an employee agrees to invent, he also agrees to assign any patent secured for the invention. Accordingly, if an assignment is ordered in such a case it is no more to be explained and supported as the specific enforcement of an agreement to transfer property in the patent than is the shopright which equity likewise decrees, where the employment does not contemplate invention. All the varying and conflicting language of the books cannot obscure the reality that in any case where the rights of the employer to the invention are not fixed by express contract, and no agreement in fact may fairly be implied, equity determines after the event what they shall be. In thus adjudicating *in invitum* the consequences of the employment relationship, equity must reconcile the conflicting claims of the employee who has evolved the idea and the employer who has paid him for his time and supplied the materials utilized in experimentation and construction. A task so delicate cannot be performed by accepting the formula advanced by the petitioner any more than by adopting that urged by the respondent, though both are not without support in the opinions of this Court. Compare Hapgood v. Hewitt, 119 U. S. 226; Dalzell v. Dueber Mfg. Co., 149 U. S. 315; Solomons v. United States, 137 U. S. 342, 346; Gill v. United States, 160 U. S. 426, 435; Standard Parts Co. v. Peck, 264 U. S. 52.

Where the employment does not contemplate the exercise of inventive talent the policy of the patent laws to stimulate invention by awarding the benefits of the monopoly to the inventor and not to someone else leads to a ready compromise: a shop-right gives the employer an adequate share in the unanticipated boon.[8] Hapgood v. Hewitt, *supra;* Lane & Bailey Co. v. Locke, 150 U. S. 193; Dalzell v. Dueber Mfg. Co., *supra;* Pressed Steel Car Co. v. Hansen, 137 Fed. 403; Amdyco Corp. v. Urquhart, 39 F. (2d) 943, aff'd 51 F. (2d) 1072; Ingle v. Landis Tool Co., 272 Fed. 464; see Beecroft & Blackman v. Rooney, 268 Fed. 545, 549.

But where, as in this case, the employment contemplates invention, the adequacy of such a compromise is more doubtful not because it contravenes an agreement for an assignment, which may not exist, but because, arguably, as the patent is the fruit of the very work which the employee is hired to do and for which he is paid, it should no more be withheld from the employer, in equity and good conscience, than the product of any other service which the employee engages to render. This result has been reached where the contract was to devise a means for solving a defined problem, Standard Parts Co. v. Peck, *supra,* and the decision has been thought to establish the employer's right wherever the employee is hired or assigned to evolve a process or mechanism for meeting a specific need. Magnetic Mfg. Co. v. Dings Magnetic Separator Co., 16 F. (2d) 739; Goodyear Tire and Rubber Co. v. Miller, 22 F. (2d) 353, 356; Houghton v. United States, 23 F. (2d) 386. But the court below and others have thought (Pressed Steel Car Co. v. Hansen, *supra;* Houghton v. United States, *supra;* Amdyco Corp. v. Urquhart, *supra*), as the respondent argues, that only in cases where the employment or assignment is thus specific may the employer demand all the benefits of the employee's invention. The basis of such a limitation is not articulate in the cases. There is at least a question whether its application may not be attributed, in some instances, to the readier implication of an actual promise to assign the patent, where the duty is to invent a specific thing (see Pressed Steel Car Co. v. Hansen, *supra,* 415), or, in any case, to the reluctance of equity logically to extend, in this field, the principle that the right to claim the service includes the right to claim its product. The latter alternative may find support in the policy of the patent laws

[8] See the cases collected in 30 Columbia Law Rev. 1172; 36 Harvard Law Rev. 468.

to secure to the inventor the fruits of his inventive genius, in the hardship which may be involved in imposing a duty to assign all inventions, see Dalzell v. Dueber Mfg. Co., *supra*, 323, cf. Aspinwall Mfg. Co. v. Gill, 32 Fed. 697, 700, and in a possible inequality in bargaining power of employer and employee. But compare Goodyear Tire & Rubber Co. v. Miller, *supra*, 355; Hulse v. Bonsack Mach. Co., 65 Fed. 864, 868; see 30 Columbia Law Rev. 1172, 1176-8. There is no reason for determining now the weight which should be accorded these objections to complete control of the invention by the employer, in cases of ordinary employment for private purposes. Once it is recognized, as it must be, that the function of the Court in every case is to determine whether the employee may, in equity and good conscience retain the benets of the patent, it is apparent that the present case turns upon considerations which distinguish it from any which has thus far been decided.

The inventors were not only employed to engage in work which unmistakably required them to exercise their inventive genius as occasion arose; they were a part of a public enterprise. It was devoted to the improvement of the art of radio communication for the benefit of the people of the United States, carried on in a government laboratory, maintained by public funds. Considerations which might favor the employee where the interest of the employer is only in private gain are therefore of slight significance; the policy dominating the research in the Bureau, as the inventors knew, was that of the government to further the interests of the public by advancing the radio art. For the work to be successful, the government must be free to use the results for the benefit of the public in the most effective way. A patent monopoly in individual employees, carrying with it the power to suppress the invention, or at least to exclude others from using it, would destroy this freedom; a shopright in the government would not confer it. For these employees, in the circumstances, to attempt to withhold from the public and from the government the full benefit of the inventions which it has paid them to produce, appears to me so unconscionable and inequitable as to demand the interposition of a court exercising chancery powers. A court which habitually enjoins a mortgagor from acquiring and setting up a tax title adversely to the mortgagee, Middletown Savings Bank v. Bacharach, 46 Conn. 513, 524; Chamberlain v. Forbes, 126 Mich. 86; Waring v. National Savings & Trust Co., 138 Md. 367; see 2 Jones on Mortgages (8th ed.), § 841, should find no difficulty in enjoining these employees and the respondent claiming under them from asserting, under the patent laws, rights which would defeat the very object of their employment. The capacity of equitable doctrine for growth and of courts of equity to mould it to new situations, was not exhausted with the establishment of the employer's shopright. See Essex Trust Co. v. Enwright, 214 Mass. 507; Meinhard v. Salmon, 249 N. Y. 458.

If, in the application of familiar principles to the situation presented here, we must advance somewhat beyond the decided cases, I see nothing revolutionary in the step. We need not be deterred by fear of the necessity, inescapable in the development of the law, of setting limits to the doctrine we apply, as the need arises. That prospect does not require us to shut our eyes to the obvious consequences of the decree which has been rendered here. The result is repugnant to common notions of justice and to policy as well, and the case must turn upon these considerations if we abandon the illusion that equity is called upon merely to enforce a contract, albeit, one that is "implied." The case would be more dramatic if the inventions produced at public expense were important to the preservation of human life, or the public health, or the agricultural resources of the country. The principle is the same here, though the inventions are of importance only in the furtherance of human happiness. In enlisting their scientific talent and curiosity in the performance of the public service in which the Bureau was engaged, Dunmore and Lowell necessarily renounced the prospect of deriving from their work commercial rewards incompatible with it.[9] Hence, there is nothing oppressive

[9] It has been said that many scientists in the employ of the Government regard the acceptance of patent rights leading to commercial rewards in any case as an abasement of their work. Hearings on Exploitation of Inventions by Government Employees, Senate Committee on Patents, 65th Cong., 3d Sess. (1919), pp. 16, 17; see also the Hearings before the same Committee, January 23, 1920, 66th Cong., 2d Sess. (1920), p. 5. The opinion of the Court attributes importance to the fact, seemingly irrelevant, that other employees of the Bureau have in some instances in the past taken out patents on their inventions which, so far as appears, the Government has not prevented them from enjoying. The circumstances under which those inventions were made do not appear. But even if they were the same as those in the present case there is no basis for contending that because the Government saw fit not to assert its rights in other cases

or unconscionable in requiring them or their licensee to surrender their patents at the instance of the United States, as there probably would be if the inventions had not been made within the scope of their employment or if the employment did not contemplate invention at all.

The issue raised here is unaffected by legislation. Undoubtedly the power rests with Congress to enact a rule of decision for determining the ownership and control of patents on inventions made by government employees in the course of their employment. But I find no basis for saying that Congress has done so or that it has manifested any affirmative policy for the disposition of cases of this kind, which is at variance with the considerations which are controlling here.

The Act of June 25, 1910, 36 Stat. 851, as amended July 1, 1918, 40 Stat. 704, 705, permitted patentees to sue the government in the Court of Claims for the unauthorized use of their patents. It was in effect an eminent domain statute by which just compensation was secured to the patentee, whose patent had been used by the government. See Richmond Screw Anchor Co. v. United States, 275 U. S. 331. This statute excluded government employees from the benefits of the Act in order, as the House Committee Report explicitly points out, to leave unaffected the shoprights of the government. See H. R. Report No. 1288, 61st Cong. 2d Sess. A statute thus aimed at protecting in every case the minimum rights of the government can hardly be taken to deny other and greater rights growing out of the special equity of cases like the present.

The Act of April 30, 1928, 45 Stat. 467, 468, amending an earlier statute of 1883 (22 Stat. 625), so as to permit a patent to be issued to a government employee without payment of fees, for any invention which the head of a department or independent bureau certifies "is used or liable to be used in the public service," and which the application specifies may, if patented, "be manufactured and used by or for the Government for governmental purposes without the payment of * * * any royalty," was passed, it is true, with the general purpose of encouraging government employees to take out patents on their inventions. But this purpose was not, as the opinion of the Court suggests, born of a Congressional intent that a government employee who conceives an invention in the course of his employment should be protected in his right to exclude all others but the government from using it. Congress was concerned neither with enlarging nor with narrowing the relative rights of the government and its employees.[10] This is apparent from the language of the statute that the patent shall be issued without a fee "subject to existing law," as well as from the records of its legislative history.[11]

The purpose of Congress in facilitating the patenting of inventions by government employees was to protect the existing right of the government to use all devices invented in the service, whether or not the patentee was employed to use his inventive powers. Experience had shown that this shopright was jeopardized unless the employee applied for a patent, since without the disclosure incident to the application the government was frequently hampered in its defense of claims by orders asserting priority of invention. But doubt which had arisen whether an application for a patent under the Act of 1883 did not operate to dedicate the patent to the public,[12] and reluctance to pay the fees otherwise required, had led government employees to neglect to make applications, even when they were entitled to the benefits of the monopoly subject only to the government's right of use. This doubt the amendment removed. It can hardly be contended that in removing it in order to aid the government in the protection of its shopright, Congress declared a policy that it should have no greater right to control a patent procured either under this special statute or under the general patent laws by fraud or any other type of inequitable conduct. Had such a policy been declared, it is difficult to see on what basis we could award the

it has lost them in this. Moreover, there is no necessary inconsistency in the Government's position if it concluded in those cases that the public interest would be served best by permitting the employees to exploit their inventions themselves, and adopted a contrary conclusion here.

[10] Throughout the various speculations in committee as to what those rights were, it was generally agreed that they were intended to remain unchanged by the bill. See Hearings before the House Committee on Patents, 68th Cong., 2d Sess., on H. R. 3267 and 11403 (1925); Hearings before the same Committee, 70th Cong., 1st Sess. (1928), especially at pp. 8-18. The discussion on the floor of the House, referred to in the opinion of the Court (see note 19) does not indicate the contrary.

[11] In addition to the hearings cited *supra*, note 10, see H. R. Report No. 1596, 68th Cong., 2nd Sess.; H. R. Report No. 871, Senate Report No. 765, 70th Cong., 1st Sess. The bill was originally a companion proposal to the Federal Trade Commission bill discussed *infra*, note 18. See the references given there.

[12] See Selden Co. v. National Aniline & Chemical Co., 48 F. (2d) 270, 272; Squier v. American Telephone & Telegraph Co., 7 F. (2d) 881, 882, affirming 21 F. (2d) 747.

government a remedy, as it seems to be agreed we would, if Dunmore and Lowell had been specifically employed to make the inventions. There is nothing to indicate that Congress adopted one policy for such a case and a contrary one for this.

Other legislation proposed but not enacted,[13] requires but a word. Even had Congress expressly rejected a bill purporting to enact into law the rule of decision which I think applicable here, its failure to act could not be accorded the force of law. But no such legislation has been proposed to Congress, and that which was suggested may have been and probably was defeated for reasons unconnected with the issue presented in this case. The legislative record does show, as the opinion of the Court states, that it is a difficult question which has been the subject of consideration at least since the war, whether the public interest is best served by the dedication of an invention to the public or by its exploitation with patent protection under license from the government or the inventor. But the difficulty of resolving the question does not justify a decree which does answer it in favor of permitting government employees such as these to exploit their inventions without restriction, rather than one which would require the cancellation of their patents or their assignment to the United States.

The decrees should be reversed.

Mr. Justice CARDOZO concurs in this opinion.

Mr. Chief Justice HUGHES (dissenting).—I agree with Mr. Justice STONE'S analysis of the facts showing the nature of the employment of Dunmore and Lowell, and with his conclusions as to the legal effect of that employment. As the people of the United States should have the unrestricted benefit of the inventions in such a case, I think that the appropriate remedy would be to cancel the patents.

[13] The bill referred to in the opinion of the Court was one sponsored by the executive departments to endow the Federal Trade Commission with the power to accept assignments of patents from Government employees and administer them in the public interest. It passed the Senate on one occasion and the House on another but failed to become a law. (S. 5265, 65th Cong., 3d Sess., S. 3226, 66th Cong., 1st Sess., H. R. 9932, 66th Cong., 1st Sess., H. R. 11984, 66th Cong., 3d Sess.). In the course of hearings and debates many points of view were expressed. See Hearings on Exploitation of Inventions by Government Employees, Senate Committee on Patents, 65th Cong., 3d Sess. (1919); Hearing before the same Committee, 66th Cong., 2d Sess. (1920); Senate Report No. 405, H. R. Report No. 595, 66th Cong., 2d Sess., recommending passage. See 59 Cong. Rec., 2300, 2421, 2430, 3908, 4682, 4771, 8359, 8360, 8493, 8490; 60 *ibid.* 356; Conference Report, H. R. No. 1294, Sen. Doc. No. 279, 66th Cong., 3d Sess. And see 60 Cong. Rec., 2890, 3229, 3264-3269, 8537. Differences were stressed in the purposes and needs of different agencies of the Government. See especially Hearings (1919), *supra*, pp. 22, 24-5. The need of commercial incentives to private exploiters, as well as the general desirability of such exploitation were admitted, but the dangers were recognized as well. It was thought that the public interest would best be served by the establishment of a single agency for Government control, with the power to determine upon some compensation for the inventor.

