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FEDERAL EMPLOYEE INVENTION RIGHTS — TIME TO LEGISLATE†

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RECENT discussions of the current shortage of scientific manpower in the United States have focused national attention on the advantages and disadvantages to the individual of employment as a scientist or technician. This problem has particular significance with respect to employment by the federal government for two principal reasons.

First, the number and importance of scientific personnel in the government have increased dramatically in recent years. Since the beginning of World War II the tremendous expenditures by the government for research and development have greatly increased the government's need for scientific manpower. Estimates of federal government expenditures for scientific research and development reach 2.3, 2.4 and 2.7 billion dollars in the fiscal years 1955, 1956 and 1957,¹ respectively, and these figures represent upwards of one-half of the *total* national expenditures for research and development.² Further, it is estimated

† The opinions expressed in this article are those of the authors and do not necessarily reflect the views of any other person, the Department of the Army, or the Office of The Judge Advocate General. However, the authors wish to express their appreciation for the help and criticism given by Hon. Robert C. Watson, Commissioner of Patents, Lt. Colonel Willard J. Hodges, Jr., Chief, Patents Division, Office of The Judge Advocate General, Department of the Army, and Mr. Donald C. Snyder, Director, Patents Legal Division, Office of Naval Research, Department of the Navy.

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¹ NATIONAL SCIENCE FOUNDATION, FEDERAL FUNDS FOR SCIENCE (V. The Federal Research and Development Budget, Fiscal Years 1955, 1956, and 1957) 4 (1956). "Amounts for fiscal