After the death of this bill in the Senate, February 21, 1921, the subject was again considered by an Interdepartmental Board established by executive order of President Harding, August 9, 1922. Its report was transmitted to Congress by President Coolidge, in December, 1923. Sen. Doc. No. 88, 68th Cong., 1st Sess. The Board found that there had never been any general governmental policy established with respect to inventions, that whether public dedication, private exploitation or governmental control and administration is desirable, depends largely on the nature of the invention. Accordingly, legislation was recommended establishing a permanent Interdepartmental Patents Board with the power to demand assignments of patents on those inventions thereafter developed in the service which "in the interest of the national defense, or otherwise in the public interest" should be controlled by the Government. No action was taken upon this proposal.

Since that time the Director of the Bureau of Standards has recommended that a "uniform, equitable policy of procedure" be defined for the Government by legislation. (Annual Report for 1925, p. 40.) In the Report for 1931 it is said (p. 46) that the "patent policy of this Bureau has always been that patentable devices developed by employees paid out of public funds belong to the public," and the Report for 1932 adds (p. 40) "if not so dedicated directly, the vested rights should be held by the Government."

and this was recognized by plaintiff's expert, the patentee was not entitled to claim all structures which exercised the desired function, but only those which he himself invented, and a device which produces the same result through translation of force operates in a substantially different manner than one in which force is directly applied. This is not infringement, Westinghouse v. Boyden Power Brake Co., 170 U. S. 537, 568, especially where the patent is not a generic one and the patentee is entitled to but a narrow range of equivalents. See Directoplate Corp. v. Donaldson Lith. Co., 51 Fed. (2d) 199 (C. C. A. 6). There are two tests of equivalency (1) identity of function, and (2) substantial identity of way of performing that function. Walker on Patents, 6th Ed. 511. Primary as well as secondary patents are infringed by no substitutions that do not fully respond to these tests. Even if identity of function were present, the patent not being a primary one, the requirement of substantial identity of way should not be considered so elastic as to ignore important differences in manner of operation.

There is no infringement, and the decree below is affirmed.

Supreme Court of the United States

UNITED STATES OF AMERICA v. DUBILIER CONDENSER CORPORATION

Nos. 316, 317, 318 Decided Apr. 10, 1933

Patents—Patents—

Patent is not, accurately speaking, a monopoly, for it is not created by executive authority at expense of and to prejudice of all community except grantee of patent; inventor deprives public of nothing which it enjoyed before his discovery but gives something of value to community by adding to sum of human knowledge; he may keep invention secret and reap its fruits indefinitely; in consideration of its disclosure and consequent benefit to community, patent is granted.

Patents—Specification—Sufficiency of disclosure—

Law requires such disclosure to be made in application for patent that others skilled in art may understand invention and how to put it to use.

Patents—Title—Employer and employee—

Patent is property and title can pass only by assignment; if not yet issued, agreement to assign when issued, if valid as contract, will be specifically enforced; respective rights and obligations of employer and employee, touching invention conceived by latter, spring from contract of employment; one employed to make invention who succeeds during term of service in accomplishing that task is bound to assign to employer patent obtained; on other hand if employment be general, albeit it covers field of labor and effort in performance of which employee conceived the invention for what he obtained patent, contract is not so broadly construed as to require assignment of patent.

Patents—Patentability—Invention—

Invention consists neither in finding out laws of nature nor in fruitful research as to operation of natural laws but in discovering how those laws may be utilized or applied for beneficial purpose by a process, a device or a machine; it is result of inventive act, birth of an idea, and its reduction to practice; product of original thought; concept demonstrated to be true by practical application or embodiment in tangible form; embodiment is not the invention and is not subject of a patent.

Patents—Title—Employer and employee—

Employment merely to design or construct or devise methods of manufacture is not same as employment to invent; shop right is that, where servant during hours of employment working with master's materials and appliances conceives and perfects invention for which he obtains patent, he must accord master non-exclusive right to practice invention; but employer has no equity to demand conveyance of invention; this remains property of him who conceived it together with right conferred by patent to exclude all others than employer from accruing benefits.

Patents—Title—

Title of the patentee is subject to no superior right of Government; grant is not, as in England, a matter of grace or favor so that conditions may be annexed at

pleasure of executive; laws passed by Congress alone may be looked to for guidance as to extent of limitations of respective rights of inventor and public; Constitution evinces no public policy which requires holder of patent to cede use or benefit of invention to United States.

Patents—Applicants—

No servant of United States has by statute been disqualified for applying for and receiving patent for his invention save officers and employees of Patent Office during period for which they hold their appointments.

Patents—Title—Government employees—

Supreme Court has applied rules enforced as between private employers and servants to relation between Government and its officers and employees; United States is entitled, in same way and to same extent as private employer, to shop rights, that is, free and non-exclusive use of patent which results from efforts of those employed in their working hours and with material belonging to Government; statutes, decisions and administrative practice negate existence of duty binding one in service of Government different from obligation of one in private employment; United States like any other employer, if it desires assignment of employee's rights, must prove contractual obligation on part of employee to assign patents to Government; employees of Bureau of Standards who did not agree to exercise inventive faculties in their work and who made invention not within its scope need not assign patents to Government; written evidence of employment does not mention research, much less invention; never was word said to employees prior to discoveries concerning invention or patents or duties or obligations respecting these matters; other employees of Bureau of Standards and other departments had, while so employed, received numerous patents and enjoyed exclusive rights against all private persons without let or hindrance from Government;* no act of Congress authorizes United States to take patent or to hold one by assignment; no statutory authority exists for transfer of patents to any department or officer of Government or for administration of patents or issuance of licenses on behalf of the United States; inventors do not hold patents in trust for Government.

Patents—Title—Government employee—

Act of 1883 and as amended in 1928 provides patent without fee for Government employee who in course of employ conceives invention; he should afford Government free use thereof but should be protected in right to exclude all others; similar right accrues to Government employee paying fees for patent.

Patents—Jurisdiction of courts—

Until 1910 Court of Claims was without jurisdiction to award compensation to owner of patent for unauthorized use by United States or its agents; power extended only to trial of claims based upon express or implied contracts for such use; in 1910 Congress enlarged jurisdiction to embrace former class of claims, but imposing restriction that it should not extend to owners of patents obtained by employees of Government while in service.

Patents—Title—Government employees—

Congress has refrained from imposing upon Government servants contract obligation to assign to Government patent for invention discovered or developed during period of Government service and incidental to line of official duties, and court will not assume such contract obligations.

Patents—Radio Receiving Apparatus title transfer refused—

1455141, Lowell & Dunmore, Radio Receiving Apparatus, title transfer refused.
1606212, Dunmore & Lowell, Power Amplifier, title transfer refused.
1635117, Dunmore, Signal Receiving System, title transfer refused.

On writs of certiorari to the United States Circuit Court of Appeals for the Third Circuit.

THOMAS D. THACHER, Solicitor General (CHARLES B. RUGG, Assistant Attorney General, ALEXANDER HOLTZOFF, PAUL D. MILLER and H. BRIAN HOLLAND with him on the brief) for petitioner; JAMES H. HUGHES, JR. (E. ENNALLS BERL, JOHN B. BRADY and WARD & GRAY with him on the brief) for respondent.

Mr. Justice ROBERTS delivered the opinion of the Court.—Three suits were

*The remaining portion of the syllabus was based upon a paragraph deleted from the opinion by order of the court. (See Note, p. 161.)

brought in the District Court for Delaware against the respondent as exclusive licensee under three separate patents issued to Francis W. Dunmore and Percival D. Lowell. The bills recite that the inventions were made while the patentees were employed in the radio laboratories of the Bureau of Standards, and are therefore, in equity, the property of the United States. The prayers are for a declaration that the respondent is a trustee for the Government, and, as such, required to assign to the United States all its right, title and interest in the patents, for an accounting of all moneys received as licensee, and for general relief. The District Court consolidated the cases for trial, and after a hearing dismissed the bills.[1] The Court of Appeals for the Third Circuit affirmed the decree.[2]

The courts below concurred in findings which are not challenged and, in summary, are:

The Bureau of Standards is a subdivision of the Department of Commerce.[3] Its functions consist in the custody of standards; the comparison of standards used in scientific investigations, engineering, manufacturing, commerce, and educational institutions with those adopted or recognized by the Government; the construction of standards, their multiple or subdivisions; the testing and calibration of standard measuring apparatus; the solution of problems which arise in connection with standards; and the physical properties of materials. In 1915 the Bureau was also charged by Congress with the duty of investigation and standardization of methods and instruments employed in radio communication, for which special appropriations were made.[4] In recent years it has been engaged in research and testing work of various kinds for the benefit of private industries, other departments of the Government, and the general public.[5]

The Bureau is composed of divisions, each charged with a specified field of activity, one of which is the electrical division. These are further subdivided into sections. One section of the electrical division is the radio section. In 1921 and 1922 the employees in the laboratory of this section numbered approximately twenty men doing technical work and some draftsmen and mechanics. The twenty were engaged in testing radio apparatus and methods and in radio research work. They were subdivided into ten groups, each group having a chief. The work of each group was defined in outlines by the chief or alternate chief of the section.

Dunmore and Lowell were employed in the radio section and engaged in research and testing in the laboratory. In the outlines of laboratory work the subject of "airplane radio" was assigned to the group of which Dunmore was chief and Lowell a member. The subject of "radio receiving sets" was assigned to a group of which J. L. Preston was chief, but to which neither Lowell nor Dunmore belonged.

In May, 1921, the Air Corps of the Army and the Bureau of Standards entered into an arrangement whereby the latter undertook the prosecution of forty-four research projects for the benefit of the Air Corps. To pay the cost of such work, the Corps transferred and allocated to the Bureau the sum of $267,500. Projects Nos. 37 to 42, inclusive, relating to the use of radio in connection with aircraft, were assigned to the radio section and $25,000 was allocated to pay the cost of the work. Project No. 38 was styled "visual indicator for radio signals," and suggested the construction of a modification of what was known as an "Eckhart recorder." Project No. 42 was styled "airship bomb control and marine torpedo control." Both were problems of design merely.

In the summer of 1921 Dunmore, as chief of the group to which "airplane radio" problems had been assigned, without further instructions from his superiors, picked out for himself one of these navy problems, that of operating a relay for remote control of bombs on airships and topedoes in the sea, "as one of particular interest and having perhaps a rather easy solution, and worked on it." In September he solved it.

In the midst of aircraft investigations and numerous routine problems of the section, Dunmore was wrestling in his own mind, impelled thereto solely by his own scientific curiosity, with the subject of substittuing house-lighting alternating current for direct battery current in radio apparatus. He obtained a relay for operating a telegraph instrument which was in no way related to the remote control relay devised for aircraft use. The conception of the application of alternating current concerned partic-

[1] 49 F. (2d) 806 [9 U. S. Pat. Q. 181].

[2] 59 F. (2d) 881 [12 U. S. Pat. Q. 887].

[3] See Act of March 3, 1901, 31 Stat. 1449; Act of February 14, 1903, Sec. 4, 32 Stat. 826.

[4] Act of March 4, 1915, 38 Stat. 1044; Act of May 29, 1920, 41 Stat. 684; Act of March 3, 1921, 41 Stat. 1308.

[5] The fees charged cover merely the cost of the service rendered, as provided in the Act of June 30, 1932, Sec. 312, 47 Stat. 410.

ularly broadcast reception. This idea was conceived by Dunmore August 3, 1921, and he reduced the invention to practice December 16, 1921. Early in 1922 he advised his superior of his invention and spent additional time in perfecting the details. February 27, 1922, he filed an application for a patent.

In the fall of 1921 both Dunmore and Lowell were considering the problem of applying alternating current to broadcast receiving sets. This project was not involved in or suggested by the problems with which the radio section was then dealing and was not assigned by any superior as a task to be solved by either of these employees. It was independent of their work and voluntarily assumed.

While performing their regular tasks they experimented at the laboratory in devising apparatus for operating a radio receiving set by alternating current with the hum incident thereto eliminated. The invention was completed on December 10, 1921. Before its completion no instructions were received from and no conversations relative to the invention were held by these employees with the head of the radio section, or with any superior.

They also conceived the idea of energizing a dynamic type of loud speaker from an alternating current house-lighting circuit and reduced the invention to practice on January 25, 1922. March 21, 1922, they filed an application for a "power amplifier." The conception embodied in this patent was devised by the patentees without suggestion, instruction, or assignment from any superior.

Dunmore and Lowell were permitted by their chief, after the discoveries had been brought to his attention, to pursue their work in the laboratory and to perfect the devices embodying their inventions. No one advised them prior to the filing of applications for patents that they would be expected to assign the patents to the United States or to grant the Government exclusive rights thereunder.

The respondent concedes that the United States may practice the inventions without payment of royalty, but asserts that all others are excluded, during the life of the patents, from using them without the respondent's consent. The petitioner insists that the circumstances require a declaration either that the Government has sole and exclusive property in the inventions or that they have been dedicated to the public so that anyone may use them.

First. By Article I, Section 8, clause 8 of the Constitution, Congress is given power to promote the progress of science and the useful arts by securing for limited times to inventors the exclusive rights to their respective discoveries. R. S. 4886 as amended (U. S. Code, Title 35, § 31) is the last of a series of statutes which since 1793 have implemented the constitutional provision.

Though often so characterized a patent is not, accurately speaking, a monopoly, for it is not created by the executive authority at the expense and to the prejudice of all the community except the grantee of the patent. Seymour v. Osborne, 11 Wall. 516, 533. The term monopoly connotes the giving of an exclusive privilege for buying, selling, working or using a thing which the public freely enjoyed prior to the grant.[6] Thus a monopoly takes something from the people. An inventor deprives the public of nothing which it enjoyed before his discovery, but gives something of value to the community by adding to the sum of human knowledge. United States v. Bell Telephone Co., 167 U. S. 224, 239; Paper Bag Patent Case, 210 U. S. 405, 424; Brooks v. Jenkins, 3 McLean 432, 437; Parker v. Haworth, 4 McLean 370, 372; Allen v. Hunter, 6 McLean 303, 305-306; Attorney General v. Rumford Chemical Works, 2 Bann. & Ard. 298, 302. He may keep his invention secret and reap its fruits indefinitely. In consideration of its disclosure and the consequent benefit to the community, the patent is granted. An exclusive enjoyment is guaranteed him for seventeen years, but upon the expiration of that period, the knowledge of the invention enures to the people, who are thus enabled without restriction to practice it and profit by its use. Kendall v. Winsor, 21 How. 322, 327; United States v. Bell Telephone Co., *supra*, p. 239. To this end the law requires such disclosure to be made in the application for patent that others skilled in the art may understand the invention and how to put it to use.[7]

A patent is property and title to it can pass only by assignment. If not yet issued an agreement to assign when issued, if valid as a contract, will be specifically enforced. The respective rights and obligations of employer and employee, touching an invention conceived by the latter, spring from the contract of employment.

[6] Webster's New International Dictionary: "Monopoly."

[7] U. S. Code, Tit. 35, § 33.

One employed to make an invention, who succeeds, during his term of service, in accomplishing that task, is bound to assign to his employer any patent obtained. The reason is that he has only produced that which he was employed to invent. His invention is the precise subject of the contract of employment. A term of the agreement necessarily is that what he is paid to produce belongs to his paymaster. Standard Parts Company v. Peck, 264 U. S. 52. On the other hand, if the employment be general, albeit it covers a field of labor and effort in the performance of which the employee conceived the invention for which he obtained a patent, the contract is not so broadly construed as to require an assignment of the patent. Hapgood v. Hewitt, 119 U. S. 226; Dalzell v. Dueber Watch Case Mfg. Co., 149 U. S. 315. In the latter case it was said:

"But a manufacturing corporation, which has employed a skilled workman, for a stated compensation, to take charge of its works, and to devote his time and services to devising and making improvements in articles there manufactured, is not entitled to a conveyance of patents obtained for inventions made by him while so employed, in the absence of express agreement to that effect."

The reluctance of courts to imply or infer an agreement by the employee to assign his patent is due to a recognition of the peculiar nature of the act of invention, which consists neither in finding out the laws of nature, nor in fruitful research as to the operation of natural laws, but in discovering how those laws may be utilized or applied for some beneficial purpose, by a process, a device or a machine. It is the result of an inventive act, the birth of an idea and its reduction to practice; the product of original thought; a concept demonstrated to be true by practical application or embodiment in tangible form. Clark Tread Co. v. Willimantic Linen Co., 140 U. S. 481, 489; Symington Co. v. National Castings Co., 250 U. S. 383, 386; Pyrene Mfg. Co. v. Boyce, 292 Fed. 480, 481.

Though the mental concept is embodied or realized in a mechanism or a physical or chemical aggregate, the embodiment is not the invention and is not the subject of a patent. This distinction between the idea and its application in practice is the basis of the rule that employment merely to design or to construct or to devise methods of manufacture is not the same as employment to invent. Recognition of the nature of the act of invention also defines the limits of the so-called shop right, which shortly stated, is that where a servant, during his hours of employment, working with his master's materials and appliances, conceives and perfects an invention for which he obtains a patent, he must accord his master a non-exclusive right to practice the invention. McClurg v. Kingsland, 1 How. 202; Solomons v. United States, 137 U. S. 342; Lane & Bodley Co. v. Locke, 150 U. S. 193. This is an application of equitable principles. Since the servant uses his master's time, facilities and materials to attain a concrete result, the latter is in equity entitled to use that which embodies his own property and to duplicate it as often as he may find occasion to employ similar appliances in his business. But the employer in such a case has no equity to demand a conveyance of the invention, which is the original conception of the employee alone, in which the employer had no part. This remains the property of him who conceived it, together with the right conferred by the patent, to exclude all others than the employer from the accruing benefits. These principles are settled as respects private employment.

Second. Does the character of the service call for different rules as to the relative rights of the United States and its employees?

The title of a patentee is subject to no superior right of the Government. The grant of letters patent is not, as in England, a matter of grace or favor, so that conditions may be annexed at the pleasure of the executive. To the laws passed by the Congress, and to them alone, may we look for guidance as to the extent and the limitations of the respective rights of the inventor and the public. Attorney General v. Rumford Chemical Works, *supra*, at pp. 303-4. And this court has held that the Constitution evinces no public policy which requires the holder of a patent to cede the use or benefit of the invention to the United States, even though the discovery concerns matters which can properly be used only hy the Government; as, for example, munitions of war. James v. Campbell, 104 U. S. 356, 358. Hollister v. Benedict Mfg. Co., 113 U. S. 59, 67.

No servant of the United States has by statute been disqualified from applying for and receiving a patent for his invention, save officers and employees of the Patent Office during the period for which they hold their appointments.[3]

[3] R. S. 480; U. S. Code, Tit. 35, § 4.

This being so, this court has applied the rules enforced as between private employers and their servants to the relation between the Government and its officers and employees.

United States v. Burns, 12 Wall. 246, was a suit in the Court of Claims by an army officer as assignee of a patent obtained by another such officer for a military tent, to recover royalty under a contract made by the Secretary of War for the use of the tents. The court said, in affirming a judgment for the plaintiff:

"If an officer in the military service, not specially employed to make experiments with a view to suggest improvements, devises a new and valuable improvement in arms, tents, or any other kind of war material, he is entitled to the benefit of it, and to letters-patent for the improvement from the United States, equally with any other citizen not engaged in such service; and the government cannot, after the patent is issued, make use of the improvement any more than a private individual, without license of the inventor or making compensation to him."

In United States v. Palmer, 128 U. S. 262, Palmer, a lieutenant in the army, patented certain improvements in infantry accoutrements. An army board recommended their use and the Secretary of War confirmed the recommendation. The United States manufactured and purchased a large number of the articles. Palmer brought suit in the Court of Claims for a sum alleged to be a fair and reasonable royalty. From a judgment for the plaintiff the United States appealed. This court, in affirming, said:

"It was at one time somewhat doubted whether the government might not be entitled to the use and benefit of every patented invention, by analogy to the English law which reserves this right to the crown. But that notion no longer exists. It was ignored in the case of Burns."

These principles were recognized in later cases involving the relative rights of the Government and its employees in instances where the subject-matter of the patent was useful to the public generally. While these did not involve a claim to an assignment of the patent, the court reiterated the views earlier announced.

In Solomons v. United States, 137 U. S. 342, 346, it was said:

"The government has no more power to appropriate a man's property invested in a patent than it has to take his property invested in real estate; nor does the mere fact that an inventor is at the time of his invention in the employ of the government transfer to it any title to, or interest in it. An employe, performing all the duties assigned to him in his department of service, may exercise his inventive faculties in any direction he chooses, with the assurance that whatever invention he may thus conceive and perfect is his individual property. There is no difference between the government and any other employer in this respect."

And in Gill v. United States, 160 U. S. 426, 435:

"There is no doubt whatever of the proposition laid down in Solomons case, that the mere fact that a person is in the employ of the government does not preclude him from making improvements in the machines with which he is connected, and obtaining patents therefor, as his individual property, and that in such case the government would have no more right to seize upon and appropriate such property, than any other proprietor would have. * * *"

The distinction between an employment to make an invention and a general employment in the course of which the servant conceives an invention has been recognized by the executive department of the Government. A lieutenant in the navy patented an anchor while he was on duty in the Bureau of Equipment and Recruiting, which was charged with the duty of furnishing anchors for the navy; he was not while attached to the bureau specially employed to make experiments with a view to suggesting improvements to anchors or assigned the duty of making or improving. The Attorney General advised that as the invention did not relate to a matter as to which the lieutenant was specially directed to experiment with a view to suggesting improvements he was entitled to compensation from the Government for the use of his invention in addition to his salary or pay as a navy officer.[9]

A similar ruling was made with respect to an ensign who obtained a patent for improvements in "B. L. R. ordnance" and who offered to sell the improvements, or the right to use them, to the Government. It was held that the navy might properly make a contract with him to this end.[10]

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[9] 19 Opinions Attorney-General, 407.

[10] 20 Opinions Attorney-General, 829. And compare Report Judge Advocate General of the Navy, 1901, p. 6; Digest, Opinions Judge Advocate General of the Army, 1912-1930, p. 287; Opinions, Judge Advocate General of the Army, 1918, Vol. 2, pp. 529, 988, 1066.

The United States is entitled, in the same way and to the same extent as a private employer, to shop-rights, that is, the free and non-exclusive use of a patent which results from efforts of its employee in his working hours and with material belonging to the Government. Solomons v. United States, *supra*, pp. 346-7; McAleer v. United States, 150 U. S. 424; Gill v. United States, *supra*.

The statutes, decisions and administrative practice negate the existence of a duty binding one in the service of the Government different from the obligation of one in private employment.

Third. When the United States filed its bills it recognized the law as heretofore declared; realized that it must like any other employer, if it desired an assignment of the respondent's rights, prove a contractual obligation on the part of Lowell and Dunmore to assign the patents to the Government. The averments clearly disclose this. The bill in No. 316 is typical. After reciting that the employees were laboratory apprentice and associate physicist and laboratory assistant and associate physicist respectively and that one of their duties was "to carry on investigation research and experimentation in such problems relating to radio and wireless as might be assigned to them by their superiors," it is charged "in the course of his employment as aforesaid, there was assigned to said Lowell by his superiors in said radio section, for investigation and research, the problem of developing a radio receiving set capable of operation by alternating current. * * *"

Thus the Government understood that respondent could be deprived of rights under the patents only by proof that Dunmore and Lowell were employed to devise the inventions. The findings of the courts below show how far the proofs fell short of sustaining these averments.

The Government is consequently driven to the contention that though the employees were not specifically assigned the task of making the inventions (as in Standard Parts Co. v. Peck, *supra*) still, as the discoveries were "within the general field of their research and inventive work" the United States is entitled to an assignment of the patents. The courts below expressly found that Dunmore and Lowell did not agree to exercise their inventive faculties in their work and that invention was not within its scope. In this connection it is to be remembered that the written evidence of their employment does not mention research, much less invention; that never was there a word said to either of them, prior to their discoveries, concerning invention or patents or their duties or obligations respecting these matters; that as shown by the records of the patent office, employees of the Bureau of Standards and other departments had while so employed received numerous patents and enjoyed the exclusive rights obtained as against all private persons without let or hindrance from the Government.[11]

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[11] No exhaustive examination of the official records has been attempted. It is sufficient, however, for present purposes, to call attention to the following instances.

Dr. Frederick A. Kolster was employed in the radio section, Bureau of Standards, from December, 1912, until about March 1, 1921. He applied for the following patents: No. 1,609,866, for radio apparatus, application dated November 26, 1920. No. 1,447,165, for radio method and apparatus, application dated January 30, 1919. No. 1,311,654, for radio method and apparatus, application dated March 25, 1916. No. 1,394,560, for apparatus for transmitting radiant energy, application dated November 24, 1916. The Patent Office records show assignments of these patents to Federal Telegraph Company, San Francisco, Cal., of which Dr. Kolster is now president. He testified that these are all subject to a non-exclusive license in the United States to use and practice the same.

Burten McCollum was an employee of the Bureau of Standards between 1911 and 1924. On the dates mentioned he filed the following applications for patents, which were issued to him. No. 1,035,378, alternating current induction motor, March 11, 1912. No. 1,156,364, induction motor, February 25, 1915. No. 1,226,091, alternating current induction motor, August 2, 1915. No. 1,724,495, method and apparatus for determining the slope of subsurface rock boundaries, October 24, 1928. No. 1,724,720, method and apparatus for studying subsurface contours, October 12, 1928. The last two inventions were assigned to McCollum Geological Explorations, Inc., a Delaware corporation.

Herbert B. Brooks, while an employee of the Bureau between 1912 and 1930, filed November 1, 1919, an application on which patent No. 1,357,197, for an electric transformer, was issued.

William W. Coblentz, an employee of the Bureau of Standards from 1918, and still such at the date of the trial, on the dates mentioned, filed applications on which patents issued as follows: No. 1,418,862, for electrical resistance, September 22, 1920. No. 1,458,165, system of electrical control, September 22, 1920. No. 1,450,061, optical method for producing pulsating electric current, August 6, 1920. No. 1,563,557, optical means for rectifying alternating currents, September 18, 1923. The Patent Office records show that all of these stand in the name of Coblentz, but are subject to a license to the United States of America.

August Hund, who was an employee of the Bureau from 1922 to 1927, on the dates mentioned filed applications on which letters patent issued, No. 1,649,828, method of preparing Piezo-electric plates, September 30, 1925. No. 1,688,718, Piezo-electric-crystal oscillator system, May 10, 1927. No. 1,688,714, Piezo-electric-crystal apparatus, May 12, 1927. No. 1,648,689, condenser transmitter, April 10, 1926. All of these patents are shown of record to have been assigned to Wired Radio Inc., a corporation.

Paul R. Heyl and Lyman J. Briggs, while employees of the Bureau, filed an application January 11, 1922, for patent No. 1,660,751, on inductor compass, and assigned the same to the

In no proper sense may it be said that the contract of employment contemplated invention; everything that Dunmore and Lowell knew negatived the theory that they were employed to invent; they knew, on the contrary, that the past and then present practice was that the employees of the Bureau were alowed to take patents on their inventions and have the benenfits thereby conferred save as to use by the United States. The circumstances preclude the implication of any agreement to assign their inventions or patents.

*Moreover no court could, however clear the proof of such a contract, order the execution of an assignment. No Act of Congress has been called to our attention authorizing the United States to take a patent or to hold one by assignment. No statutory authority exists for the transfer of a patent to any department or officer of the Government, or for the administration of patents, or the issuance of licenses on behalf of the United States. In these circumstances no public policy requires us to deprive the inventor of his exclusive rights as respects the general public and to lodge them in a dead hand incapable of turning the patent to account for the benefit of the public.

The record affords even less basis for inferring a contract on the part of the inventors to refrain from patenting their discoveries than for finding an agreement to assign them.

The bills aver that the inventions and patents are held in trust for the United States, and that the court should so declare. It is claimed that as the work of the Bureau, including all that Dunmore and Lowell did, was in the public interest, these public servants had dedicated the offspring of their brains to the public, and so held their patents in trust for the common weal, represented here in a corporate capacity by the United States. The patentees, we are told, should surrender the patents for cancellation, and the respondent must also give up its rights under the patents.

The trust cannot be express. Every fact in the case negatives the existence of one. Nor can it arise *ex maleficio*. The employees' conduct was not fraudulent in any respect. They promptly disclosed their inventions. Their superiors encouraged them to proceed in perfecting and applying the discoveries. Their note books and reports disclosed the work they were doing, and there is not a syllable to suggest their use of time or material was clandestine or improper. No word was spoken regarding any claim of title by the Government until after applications for patents were filed. And, as we have seen, no such trust has been spelled out of the relation of master and servant, even in the cases where the employee has perfected his invention by the use of his employer's time and materials. The cases recognizing the doctrine of shop rights may be said to fix a trust upon the employee in favor of his master as respects the use of the invention by the latter, but they do not affect the title to the patent and the exclusive rights conferred by it against the public.

The Government's position in reality is, and must be, that a public policy, to be declared by a court, forbids one employed by the United States, for scientific research, to obtain a patent for what he invents, though neither the Constitution nor any satute so declares.

Where shall the courts set the limit of the doctrine? For confessedly, it must be limited. The field of research is as broad as that of science itself. If the petitioner is entitled to a cancellation of the patents in this case, would it be so entitled, if the employees had done their work at home, in their own time and with their own appliances and materials? What is to be said of an invention evolved as the result of the solution of a problem in a realm apart from that to which the employee is assigned by his official superiors? We have seen that the Bureau has numerous divisions. It is entirely possible that an employee in one division may make an invention falling within the work of some other division. Indeed this case presents that exact situation, for the inventions in question had to do with radio reception, a matter assigned to a group of which Dunmore and Lowell were not members. Did the mere fact of their employment by the Bureau require these employees

Aeronautical Instrument Company of Pittsburgh, Pennsylvania.

C. W. Burrows was an employee of the Bureau of Standards between 1912 and 1919. While such employee he filed applications on the dates mentioned for patents which were issued, No. 1,322,405, October 4, 1917, method and apparatus for testing magnetizable objects by magnetic leakage; assigned to Magnetic Analysis Corporation, Long Island City, N. Y. No. 1,329,578, relay, March 13, 1918; exclusive license issued to make, use and sell for the field of railway signaling and train control, to Union Switch & Signal Company, Swissvale, Pa. No. 1,459,970, method of and apparatus for testing magnetizable objects, July 25, 1917; assigned to Magnetic Analysis Corporation, Long Island City, N. Y.

John A. Willoughby, an employee of the Bureau of Standards between 1918 and 1922, while so employed, on June 26, 1919, applied for and was granted a patent, No. 1,555,845, for a loop antenna.

*This paragraph was deleted from the opinion by order of May 8, 1933.

to cede to the public every device they might conceive?

Is the doctrine to be applied only where the employment is in a bureau devoted to scientific investigation *pro bono publico?* Unless it is to be so circumscribed the statements of this court in Burns v. United States, *supra*, Solomons v. United States, *supra*, and Gill v. United States, *supra*, must be held for naught.

Again, what are to be defined as bureaus devoted entirely to scientific research? It is common knowledge that many in the Department of Agriculture conduct researches and investigations, that divisions of the War and Navy Departments do the like, and doubtless there are many other bureaus and sections in various departments of government where employees are set the task of solving problems all of which involve more or less of science. Shall the field of the scientist be distinguished from the art of as killed mechanic? Is it conceivable that one working on a formula for a drug or an antiseptic in the Department of Agriculture stands in a different class from a machinist in an arsenal? Is the distinction to be that where the government department is, so to speak, a business department operating a business activity of the government, the employee has the same rights as one in private employment, whereas if his work be for a bureau interested more particularly in what may be termed scientific research he is upon notice that whatever he invents in the field of activity of the bureau, broadly defined, belongs to the public and is unpatentable? Illustrations of the difficulties which would attend an attempt to define the policy for which the Government contends might be multiplied indefinitely.

The courts ought not to declare any such policy; its formulation belongs solely to the Congress. Will permission to an employee to enjoy patent rights as against all others than the Government tend to the improvement of the public service by attracting a higher class of employees? Is there in fact greater benefit to the people in a dedication to the public of inventions conceived by officers of government, than in their exploitation under patents by private industry? Should certain classes of invention be treated in one way and other classes differently? These are not legal questions, which courts are competent to answer. They are practical questions, and the decision as to what will accomplish the greatest good for the inventor, the Government and the public rests with the Congress. We should not read into the patent laws limitations and conditions which the legislature has not expressed.

Fourth. Moreover, we are of opinion Congress has approved a policy at variance with the petitioner's contentions. This is demonstrated by examination of two statutes, with their legislative history, and the hearings and debates respecting proposed legislation which failed of passage.

Since 1883 there has been in force an act [12] which provides:

"The Secretary of the Interior [now the Secretary of Commerce, act of February 14, 1903, c. 552, Sec. 12, 32 Stat. 830] and the Commissioner of Patents are authorized to grant any officer of the government, except officers and employees of the Patent Office, a patent for any invention of the classes mentioned in section forty-eight hundred and eighty-six of the Revised Statutes, when such invention is used or to be used in the public service, without the payment of any fee: Provided, That the applicant in his application shall state that the invention described therein, if patented, may be used by the government or any of its officers or employees in the prosecution of work for the government, or by any other person in the United States, without the payment to him of any royalty thereon, which stipulation shall be included in the patent."

This law was evidently intended to encourage government employees to obtain patents, by relieving them of the payment of the usual fees. The condition upon which the privilege was accorded is stated as the grant of free use by the government, "its officers or employees in the prosecution of work for the government, *or by any other person in the United States.*" For some time the effect of the italicized phrase was a matter of doubt.

In 1910 the Judge Advocate General of the Army rendered an opinion to the effect that one taking a patent pursuant to the act threw his invention "open to public and private use in the United States." [13] It was later realized that this view made such a patent a contradiction in terms, for it secured no exclusive right to anyone. In 1918 the Judge Advocate General gave a well-reasoned opinion [14] holding that if the statute were construed to involve a dedication to the public, the so-called patent would at most amount to

[12] Act of March 3, 1883, c. 143, 22 Stat. 625.

[13] See Squier v. American T. & T. Co., 21 F. (2d) 747, 748.

[14] November 30, 1918; Opinions of Judge Advocate General, 1918, Vol. 2, p. 1029.

a publication or prior reference. He concluded that the intent of the act was that the free use of the invention extended only to the Government or those doing work for it. A similar construction was adopted in an opinion of the Attorney General.[15] Several federal courts referred to the statute and in *dicta* indicated disagreement with the views expressed in these later opinions.[16]

The departments of government were anxious to have the situation cleared and repeatedly requested that the act be amended. Pursuant to the recommendations of the War Department an amendment was enacted April 30, 1928.[17] The proviso was changed to read:

"Provided, That the applicant in his application shall state that the invention described therein, if patented, may be manufactured or used by or for the Government for governmental purposes without the payment to him of any royalty thereon, which stipulation shall be included in the patent."

The legislative history of the amendment clearly discloses the purpose to save to the employee his right to exclude the public.[18] In the report of the Senate Committee on Patents submitted with the amendment, the object of the bill was said to be the protection of the interests of the Government, primarily by securing patents on inventions made by officers and employees, presently useful in the interest of the national defense or those which may prove useful in the interest of national defense in the future; and secondarily, to encourage the patenting of inventions by officers and employees of the Government with the view to further protection of the Government against suits for infringement of patents. The Committee stated that the bill had the approval of the Commissioner of Patents and was introduced at the request of the Secretary of War. Appended to the report is a copy of a letter of the Secretary of War addressed to the committees of both Houses stating that the language of the legislation then existing was susceptible of two interpretations contrary to each other. The letter quoted the proviso of the section as it then stood, and continued:

"It is clear that a literal construction of this proviso would work a dedication to the public of every patent taken out under the act. If the proviso must be construed literally we would have a situation wherein all the patents taken out under the act would be nullified by the very terms of the act under which they were granted, for the reason that a patent which does not carry with it the limited monopoly referred to in the Constitution is in reality not a patent at all. The only value that a patent has is the right that it extends to the patentee to exclude all others from making, using, or selling the invention for a certain period of years. A patent that is dedicated to the public is virtually the same as a patent that has expired."

After referring to the interpretation of the Judge Advocate General and the Attorney General and mentioning that no satisfactory adjudication of the question has been afforded by the courts, the letter went on to state:

"Because of the ambiguity referred to and the unsettled condition that has arisen therefrom, it has become the policy of the War Department to advise all its personnel who desire to file applications for letters patent, to do so under the general law and pay the required patent-office fee in each case."

And added:

"If the proposed legislation is enacted into law, Government officers and employees may unhesitatingly avail themselves of the benefits of the act with full assurance that in so doing their patent is not dedicated to the public by operation of law. The War Department has been favoring legislation along the lines of the proposed bill for the past five or six years."

When the bill came up for passage in the House a colloquy occurred which clearly disclosed the purpose of the amendment.[19] The intent was that a gov-

[15] 32 Opinions Attorney General, 145.

[16] See Squier v. American Tel. & Tel. Co., 7 F. (2d) 831, 21 F. (2d) 747; Hazeltine Corporation v. Electric Service Engineering Corp., 18 F. (2d) 662; Hazeltine Coropration v. A. W. Grebe & Co., 21 F. (2d) 643; Selden Co. v. National Aniline & Chemical Co., 48 F. (2d) 270.

[17] 45 Stat. 467, 468.

[18] Report No. 871, 70th Cong., 1st Sess., House of Representatives, to accompany H. R. 6103; Report No. 765, 70th Cong., 1st Sess., Senate, to accompany H. R. 6103; Cong. Rec., House of Representatives, March 19, 1928, 70th Cong., 1st Sess., p. 5013; Cong. Rec., Senate, April 24, 1928, 70th Cong., 1st Sess., p. 7066.

[19] Cong. Rec., 70th Cong., 1st Sess., Vol. 69, Part 5, p. 5018:

"Mr. LaGuardia. Mr. Speaker, reserving the right to object, is not the proviso too broad? Suppose an employee of the Government invents some improvement which is very valuable, is he compelled to give the Government free use of it?

"Mr. Vestal [who reported the bill for the Committee and was in charge of it]. If he is employed by the Government and the invention is made while working in his capacity as an agent of the Government. If the head of the bureau certifies this invention will be used by the Government, then the Government, of course, gets it without the payment of any royalty.

"Mr. LaGuardia. The same as a factory rule?

"Mr. Vestal. Yes; but the man who takes out the patent has his commercial rights outside.

"Mr. LaGuardia. Outside of the Government?

"Mr. Vestal. Yes.

"Mr. LaGuardia. But the custom is, and with-

ernment employee who in the course of his employment conceives an invention should afford the government free use thereof, but should be protected in his right to exclude all others. If Dunmore and Lowell, who tendered the Government a non-exclusive license without royalty, and always understood that the Government might use their inventions freely, had proceeded under the act of 1883, they would have retained their rights as against all but the United States. This is clear from the executive interpretation of the act. But for greater security they pursued the very course then advised by the law officers of the Government. It would be surprising if they thus lost all rights as patentees; especially so, since Congress has now confirmed the soundness of the views held by the law officers of the Government.

Until the year 1910 the Court of Claims was without jurisdiction to award compensation to the owner of a patent for unauthorized use by the United States or its agents. Its power extended only to the trial of claims based upon an express or implied contract for such use.[20] In that year Congress enlarged the jurisdiction to embrace the former class of claims.[21] In giving consent to be sued, the restriction was imposed that it should not extend to owners of patents obtained by employees of the Government while in the service. From this it is inferred that Congress recognized no right in such patentees to exclude the public from practicing the invention. But an examination of the legislative record completely refutes the contention.

The House Committee in reporting the bill, after referring to the law as laid down in the Solomons case, said: "The United States in such a case has an implied license to use the patent without compensation, for the reason that the inventor used the time or the money or the material of the United States in perfecting his invention. The use by the United States of such a patented invention without any authority from the owner thereof is a lawful use under existing law, and we have inserted the words 'or lawful right to use the same' in order to make it plain that we do not intend to make any change in existing law in this respect, and do not intend to give the owner of such a patent any claim against the United States for its use."[22] From this it is clear that Congress had no purpose to declare a policy at variance with the decisions of this court.

The executive departments have advocated legislation regulating the taking of patents by government employees and the administration by government agencies of the patents so obtained. In 1919 and 1920 a bill sponsored by the Interior Department was introduced. It provided for the voluntary assignment or license by any government employee, to the Federal Trade Commission, of a patent applied for by him, and the licensing of manufacturers by the Commission, the license fees to be paid into the Treasury and such part of them as the President might deem equitable to be turned over to the patentee.[23] In the hearings and reports upon this measure

out this bill, the Government has the right to the use of the improvement without payment if it is invented in Government time and in Government work.

"Mr. Vestal. That is correct; and then on top of that, may I say that a number of instances have occurred where an employee of the Government, instead of taking out a patent had some one else take out the patent and the Government has been involved in a number of suits. There is now $600,000,000 worth of such claims in the Court of Claims."

It will be noted from the last statement of the gentleman in charge of the bill that Congress was concerned with questions of policy in the adoption of the amendment. These, as stated above, are questions of business policy and business judgment—what is to the best advantage of the Government and the public. They are not questions as to which the courts ought to invade the province of the Congress.

[20] See Belknap v. Schild, 161 U. S. 10, 16; Eager v. United States, 65 C. Cls. 556.

[21] Act of June 25, 1910, 36 Stat. 851: (See Crozier v. Krupp, 224 U. S. 290.)

"That whenever an invention described in and covered by a patent of the United States shall hereafter be used by the United States without license of he owner thereof or lawful to use the same, such owner may recover reasonable compensation for such use by suit in the Court of Claims: Provided, however, That said Court of Claims shall not entertain a suit or reward compensation under the provisions of this Act where the claim for compensation is based on the use by the United States of any article heretofore owned, leased, used by, or in the possession of the United States: Provided further, That in any such suit the United States may avail itself of any and all defenses, general or special, which might be pleaded by a defendant in an action for infringement, as set forth in Title Sixty of the Revised Statutes, or otherwise: And provided further, That the benefits of this Act shall not inure to any patentee, who, when he makes such claim is in the employment or service of the Government of the United States; or the assignee of any such patentee; nor shall this Act apply to any device discovered or invented by such employee during the time of his employment or service."

The Act was amended in resepcts immaterial to the present question, July 1, 1918, 40 Stat. 705. See William Cramp & Sons Co. v. Curtis Turbine Co., 246 U. S. 28; Richmond Screw Anchor Co. v. United States, 275 U. S. 331, 343. As amended it appears in U. S. C., Tit. 35, § 68.

[22] House Report 1288, 61st Cong., 2d Sess.

[23] S. 5265, 65th Cong., 3d Sess.; S. 3223, 66th Cong., 2d Sess.; H. R. 9932, 66th Cong., 2d Sess.; H. R. 11984, 66th Cong., 3d Sess.

stress was laid not only upon the fact that action by an employee thereunder would be voluntary, but that the inventor would be protected at least to some extent in his private right of exclusion. It was recognized that the Government could not compel an assignment, was incapable of taking such assignment or administering the patent, and that it had shop rights in a patent perfected by the use of government material and in government working time. Nothing contained in the bill itself or in the hearings or reports indicates any intent to change the existing and well understood rights of government employees who obtain patents for their inventions made while in the service. The measure failed of passage.

In 1923 the President sent to the Congress the report of an interdepartmental patents board created by executive order to study the question of patents within the government service and to recommend regulations establishing a policy to be followed in respect thereof. The report adverted to the fact that in the absence of a contract providing otherwise a patent taken out by a government employee, and any invention developed by one in the public service, is the sole property of the inventor. The committee recommended strongly aganist public dedication of such an invention, saying that this in effect voids a patent, and, if this were not so, "there is little incentive for anyone to take up a patent and spend time, effort, and money * * * on its commercial development without at least some measure of protection against others free to take the patent as developed by him and compete in its use. In such a case one of the chief objects of the patent law would be defeated." [24] In full accord is the statement on behalf of the Department of the Interior in a memorandum furnished with respect to the bill introduced in 1919.[25]

With respect to a policy of permitting the patentee to take a patent and control it in his own interest (subject, of course, to the government's right of use, if any) the committee said:

"* * * it must not be lost sight of that in general it is the constitutional right of every patentee to exploit his patent as he may desire, however expedient it may appear to endeavor to modify this right in the interest of the public when the patentee is in the Government service." [26]

Concerning a requirement that all patents obtained by government employees be assigned to the United States or its agent the committee said:

"* * * it would, on the one hand, render difficult securing the best sort of technical men for the service and, on the other, would influence technical workers to resign in order to exploit inventions which they might evolve and suppress while still in the service. There has always been more or less of a tendency for able men in the service to do this, particularly in view of the comparative meagerness of Government salaries; thus the Government has suffered loss among its most capable class of workers." [27]

The committee recommended legislation to create an Interdepartmental Patents Board; and further that the law make it part of the express terms of employment, having the effect of a contract, that any patent application made or patent granted for an invention discovered or developed during the period of government service and incident to the line of official duties, which in the judgment of the board should, in the interest of the national defense, or otherwise in the public interest, be controlled by the government, should upon demand by the board be assigned by the employee to an agent of the Government. The recommended measures were not adopted.

Fifth. Congress has refrained from imposing upon government servants a contract obligation of the sort above described. At least one department has attempted to do so by regulation.[28] Since the record in this case discloses that the Bureau of Standards had no such regulation, it is unnecessary to consider whether the various departments have power to impose such a contract upon employees without authorization by act of Congress. The question is more difficult under our form of government than under that of Great Britain, where such departmental regulations seem to settle the matter.[29]

All of this legislative history emphasizes what we have stated—that the courts are incompetent to answer the difficult question whether the patentee is to be allowed his exclusive right or compelled to dedicate his invention to the public. It is suggested that the election rests with the authoritative officers of the Government. Under what power, express or implied, may such officers, by

[24] Sen. Doc. No. 83, 68th Cong., 1st Sess., p. 3.

[25] Hearings, Senate Patent Committee, 66th Cong., 2d Sess., January 23, 1920, p. 11.

[26] Sen. Doc. No. 83, 68th Cong., 1st Sess., p. 3.

[27] *Ibid.*, p. 4.

[28] See Annual Report, Department of Agriculture, for 1907, p. 775. See Selden Co. v. National Aniline & Chemical Co. Inc., 48 F. (2d) 270, 273.

[29] Queen's Regulations (Addenda 1895, 1st February); Ch. 1, Instructions for Officers in General, pp. 15-16.

administrative fiat, determine the nature and extent of rights exercised under a charter granted a patentee pursuant to constitutional and legislative provisions? Apart from the fact that express authority is nowhere to be found, the question arises, who are the authoritative officers whose determination shall bind the United States and the patentee? The Government's position comes to this—that the courts may not reexamine the exercise of an authority by some officer, not named, purporting to deprive the patentee of the rights conferred upon him by law. Nothing would be settled by such a holding, except that the determination of the reciprocal rights and obligations of the Government and its employee as respects inventions are to be adjudicated, without review, by an unspecified department head or bureau chief. Hitherto both the executive and the legislative branches of the Government have concurred in what we consider the correct view,—that any such declaration of policy must come from Congress and that no power to declare it is vested in administrative officers.

The decrees are affirmed.

Mr. Justice STONE, dissenting.—I think the decrees should be reversed.

The Court's conclusion that the employment of Dunmore and Lowell did not contemplate that they should exercise inventive faculties in their service to the government, and that both courts below so found, seems to render superfluous much that is said in the opinion. For it has not been contended and I certainly do not contend, that if such were the fact there would be any foundation for the claim asserted by the government. But I think the record does not support the Court's conclusion of fact. I am also unable to agree with the reasoning of the opinion, although on my view of the facts it would lead to the reversal of the decree below, which I favor.

When originally organized[1] as a subdivision of the Department of Commerce, the functions of the Bureau of Standards consisted principally of the custody, comparison, construction, testing and calibration of standards and the solution of problems arising in connection with standards. But in the course of its investigation of standards of quality and performance it has gradually expanded into a laboratory for research of the broadest character in various branches of science and industry and particularly in the field of engineering.[2] Work of this nature is carried on for other government departments,[3] the general public[4] and private industries.[5] It is almost entirely supported by public funds,[6] and is maintained in the public interest. In 1915, as the importance of radio to the government and to the public increased, Congress appropriated funds[7] to the Bureau "for investigation and standardization of methods and instruments employed in radio communication." Similar annual appropriations have been made since and public funds were allotted by Acts of July 1, 1916, c. 209, 39 Stat. 262, 324 and October 6, 1917, c. 79, 40 Stat. 345, 375, for the construction of a

[1] Act of March 3, 1901, 31 Stat. 1449; Act of February 14, 1903, § 4, 32 Stat. 825, 826. For an account of the origin and development of the Bureau and its predecessor, see Weber, The Bureau of Standards, 1-75.

[2] Much of the expansion of the Bureau's activities in this direction took place during the war. See Annual Report of the Director, Bureau of Standards, for 1919, p. 25; War Work of the Bureau of Standards (1921), Misc. Publications of the Bureau of Standards No. 46. The scope of the Bureau's scientific work is revealed by the annual reports of the Director. See also the bibliography of Bureau publications for the years 1901-1925, Circular of the Bureau of Standards No. 24 (1925).

[3] The Act of May 29, 1920, 41 Stat. 681, 683, 684, permitted other departments to transfer funds to the Bureau of Standards for such purposes, though even before that time it was one of the major functions of the Bureau to be of assistance to other branches of the service. See e. g. Annual Reports of the Director for 1915, 1916, 1917, p. 16; Annual Report for 1918, p. 18; compare Annual Report for 1921, p. 25; for 1922, p. 10.

[4] The consuming public is directly benefited not only by the Bureau's work in improving the standards of quality and performance of industry, but also by the assistance which it lends to governmental bodies, state and city. See Annual Reports of the Director for 1915, 1916, 1917, p. 14; Annual Report for 1918, p. 16; National Bureau of Standards, Its Functions and Activity, Circular of the Bureau of Standards, No. 1 (1925), pp. 28, 33.

[5] Cooperation with private industry has been the major method relied upon to make the accomplishments of the Bureau effective. See Annual Report for 1922, p. 7; Annual Report for 1923, p. 8. A system of research associates permits industrial groups to maintain men at the Bureau for research of mutual concern. The plan has facilitated co-operation. See Annual Report for 1923, p. 4; Annual Report for 1924, p. 35; Annual Report for 1925, p. 38; Annual Reports for 1926, 1928, 1929, 1931, 1932, p. 1; Research Associates at the Bureau of Standards, Bureau Circular No. 296 (1926). For a list of cooperating organizations as of December 1, 1926, see Misc. Publications No. 96 (1927).

[6] No fees have been charged except to cover the cost of testing, but the Act of June 30, 1932, c. 314, § 312, 47 Stat. 410, directs that "for all comparisons, calibrations, tests or investigations, performed" by the Bureau, except those performed for the Government of the United States or a State, "a fee sufficient in each case to compensate the * * * Bureau * * * for the entire cost of the services rendered shall be charged. * * *"

[7] Act of March 4, 1915, c. 141, 38 Stat. 997, 1044.

fireproof laboratory building "to provide additional space to be used for research and testing in radio communication," as well as "space and facilities for cooperative research and experimental work in radio communication" by other departments of the government. Thus, the conduct of research and scientific investigation in the field of radio has been a duty imposed by law upon the Bureau of Standards since 1915.

Radio research has been conducted in the Radio Section of the Electrical Division of the Bureau. In 1921 and 1922, when Dunmore and Lowell made the inventions in controversy, they were employed in this section as members of the scientific staff. They were not, of course, engaged to invent, in the sense in which a carpenter is employed to build a chest, but they were employed to conduct scientific investigations in a laboratory devoted principally to applied rather than pure science with full knowledge and expectation of all concerned that their investigations might normally lead, as they did, to invention. The Bureau was as much devoted to the advancement of the radio art by invention as by discovery which falls short of it. Hence, invention in the field of radio was a goal intimately related to and embraced within the purposes of the work of the scientific staff.

Both courts below found that Dunmore and Lowell were impelled to make these inventions "solely by their own scientific curiosity." They undoubtedly proceeded upon their own initiative beyond the specific problems upon which they were authorized or directed to work by their superiors in the Bureau, who did not actively supervise their work in its inventive stages. But the evidence leaves no doubt that in all they did they were following the established practice of the Section. For members of the research staff were expected and encouraged to follow their own scientific impulses in pursuing their researches and discoveries to the point of useful application, whether they involved invention or not, and even though they did not relate to the immediate problem in hand. After the inventions had been conceived they were disclosed by the inventors to their chief and they devoted considerable time to perfecting them, with his express approval. All the work was carried on by them in the government laboratory with the use of government materials and facilities, during the hours for which they received a government salary. Its progress was recorded throughout in weekly and monthly reports which they were required to file, as well as in their laboratory notebooks. It seems clear that in thus exercising their inventive powers in the pursuit of ideas reaching beyond their specific assignments, the inventors were discharging the duties expected of scientists employed in the laboratory; Dunmore as well as his supervisors, testified that such was their conception of the nature of the work. The conclusion is irresistible that their scientific curiosity was precisely what gave the inventors value as research workers; the government employed it and gave it free rein in performing the broad duty of the Bureau of advancing the radio art by discovery and invention.

The courts below did not find that there was any agreement between the government and the inventors as to their relative rights in the patents and there was no evidence to support such a finding. They did not find, and upon the facts in evidence and within the range of judicial notice, they could not find that the work done by Dunmore and Lowell leading to the inventions in controversy was not within the scope of their employment. Such a finding was unnecessary to support the decisions below, which proceeded on the theory relied on by the respondent here, that in the absence of an express contract to assign it, an employer is entitled to the full benefit of the patent granted to an employee, only when it is for a particular invention which the employee was specifically hired or directed to make. The bare references by the court below to the obvious facts that "research" and "invention" are not synonymous, and that all research work in the Bureau is not concerned with invention fall far short of a finding that the work in the Bureau did not contemplate invention at all. Those references were directed to a different end, to the establishment of what is conceded here, that Dunmore and Lowell were not specifically hired or directed to make the inventions because in doing so they proceeded beyond the assignments given them by their superiors. The court's conception of the law, applied to this ultimate fact, led inevitably to its stated conclusion that the claim of the government is without support in reason or authority "unless we should regard a general employment for research work as synonymous with a particular employment (or assignment) for inventive work."

The opinion of this Court apparently rejects the distinction between specific employment or assignment and general

employment to invent, adopted by the court below and supported by authority, in favor of the broader position urged by the government that wherever the employee's duties involve the exercise of inventive powers, the employer is entitled to an assignment of the patent on any invention made in the scope of the general employment. As I view the facts, I think such a rule, to which this Court has not hitherto given explicit support, would require a decree in favor of the government. It would also require a decree in favor of a private employer, on the ground stated by the court that as the employee "has only produced what he is employed to invent," a specifically enforcible "term of the agreement necessarily is that what he is paid to produce belongs to his paymaster." A theory of decision so mechanical is not forced upon us by precedent and cannot, I think, be supported.

What the employee agrees to assign to his employer is always a question of fact. It cannot be said that merely because an employee agrees to invent, he also agrees to assign any patent secured for the invention. Accordingly, if an assignment is ordered in such a case it is no more to be explained and supported as the specific enforcement of an agreement to transfer property in the patent than is the shopright which equity likewise decrees, where the employment does not contemplate invention. All the varying and conflicting language of the books cannot obscure the reality that in any case where the rights of the employer to the invention are not fixed by express contract, and no agreement in fact may fairly be implied, equity determines after the event what they shall be. In thus adjudicating *in invitum* the consequences of the employment relationship, equity must reconcile the conflicting claims of the employee who has evolved the idea and the employer who has paid him for his time and supplied the materials utilized in experimentation and construction. A task so delicate cannot be performed by accepting the formula advanced by the petitioner any more than by adopting that urged by the respondent, though both are not without support in the opinions of this Court. Compare Hapgood v. Hewitt, 119 U. S. 226; Dalzell v. Dueber Mfg. Co., 149 U. S. 315; Solomons v. United States, 137 U. S. 342, 346; Gill v. United States, 160 U. S. 426, 435; Standard Parts Co. v. Peck, 264 U. S. 52.

Where the employment does not contemplate the exercise of inventive talent the policy of the patent laws to stimulate invention by awarding the benefits of the monopoly to the inventor and not to someone else leads to a ready compromise: a shop-right gives the employer an adequate share in the unanticipated boon.[8] Hapgood v. Hewitt, *supra;* Lane & Bailey Co. v. Locke, 150 U. S. 193; Dalzell v. Dueber Mfg. Co., *supra;* Pressed Steel Car Co. v. Hansen, 137 Fed. 403; Amdyco Corp. v. Urquhart, 39 F. (2d) 943, aff'd 51 F. (2d) 1072; Ingle v. Landis Tool Co., 272 Fed. 464; see Beecroft & Blackman v. Rooney, 268 Fed. 545, 549.

But where, as in this case, the employment contemplates invention, the adequacy of such a compromise is more doubtful not because it contravenes an agreement for an assignment, which may not exist, but because, arguably, as the patent is the fruit of the very work which the employee is hired to do and for which he is paid, it should no more be withheld from the employer, in equity and good conscience, than the product of any other service which the employee engages to render. This result has been reached where the contract was to devise a means for solving a defined problem, Standard Parts Co. v. Peck, *supra,* and the decision has been thought to establish the employer's right wherever the employee is hired or assigned to evolve a process or mechanism for meeting a specific need. Magnetic Mfg. Co. v. Dings Magnetic Separator Co., 16 F. (2d) 739; Goodyear Tire and Rubber Co. v. Miller, 22 F. (2d) 353, 356; Houghton v. United States, 23 F. (2d) 386. But the court below and others have thought (Pressed Steel Car Co. v. Hansen, *supra;* Houghton v. United States, *supra;* Amdyco Corp. v. Urquhart, *supra*), as the respondent argues, that only in cases where the employment or assignment is thus specific may the employer demand all the benefits of the employee's invention. The basis of such a limitation is not articulate in the cases. There is at least a question whether its application may not be attributed, in some instances, to the readier implication of an actual promise to assign the patent, where the duty is to invent a specific thing (see Pressed Steel Car Co. v. Hansen, *supra,* 415), or, in any case, to the reluctance of equity logically to extend, in this field, the principle that the right to claim the service includes the right to claim its product. The latter alternative may find support in the policy of the patent laws

[8] See the cases collected in 30 Columbia Law Rev. 1172; 36 Harvard Law Rev. 468.

to secure to the inventor the fruits of his inventive genius, in the hardship which may be involved in imposing a duty to assign all inventions, see Dalzell v. Dueber Mfg. Co., *supra*, 323, cf. Aspinwall Mfg. Co. v. Gill, 32 Fed. 697, 700, and in a possible inequality in bargaining power of employer and employee. But compare Goodyear Tire & Rubber Co. v. Miller, *supra*, 355; Hulse v. Bonsack Mach. Co., 65 Fed. 864, 868; see 30 Columbia Law Rev. 1172, 1176-8. There is no reason for determining now the weight which should be accorded these objections to complete control of the invention by the employer, in cases of ordinary employment for private purposes. Once it is recognized, as it must be, that the function of the Court in every case is to determine whether the employee may, in equity and good conscience retain the benets of the patent, it is apparent that the present case turns upon considerations which distinguish it from any which has thus far been decided.

The inventors were not only employed to engage in work which unmistakably required them to exercise their inventive genius as occasion arose; they were a part of a public enterprise. It was devoted to the improvement of the art of radio communication for the benefit of the people of the United States, carried on in a government laboratory, maintained by public funds. Considerations which might favor the employee where the interest of the employer is only in private gain are therefore of slight significance; the policy dominating the research in the Bureau, as the inventors knew, was that of the government to further the interests of the public by advancing the radio art. For the work to be successful, the government must be free to use the results for the benefit of the public in the most effective way. A patent monopoly in individual employees, carrying with it the power to suppress the invention, or at least to exclude others from using it, would destroy this freedom; a shopright in the government would not confer it. For these employees, in the circumstances, to attempt to withhold from the public and from the government the full benefit of the inventions which it has paid them to produce, appears to me so unconscionable and inequitable as to demand the interposition of a court exercising chancery powers. A court which habitually enjoins a mortgagor from acquiring and setting up a tax title adversely to the mortgagee, Middletown Savings Bank v. Bacharach, 46 Conn. 513, 524; Chamberlain v. Forbes, 126 Mich. 86; Waring v. National Savings & Trust Co., 138 Md. 367; see 2 Jones on Mortgages (8th ed.), § 841, should find no difficulty in enjoining these employees and the respondent claiming under them from asserting, under the patent laws, rights which would defeat the very object of their employment. The capacity of equitable doctrine for growth and of courts of equity to mould it to new situations, was not exhausted with the establishment of the employer's shopright. See Essex Trust Co. v. Enwright, 214 Mass. 507; Meinhard v. Salmon, 249 N. Y. 458.

If, in the application of familiar principles to the situation presented here, we must advance somewhat beyond the decided cases, I see nothing revolutionary in the step. We need not be deterred by fear of the necessity, inescapable in the development of the law, of setting limits to the doctrine we apply, as the need arises. That prospect does not require us to shut our eyes to the obvious consequences of the decree which has been rendered here. The result is repugnant to common notions of justice and to policy as well, and the case must turn upon these considerations if we abandon the illusion that equity is called upon merely to enforce a contract, albeit, one that is "implied." The case would be more dramatic if the inventions produced at public expense were important to the preservation of human life, or the public health, or the agricultural resources of the country. The principle is the same here, though the inventions are of importance only in the furtherance of human happiness. In enlisting their scientific talent and curiosity in the performance of the public service in which the Bureau was engaged, Dunmore and Lowell necessarily renounced the prospect of deriving from their work commercial rewards incompatible with it.[9] Hence, there is nothing oppressive

[9] It has been said that many scientists in the employ of the Government regard the acceptance of patent rights leading to commercial rewards in any case as an abasement of their work. Hearings on Exploitation of Inventions by Government Employees, Senate Committee on Patents, 65th Cong., 3d Sess. (1919), pp. 16, 17; see also the Hearings before the same Committee, January 28, 1920, 66th Cong., 2d Sess. (1920), p. 5. The opinion of the Court attributes importance to the fact, seemingly irrelevant, that other employees of the Bureau have in some instances in the past taken out patents on their inventions which, so far as appears, the Government has not prevented them from enjoying. The circumstances under which those inventions were made do not appear. But even if they were the same as those in the present case there is no basis for contending that because the Government saw fit not to assert its rights in other cases

or unconscionable in requiring them or their licensee to surrender their patents at the instance of the United States, as there probably would be if the inventions had not been made within the scope of their employment or if the employment did not contemplate invention at all.

The issue raised here is unaffected by legislation. Undoubtedly the power rests with Congress to enact a rule of decision for determining the ownership and control of patents on inventions made by government employees in the course of their employment. But I find no basis for saying that Congress has done so or that it has manifested any affirmative policy for the disposition of cases of this kind, which is at variance with the considerations which are controlling here.

The Act of June 25, 1910, 36 Stat. 851, as amended July 1, 1918, 40 Stat. 704, 705, permitted patentees to sue the government in the Court of Claims for the unauthorized use of their patents. It was in effect an eminent domain statute by which just compensation was secured to the patentee, whose patent had been used by the government. See Richmond Screw Anchor Co. v. United States, 275 U. S. 331. This statute excluded government employees from the benefits of the Act in order, as the House Committee Report explicitly points out, to leave unaffected the shoprights of the government. See H. R. Report No. 1288, 61st Cong. 2d Sess. A statute thus aimed at protecting in every case the minimum rights of the government can hardly be taken to deny other and greater rights growing out of the special equity of cases like the present.

The Act of April 30, 1928, 45 Stat. 467, 468, amending an earlier statute of 1883 (22 Stat. 625), so as to permit a patent to be issued to a government employee without payment of fees, for any invention which the head of a department or independent bureau certifies "is used or liable to be used in the public service," and which the application specifies may, if patented, "be manufactured and used by or for the Government for governmental purposes without the payment of * * * any royalty," was passed, it is true, with the general purpose of encouraging government employees to take out patents on their inventions. But this purpose was not, as the opinion of the Court suggests, born of a Congressional intent that a government employee who conceives an invention in the course of his employment should be protected in his right to exclude all others but the government from using it. Congress was concerned neither with enlarging nor with narrowing the relative rights of the government and its employees.[10] This is apparent from the language of the statute that the patent shall be issued without a fee "subject to existing law," as well as from the records of its legislative history.[11]

The purpose of Congress in facilitating the patenting of inventions by government employees was to protect the existing right of the government to use all devices invented in the service, whether or not the patentee was employed to use his inventive powers. Experience had shown that this shopright was jeopardized unless the employee applied for a patent, since without the disclosure incident to the application the government was frequently hampered in its defense of claims by orders asserting priority of invention. But doubt which had arisen whether an application for a patent under the Act of 1883 did not operate to dedicate the patent to the public,[12] and reluctance to pay the fees otherwise required, had led government employees to neglect to make applications, even when they were entitled to the benefits of the monopoly subject only to the government's right of use. This doubt the amendment removed. It can hardly be contended that in removing it in order to aid the government in the protection of its shopright, Congress declared a policy that it should have no greater right to control a patent procured either under this special statute or under the general patent laws by fraud or any other type of inequitable conduct. Had such a policy been declared, it is difficult to see on what basis we could award the

it has lost them in this. Moreover, there is no necessary inconsistency in the Government's position if it concluded in those cases that the public interest would be served best by permitting the employees to exploit their inventions themselves, and adopted a contrary conclusion here.

[10] Throughout the various speculations in committee as to what those rights were, it was generally agreed that they were intended to remain unchanged by the bill. See Hearings before the House Committee on Patents, 68th Cong., 2d Sess., on H. R. 8267 and 11408 (1925); Hearings before the same Committee, 70th Cong., 1st Sess. (1928), especially at pp. 8-13. The discussion on the floor of the House, referred to in the opinion of the Court (see note 19) does not indicate the contrary.

[11] In addition to the hearings cited *supra*, note 10, see H. R. Report No. 1596, 68th Cong., 2nd Sess.; H. R. Report No. 871, Senate Report No. 765, 70th Cong., 1st Sess. The bill was originally a companion proposal to the Federal Trade Commission bill discussed *infra*, note 18. See the references given there.

[12] See Selden Co. v. National Aniline & Chemical Co., 48 F. (2d) 270, 272; Squier v. American Telephone & Telegraph Co., 7 F. (2d) 831, 832, affirming 21 F. (2d) 747.

government a remedy, as it seems to be agreed we would, if Dunmore and Lowell had been specifically employed to make the inventions. There is nothing to indicate that Congress adopted one policy for such a case and a contrary one for this.

Other legislation proposed but not enacted,[13] requires but a word. Even had Congress expressly rejected a bill purporting to enact into law the rule of decision which I think applicable here, its failure to act could not be accorded the force of law. But no such legislation has been proposed to Congress, and that which was suggested may have been and probably was defeated for reasons unconnected with the issue presented in this case. The legislative record does show, as the opinion of the Court states, that it is a difficult question which has been the subject of consideration at least since the war, whether the public interest is best served by the dedication of an invention to the public or by its exploitation with patent protection under license from the government or the inventor. But the difficulty of resolving the question does not justify a decree which does answer it in favor of permitting government employees such as these to exploit their inventions without restriction, rather than one which would require the cancellation of their patents or their assignment to the United States.

The decrees should be reversed.

Mr. Justice CARDOZO concurs in this opinion.

Mr. Chief Justice HUGHES (dissenting).—I agree with Mr. Justice STONE'S analysis of the facts showing the nature of the employment of Dunmore and Lowell, and with his conclusions as to the legal effect of that employment. As the people of the United States should have the unrestricted benefit of the inventions in such a case, I think that the appropriate remedy would be to cancel the patents.

[13] The bill referred to in the opinion of the Court was one sponsored by the executive departments to endow the Federal Trade Commission with the power to accept assignments of patents from Government employees and administer them in the public interest. It passed the Senate on one occasion and the House on another but failed to become a law. (S. 5265, 65th Cong., 3d Sess., S. 3228, 66th Cong., 1st Sess., H. R. 9982, 66th Cong., 1st Sess., H. R. 11984, 66th Cong., 3d Sess.). In the course of hearings and debates many points of view were expressed. See Hearings on Exploitation of Inventions by Government Employees, Senate Committee on Patents, 65th Cong., 3d Sess. (1919); Hearing before the same Committee, 66th Cong., 2d Sess. (1920); Senate Report No. 405, H. R. Report No. 595, 66th Cong., 2d Sess., recommending passage. See 59 Cong. Rec., 2300, 2421, 2480, 3908, 4682, 4771, 8359, 8360, 8483, 8490; 60 *ibid.* 356; Conference Report, H. R. No. 1294, Sen. Doc. No. 879, 66th Cong., 3d Sess. And see 60 Cong. Rec., 2890, 3229, 3264-3269, 3537. Differences were stressed in the purposes and needs of different agencies of the Government. See especially Hearings (1919), *supra*, pp. 22, 24-5. The need of commercial incentives to private exploiters, as well as the general desirability of such exploitation were admitted, but the dangers were recognized as well. It was thought that the public interest would best be served by the establishment of a single agency for Government control, with the power to determine upon some compensation for the inventor.

After the death of this bill in the Senate, February 21, 1921, the subject was again considered by an Interdepartmental Board established by executive order of President Harding, August 9, 1922. Its report was transmitted to Congress by President Coolidge, in December, 1923. Sen. Doc. No. 88, 68th Cong., 1st Sess. The Board found that there had never been any general governmental policy established with respect to inventions, that whether public dedication, private exploitation or governmental control and administration is desirable, depends largely on the nature of the invention. Accordingly, legislation was recommended establishing a permanent Interdepartmental Patents Board with the power to demand assignments of patents on those inventions thereafter developed in the service which "in the interest of the national defense, or otherwise in the public interest" should be controlled by the Government. No action was taken upon this proposal.

Since that time the Director of the Bureau of Standards has recommended that a "uniform, equitable policy of procedure" be defined for the Government by legislation. (Annual Report for 1925, p. 40.) In the Report for 1931 it is said (p. 46) that the "patent policy of this Bureau has always been that patentable devices developed by employees paid out of public funds belong to the public," and the Report for 1932 adds (p. 40) "if not so dedicated directly, the vested rights should be held by the Government."

101th CONGRESS
1st Session

S._____

To establish a national program to improve collaboration between the national laboratory system of the Department of Energy and the private sector so as to foster the development of technologies in areas of significant economic potential in order to enhance the Nation's economic competitiveness and strategic well-being, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JANUARY ___, 1989

MR. DOMENICI (for himself,_____) introduced the following bill; which was read twice and referred to the Committee on _____.

A BILL

To establish a national program to improve collaboration between the national laboratory system of the Department of Energy and the private sector so as to foster the development of technologies in areas of significant economic potential in order to enhance the Nation's economic competitiveness and strategic well-being, and for other purposes.

BE IT ENACTED BY THE SENATE AND THE HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That this Act may be referred to as the "Department of Energy National Laboratory Cooperative Research and Technology Competitiveness Act of 1989".

SEC. 2. DEFINITIONS.

For purposes of this Act, the term --

(1)(A) except as provided in subparagraphs (B) and (C), "National Laboratory" means the following Department of Energy laboratories --

(i) Lawrence-Livermore National Laboratory;

(ii) Lawrence-Berkeley National Laboratory;

(iii) Los Alamos National Laboratory;

(iv) Sandia National Laboratory;

(v) Fermi National Accelerator Laboratory;

(vi) Princeton Plasma Physics Laboratory;

(vii) Idaho National Engineering Laboratory;

(viii) Argonne National Laboratory;

(ix) Brookhaven National Laboratory;

(x) Oak Ridge National Laboratory (including the Y-12 Plant);

(xi) Pacific Northwest Laboratory;

(xii) Ames Laboratory;

(xiii) Stanford Linear Accelerator Center;

(xiv) Bates Linear Accelerator Facility;

(xv) Center for Energy and Environment Research;

(xvi) Coal Fired Flow Facility;

(xvii) Energy Technology Engineering Center;

(xviii) Hanford Engineering Development Laboratory;

(xix) Inhalation Toxicology Research Institute;

(xx) Laboratory for Energy-Related Health Research;

(xxi) Laboratory of Biomedical and Environmental Sciences;

(xxii) Laboratory of Radiobiology and Environmental Health;

(xxiii) Michigan State University-DOE Plant Research Laboratory;

(xxiv) Notre Dame Radiation Laboratory;

(xxv) Oak Ridge Associated Universities;

(xxvi) Radiobiology Laboratory;

(xxvii) Savannah River Ecology Laboratory;

(xxviii) Savannah River Laboratory;

(xxix) Solar Energy Research Institute; and

(xxx) Stanford Synchrotron Radiation Laboratory.

(B) Such term does not include Naval Nuclear Propulsion Reactor Laboratories, or their contractors or subcontractors performing work covered under Executive Order 12344, as codified in section 7158 of title 42, United States Code.

(C) Such terms shall includes any future government-owned, contractor-operated laboratory facilities established as Department of Energy Multi-program Laboratories or Program-Dedicated Facilities.

(2) "contract" means any contract, grant, or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of title 31, United States Code, entered into between any Federal agency and any contractor

for the performance of research, experimental, or developmental activities funded in whole or in part by the Federal Government. Such term includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of such activities.

(3) "cooperative research and development agreement" means any agreement between the Directors of one or more National Laboratories and one or more Federal or non-federal parties under which the Federal government, through such National Laboratory or Laboratories, provides personnel, services, facilities, equipment, or other resources with or without reimbursement and the non-federal parties provide funds, personnel, services, facilities, and equipment, or other resources toward the conduct of specified research, development, and demonstration efforts that are consistent with the missions of the National Laboratory; except that such term does not include a procurement contract or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of title 31, United States Code.

(4) "director of a National Laboratory" means the employee of the Department of Energy laboratory manager or operator who directs the management and operation of such National Laboratory;

(5) "Federal Agency" means any executive agency as defined in section 105 of title 5, United States Code, and the military departments defined by section 102 of title 5,

United States Code.

(6) "funding agreement" means any contract, grant, or cooperative agreement entered into between the Secretary of Energy and a contractor operating a National Laboratory that provides for such contractor to perform research, experimental, and development activities at such National Laboratory.

(7) "laboratory manager or operator" means the contractor who has signed a contract with the Secretary for management and operation of a National Laboratory (but only with respect to activities relating to such management or operation); and

(8) "Secretary" means the Secretary of Energy.

SEC. 3. FINDINGS.

The Congress finds that --

(1) the Nation's economic competitiveness and strategic well-being depends on the development of advanced energy technologies, such as those anticipated to evolve from research and development on high temperature superconducting materials;

(2) the national laboratories of the Department of Energy constitute a multi-discipline capability in general science, energy science, and defense related technology development with incomparable research and computer facilities with research and support staffs of demonstrated international expertise;

(3) while the National Laboratories have demonstrated successes in technology transfer into the private sector, the effectiveness of this effort can be significantly enhanced if --

(A) industry is made more aware of the National Laboratory research and development capabilities and activities;

(B) technology transfer is established as a significant element of the mission of the National Laboratories;

(C) the National Laboratories are made more aware of industry market requirements; and

(D) industry becomes more involved with the activities of National Laboratories at an early enough in the research and development process to provide guidance on the development of commercially viable products; and

(4) a national initiative is needed, if there is to be a timely transfer of energy technology developments from the National Laboratories to the private sector, except that nuclear weapons design, development, production, and maintenance must remain the primary mission of the Department of Energy nuclear weapons complex.

SEC. 4. PURPOSES.

The purposes of this Act are to --

(1) enhance collaboration between universities and the

private sector and the National Laboratories of the Department of Energy so as to foster the development of technologies in areas of significant economic potential.

(2) establish that it is a mission of each National Laboratories to foster, through the transfer of technology to the private sector consistent with the national security and a fair return on the taxpayers' investment, the commercialization of technologies developed in connection with its research, experimental, and development activities; and

(3) better meet the continuing responsibility of the Federal Government to ensure the full use of the results of the Nation's Federal investment in the National Laboratories' research and development in meeting international competition.

SEC. 5. DIRECTIVE.

The Secretary shall --

(1) take such actions as he deems appropriate and consistent with law to further the mission set forth in section 3; and

(2) ensure that the mission set forth in section 3 is carried out in a manner that is not detrimental to the military mission of any National Laboratory.

TITLE I --NATIONAL LABORATORY CENTERS FOR TECHNOLOGY MANAGEMENT

SEC. 101. POLICY.

For the purposes of title I, it is the policy of Congress

that --

(1) intellectual property rights in technology developed at the National Laboratories be managed so as to promote the competitiveness of United States industries;

(2) the Secretary prescribe regulations for cooperative research and development agreements and intellectual property rights arising under such agreements; and

(3) the directors of the National Laboratories devise implementing procedures consistent with the policy guidelines set forth by the Secretary.

SEC. 102. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

(a) GENERAL AUTHORITY. -- The Secretary shall prescribe regulations ensuring that the contract for the management and operation of any National Laboratory authorizes the director of such Laboratory:

(1) to enter into cooperative research and development agreements and to negotiate the terms and conditions of such agreements with--

(A) other federal agencies;

(B) units of state or local government;

(C) industrial organizations including corporations, partnerships and limited partnerships, consortia, and industrial development organizations;

(D) public and private foundations;

(E) nonprofit organizations (including universities); or

(F) other persons or entities, including licensees of inventions or computer software owned by the National Laboratory manager or operator.

(2) to negotiate intellectual property licensing agreements for National Laboratory owned inventions or computer software, assigned or licensed to the National Laboratory by third parties including voluntary assignment by employees.

(b) SPECIFIC AUTHORITY. -- Each director of a National Laboratory may include provisions in any cooperative research and development agreement negotiated and entered into pursuant to this section permitting such laboratory manager or operator to --

(1) accept, retain, and use funds, personnel, services, and property from collaborative parties and provide personnel, services, and property to collaborating parties;

(2) grant or agree to grant in advance to a collaborative party, intellectual property licenses, assignments, or options thereto, in any invention or computer software, made, in whole or in part, by an employee of a National Laboratory under the cooperative research and development agreement; and

(3) to the extent consistent with Department of Energy regulations, orders, and directives pertaining to conflict of interest, permit employees or former employees of a laboratory manager or operator to participate in efforts to

transfer to the private sector inventions or computer software, such employees developed or made while in the service of such laboratory.

SEC. 103. CRITERIA FOR ENTERING INTO AGREEMENTS.

In determining whether to enter into a cooperative research and development agreements, the director of a National Laboratory shall determine that --

(1) facilities at the National Laboratory will be available to conduct the activities that are the subject of the cooperative research and development agreement;

(2) the activities that are the subject of the cooperative research and development agreement would not interfere with programs of the Department of Energy;

(3) the activities that are the subject of the cooperative research and development agreement would not create a future detrimental burden on the National Laboratory; and

(4) the proposed cooperative research and development agreement is consistent with applicable guidelines of the Secretary pursuant to section 102 for cooperative research and development agreements.

SEC. 104. AGREEMENT CONSIDERATIONS.

In deciding which cooperative research and development agreements to enter into, and which licenses, assignments, and options to grant, the director of a National Laboratory shall --

(1) give special consideration to small business firms

and consortia involving small business firms;

(2) give preference to business units located in the United States that agree that products embodying inventions or computer software, made under the cooperative research and development agreement or produced through the use of such inventions or computer software, will be developed and manufactured substantially in the United States;

(3) in the case of any industrial organizations or other person subject to the control of a foreign company or government, as appropriate, take into consideration whether or not such foreign government permits United States agencies, organizations, or other persons to enter into cooperative research and development agreements and licensing agreements; and

(4) provide universities the opportunity to participate in such cooperative research and development agreements when such participation will contribute to the purpose of this Act.

SEC. 105. MODIFICATION OR DISAPPROVAL OF AGREEMENT.

The Secretary may disapprove or require the modification of a cooperative research and development agreement under subsection (a). Such agreement shall provide a 30-day period beginning on the date the agreement is submitted to the Secretary by the director of the National Laboratory concerned, within which period such action may be taken by the Secretary. In any case in which the Secretary disapproves or requires the modification of

any cooperative agreement submitted under this title, the Secretary shall transmit a written explanation of such disapproval or modification to the director of the National Laboratory concerned within 30 days after such submission. If such action is not taken within this thirty day period, the cooperative research and development agreement shall be deemed approved.

SEC. 106. LIMITATION.

The cumulative total of non-appropriated funds contracted to be received in any year under all cooperative research and development agreements entered into by the director of any National Laboratory under this Act may not exceed an amount equal to 10 percent of the annual budget of such National Laboratory, unless approved in advance by the Secretary.

SEC. 107. CONFLICTS OF INTEREST.

(a) In negotiating or entering into any cooperative research and development agreement under this section, and in negotiating or granting any license or assignment with respect to intellectual property subject to this section, the director of a National Laboratory (and any employee of a laboratory manager or operator who may be acting on behalf of the Director) shall carry out such actions --

(1) in compliance with all applicable laws and regulations;

(2) in the public interest; and

(3) not for the benefit of the director of the National

Laboratory, the employee, a related person, the laboratory manager or operator, or a related entity.

(b) A director of a National Laboratory may not enter into negotiations --

(1) for a cooperative research and development agreement with a related person or a related entity; or

(2) for granting a license or assignment with respect to intellectual property subject to this section to a related person or a related entity until such negotiations are approved in advance by the Secretary.

(c) Any cooperative research and development agreement proposed to be entered into by a director of a National Laboratory with a related person or a related entity, and any license or assignment proposed to be granted by the director of a National Laboratory to a related person or a related entity, may not become effective until it is approved by the Secretary.

(d) For purposes of this section, the term --

(1) "related person" means a person related to a director of a National Laboratory or to an employee of such a director by marriage, blood, or otherwise, as determined by the Secretary under regulations; and

(2) "related entity" means a parent corporation of a laboratory manager or operator, a subsidiary or affiliate of a laboratory manager or operator, or any other entity that has a financial relationship with, or that is acting as an agent for, a laboratory manager or

operator, as determined by the Secretary under regulations.

SEC. 105. RECORDS OF AGREEMENTS.

The director of each National Laboratory shall maintain a record of all cooperative research and development agreements entered into under this title, and shall submit annually a copy of such record to the Secretary.

SEC. 106. DUTIES AND RESPONSIBILITIES OF THE SECRETARY.

(a) The Secretary shall review all existing regulations, policy guidelines, orders, directives, procedures, and administrative processes associated with the abilities of the directors of the National Laboratories to:

(1) enter into cooperative relationships and cooperative research and development agreements with private industry or universities;

(2) undertake work-for-others; and

(3) operate user facilities.

(b) The Secretary shall review existing standards for resolving potential conflicts of interests to ensure that such standards adequately establish guidelines for situations likely to arise through the use of the authorities granted in this subtitle, including but not limited to cases where present or former National Laboratory employees or their partners negotiate licenses or assignments of titles to inventions or negotiate cooperative research and development agreements with Federal agencies (including the Department of Energy or the laboratory

manager or operator with which the employee involved is or was formerly employed).

(c) The Secretary shall--

(1) review the impact of the exchange of scientific information, scientific innovation, and commercialization resulting from cooperative research and development agreements.

(2) survey non-federal parties interested in entering into cooperative research and development agreements with the National Laboratories to determine if adequate measures exist to encourage scientific innovation and commercialization resulting from cooperative research and development agreements; and

(3) based on the results of such review and survey develop policy recommendations that shall be submitted to the Congress.

(d) The Secretary shall--

(1) formulate and carry out a comprehensive set of policy guidelines to advance the goals of this subtitle, based on the review under subsection (a);

(2) report to Congress and the President within 90 days after the date of the enactment of this subtitle on the status of this review; and

(3) within 180 days after the date of the enactment of this subtitle, implement the policy guidelines under paragraph (1) that do not require regulations under section

242.

SEC. 107. DEFINITIONS.

(a) For purposes of this title, the term--

(1) "collaborative party" means a party to a cooperative research and development agreement;

(2) "computer software" means recorded information, regardless of form or the media on which it may be recorded, comprising computer programs or documentation thereof;

(3) "intellectual property" means patents, trademarks, copyrights, mask works, and other forms of comparable property rights protected by federal law;

(4) "invention" means any invention that is or may be patentable or otherwise protected under Title 35, United States Code, or any novel variety of plant that is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.);

(5) "laboratory owned" means any rights in intellectual property conveyed under this title to a contractor operating a National Laboratory or any rights in intellectual property arising under the operating contract for a National Laboratory where rights are not expressly taken by the United States Government or by a subcontractor;

(6) "made" when used in conjunction with any invention means the conception or first actual reduction to practice of such invention;

(7) "subject invention" means any invention of a

National Laboratory first conceived or reduced to practice in the performance of work under a contract or funding agreement for the operation of a National Laboratory;

(8) "third parties" means domestic entities located in the United States who agree to manufacture and to conduct research and development substantially in the United States including --

(A) Federal agencies other than the Department of Energy;

(B) units of State or local government;

(C) industrial organizations, such as corporations, partnerships, limited partnerships, consortia, or industrial development organizations;

(D) public and private foundations;

(E) nonprofit organizations such as universities; and

(F) licensees of inventions or computer software owned by the laboratory manager or operator.

TITLE II -- CENTERS FOR RESEARCH ON RESEARCH ON HIGH-TEMPERATURE SUPERCONDUCTING TECHNOLOGIES

SEC. 201. FINDINGS.

For purposes of this title, the Congress finds that:

(1) extensive research in superconducting materials <u>is being conducted by the Department of Energy</u> to support its programmatic activities in High Energy Physics, Magnetic Fusion Energy, Energy Storage Systems, Electric Energy

Systems, and Energy Conservation, pursuant to the Federal Non-nuclear Energy Research and Development Act of 1974 (P.L. 93-577), the Energy Reorganization Act of 1974 (P.L. 93-483), and the Department of Energy Organization Act (P.L. 95-91);

(2) recent developments in high-temperature superconducting materials hold great promise for highly efficient energy storage and transmission, medical diagnostics, magnets for physics research and fusion reactors, and smaller super-computers;

(3) if the United States is a world leader in basic research on high-temperature superconducting materials, then programs supporting this research at the Department of Defense, the National Science Foundation, and the Department of Energy should be maintained and strengthened;

(4) there is intense international interest in the commercialization of high-temperature superconducting materials and the key to success in its commercialization lies in the rapid development of these materials and the identification of their applications; and

(5) the National Laboratories have demonstrated expertise in high-temperature superconductivity research and have a proven record in research in enabling technologies which can benefit the industrial sector efforts in the commercialization of new technologies and product development.

SEC. 202. PURPOSES.

The purposes of this title are --

(1) to provide for research on critical enabling technologies to assist United States industry in the commercialization of high-temperature superconductors;

(2) to provide national organization and coordination in the research, development and commercialization of high-temperature superconductors; and

(3) to encourage private industry, university, and National Laboratory interaction through centers for research on high-temperature superconductivity at the National Laboratories.

SEC. 203. ESTABLISHMENT OF THE HIGH-TEMPERATURE SUPERCONDUCTOR RESEARCH INITIATIVE.

The Secretary of Energy shall initiate and carry out a cooperative program of research on enabling high-temperature superconductor technology and on the practical applications of such technology (here-in-after referred to in this title as the "Initiative").

SEC. 205. COUNCIL ON ENABLING TECHNOLOGIES.

(a) ESTABLISHMENT. -- The Secretary of Energy shall form the "Council for Research on Enabling Technologies" (here-in-after referred to in this title as the "Council") that shall be composed or representatives of appropriate government agencies, universities, and industry to provide advice to the Secretary in setting goals and strategies for the Initiative.

(b) DUTIES. -- The Council shall recommend guidelines for the release of the technical findings and developments made by the cooperative research centers established pursuant to subsection (b). Guidelines for releasing technical findings set forth by the Council shall be consistent with guidelines set forth by affected Federal agencies.

(c) AVOIDANCE OF DUPLICATION.-- The Council shall keep appraised of activities taking place at the existing Research Centers on Superconductivity and Superconductivity Pilot Centers. In carrying out its responsibilities under subsection (a), the Council shall recommend to the Secretary and such Centers measures to ensure that unnecessarily duplicative research or activities are not being carried out at these Centers.

SEC. 206. CENTERS FOR RESEARCH ON ENABLING TECHNOLOGIES.

(a) The Secretary shall establish cooperative research centers in enabling technologies for high-temperature superconducting materials and applications (here-in-after referred to in this title as "Centers") at one or more National Laboratories with appropriate university and private industry participants.

(b) The Centers shall be located at National Laboratories that demonstrate expertise in --

(1) high-temperature superconductivity research; and

(2) research in associated technologies including --

(A) thin film and bulk ceramic synthesis and processing; and

(B) characterization of physical, chemical, and structural properties in materials.

SEC. 207. PARTICIPATION BY THE NATIONAL LABORATORIES.

(a) MISSION OF NATIONAL LABORATORIES.-- The Secretary shall ensure that the National Laboratories ~~shall~~ may participate in the Initiative, to the extent that such participation is consistent with the purposes of this Act.

(b) AGREEMENTS.-- The Secretary shall enter into such contracts and agreements, with other Federal agencies, with U.S. private industrial or research organizations, or consortia, or with any college or university, as may be necessary to provide for the active participation of the National Laboratories in the Initiative.

(c) REQUIREMENTS. -- The Initiative shall include provisions for one or more National Laboratory to conduct research, experimental, and development activities relating to high-temperature superconductivity. Such activities may include research, experimental, and development activities in associated technologies (including thin film and bulk ceramic synthesis and processing and the characterization of physical, chemical, and structural properties in materials).

SEC. 208. PERSONNEL EXCHANGES.

The Initiative may include provisions for temporary exchanges of personnel between any domestic firm or university referred to in this title and the National Laboratories that are participating in the Initiative. The exchange of personnel may

be subject to such restrictions, limitations, terms and conditions as the Secretary considers necessary in the interest of national security.

SEC. 209. OTHER DEPARTMENT OF ENERGY RESOURCES.

(a) AVAILABILITY OF RESOURCES.-- Subject to subsection (b), the Secretary may make available to other departments or agencies of the Federal Government, and to any participant in research and development projects under the Initiative, any facilities, personnel, equipment, services, and other resources of the Department of Energy for the purpose of conducting research and development projects under the Initiative.

(b) REIMBURSEMENT. -- At his discretion, the Secretary may, to the extent practicable, make facilities available under this section only to the extent that the cost of the use of such facilities is reimbursed by the user.

SEC. 210. BUDGETING FOR HIGH-TEMPERATURE SUPERCONDUCTIVITY RESEARCH.

To the extent the Secretary considers appropriate and necessary, the Secretary, in preparing the research and development budget of the Department of Energy to be included in the annual budget submitted to the Congress by the President for fiscal years 1990, 1991, 1992, 1993, 1994, and 1995 under section 1105(a) of title 31, United States Code, shall provide for programs, projects, and activities that encourage the development of new technology in the field of high-temperature superconductivity.

SEC. 211. COST-SHARING AGREEMENTS.

(a) PERMITTED PROVISIONS. -- The Secretary shall ensure, pursuant to title I, that contracts for the operation of National Laboratories provide the director of each National Laboratory that is participating in the Initiative or the contractor operating any such National Laboratory the authority to receive funds under any cooperative research and development agreement entered into with a domestic firm or university under the Initiative.

(b) CONSIDERATIONS. -- The director of each National Laboratory that is participating in the Initiative, in determining the type and extent of its laboratory participation in carrying out work for others, shall undertake such work only when facilities are available and there use would not interfere with Department of Energy programs, and such nor create a future detrimental burden on the National Laboratory.

(c) LIMITATIONS. -- (1) Not more than 10 percent of the annual operating budget of any National Laboratory may be derived from non-appropriated funds derived from contracts entered into under the Initiative, except to the extent approved in advance by the Secretary.

(2) Under subsection (a), no National Laboratory may receive more than $10,000,000 of non-appropriated funds, or the equivalent of such amount, from any person under any cooperative research and development agreement entered into under the Initiative, except to the extent approved in

advance by the Secretary.

SEC. 212. ~~OVERSIGHT RELATING TO THE INITIATIVE.~~

~~(a) DISAPPROVAL AND MODIFICATION OF AGREEMENTS.---(1) The Secretary may review a cooperative research and development agreement for the purpose of disapproving or requiring the modification of the cooperative research and development agreement. Each such agreement shall provide a 30-day period within which the agreement may be disapproved or modified by the Secretary beginning on the date the agreement is submitted to the Secretary.~~

~~(2) In any case in which the Secretary disapproves, or requires the modification of, any agreement submitted to the Secretary under this section, within 30 days after such submission, the Secretary shall transmit a written explanation of such disapproval or modification to the head of the National Laboratory concerned.~~

(a) RECORD OF AGREEMENTS. -- Each National Laboratory shall maintain a record of all agreements entered into under this subtitle section and submit such record to the Secretary on an annual basis.

SEC. 213. AVOIDANCE OF DUPLICATION.

In carrying out the Initiative, the Secretary shall ensure that unnecessarily duplicative research is not performed at the research facilities of the Department of Energy (including the National Laboratories) that are participating in the Initiative.

TITLE III. GENERAL PROVISIONS

SEC. 301. AUTHORITY OF THE SECRETARY.

(a) Nothing in this Act may be construed to affect or limit --

(1) the authority of the Secretary to control all classified or sensitive (as defined pursuant to section 148 of the Atomic Energy Act of 1954, as amended) research contracts and agreements to which the Department of Energy or a National Laboratory is a party; or

(2) the vesting of title in the Department of Energy of all intellectual property that is made under classified or sensitive (as defined pursuant to section 148 of the Atomic Energy Act of 1954, as amended) research in a National Laboratory or in a facility of a collaborative party under a cooperative research and development agreement and that is classified or sensitive.

SEC. 302. REGULATIONS.

(a) Within 180 days after the date of the enactment of this Act, the Secretary shall prescribe regulations for implementing sections 102, 303, and 304. In prescribing such regulations the Secretary shall provide opportunity for public comment on proposed regulations.

(b) Any such regulations shall be guided by the purpose of this Act.

(c) Before the Secretary issues regulations under this section, the Secretary shall consult with the Office of Federal

Procurement Policy to review such regulations for consistency with this subtitle.

SEC. 303. PATENT OWNERSHIP AND THE CONDITIONS OF OWNERSHIP.

(a) DISPOSAL OF TITLE TO INVENTIONS. -- Notwithstanding section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182), section 9 of the Federal Non-nuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908), or other provision of law, the Secretary shall dispose of the title to any subject invention made in the performance of a Department of Energy contract to manage or operate any National Laboratory in the same manner as applied to small business and nonprofit organizations under Chapter 18 of title 35, United States Code, except that a condition of such disposal shall be the retention by the United States of a royalty-free license to use such subject invention for United States Government purposes.

(b) RETENTION OF TITLE BY UNITED STATES. -- (1) Whenever a manager, operator or employee of a National Laboratory under a contract makes a subject invention to which the Secretary has determined (at the time of contracting for the management and operation of the National Laboratory) to retain title for exceptional circumstances under section 202(a)(ii) of title 35, United States Code, the title to the subject invention shall be retained by the Government unless the National Laboratory at which the invention is made requests title to such invention and the Secretary does not notify the director of the National Laboratory --

(A) within 90 days after receipt of such request that the subject invention is covered by a determination under such section 202(a)(ii); or

(B) within 150 days after receipt of such request that the subject invention has been classified or has been designated sensitive technical information as authorized by section 148 of the Atomic Energy Act of 1954.

(2) Whenever a manager or operator of a National Laboratory makes a subject invention to which the Secretary has determined (at the time of contracting for the management and operation of the National Laboratory) to retain title because the invention is made in the course of or under a funding agreement described in section 202(a)(iv) of title 35, United States Code, the title to the subject invention shall be retained by the Government unless the director of the National Laboratory at which the invention is made requests title to such invention and the Secretary does not notify the director of the National Laboratory ~~within 90 days after receipt of such request that the invention~~ drop --

(A) within 150 days after receipt of such request that the subject invention has been classified or has been designated sensitive technical information as authorized by section 148 of the Atomic Energy Act of 1954; and

(B) within 90 days after receipt of such request that the subject invention is covered by a determination under such subsection 202(a)(iv).

(3) The Secretary may not use export control statues or regulations as the sole basis for refusing a request for title to a subject invention.

(4) If the Secretary does not notify the director of the National Laboratory that has requested title to a subject invention in accordance with this section, such National Laboratory shall be deemed to have elected title to the invention under the Government-wide contractor patentable ownership provisions of Chapter 18 of title 35, United States Code.

(c) The Secretary may, by rule with notice and public comment under 5 U.S.C. 553, exempt from the operation of subsection (b) any category of inventions that he determines is directly related to research and development on the design, manufacture, or utilization of any nuclear weapon or component.

SEC. 304. INTELLECTUAL PROPERTY.

(a) CONTRACT PROVISIONS. -- Any Department of Energy contract for the management or operation of a National Laboratory shall provide --

(1) that any royalties or income that is earned by the manager or operator of a National Laboratory from the licensing of laboratory-owned intellectual property rights in any fiscal year shall be used as authorized under subsection 202(c)(7)(E) of title 35, United States Code and Section 13(a)(1)(B)(i)-(iv) and section 13(a)(2)-(4) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710c(a)(1)(B)(i)-(iv) and 3710c(a)(2)-(4); and

(2) that the costs of obtaining and protecting intellectual property rights in any invention or computer software, owned by the National Laboratory shall be paid for by the laboratory manager or operator as a cost shared expense under a cooperative research and development agreement.

(b) The Secretary shall ensure that all intellectual property granted to a laboratory manager or operator shall be subject to a royalty-free license to use and reproduce such intellectual property for United States Government purposes.

(c) The Secretary shall establish procedures to have the management of intellectual property rights, including procurement, retention, and licensing of such rights, in connection with laboratory-owned inventions and computer software, be the responsibility of the director of the National Laboratory at which the invention or computer software are made, developed or assigned.

(d) The Secretary shall prescribe regulations, orders, or directives prohibiting any laboratory manager or operator who has received title to intellectual property under this section from receiving money or other benefit from the use or licensing of such property for the benefit of the laboratory manager or operator, except for research and development associated with activities at the National Laboratory to promote technology transfer as authorized by law, or in special circumstances, as may be approved by the appropriate Department of Energy

Operations Office manager.

(e) COMPENSATION. -- (1) Subject to paragraph (2), in return for retaining title to any intellectual property rights in any invention or discovery made in performance of a Department of Energy cooperative research and development agreement, the manager or operator of any National Laboratory shall pay to the United States reasonable compensation based on the value of the technology transferred. The amount of the payment arising as a result of the transfer shall be set by an arbitration board consisting of one member selected by the manager or operator of the National Laboratory, one member selected by the Secretary, and one member jointly selected by the manager or operator and the Secretary. In determining the payment, the arbitration boards shall set an amount that is proportionate with the research and development costs funded by the United States. The arbitration board shall have discretion to permit the payment to be made in installments according to the extent the manager or operator uses or employs the intellectual property.

(2) Paragraph (1) shall not apply if:

(A) the contract manager and operator is operating the National Laboratory for no profit or fee beyond expenses; and

(B) such contract manager or operator is offering the intellectual property for fair market value and any value or royalties the contractor derives from the intellectual property will be returned to the National

Laboratory or the Federal Treasury in accordance with Section 202(c)(7)(E) of title 35, United States Code.

SEC. 305. MARCH-IN RIGHTS.

The Secretary may require the licensing to third parties of all intellectual property owned by the laboratory manager or operator that is subject to the provisions of this subtitle in the same manner as provided under section 203 of title 35, United States Code.

SEC. 306. OVERSIGHT.

(a) The Secretary, the Inspector General of the Department of Energy, and the Comptroller General shall conduct periodic audits of activities of the National Laboratories under this Act.

(b) Nothing in this Act diminishes the responsibility of the Secretary to keep Congress fully and currently informed or the right of Congress to review and receive information with respect to any agreement, license, or intellectual property subject to this Act.

SEC. 307. COPYRIGHTS AND PATENTS.

This title does not confer any new authority on the Department of Energy to obtain a copyright or a patent.

SEC. 308. LIABILITY OF THE UNITED STATES.

The United States may not be held liable for a claim brought by any person alleging injury resulting from a product embodying intellectual property or from a product produced through the use of intellectual property acquired under this

subtitle. The preceding sentence does not apply to such a product if the product is produced by the Federal Government or at the request of the Federal Government.

SEC. 309. EFFECTIVE DATE.

This Act shall take effect 180 days after the date of the enactment of this Act (regardless of whether regulations have been promulgated under section 302). The Secretary shall immediately enter into negotiations with each laboratory manager or operator to amend all existing contracts for the operation of the National Laboratories, to reflect this Act.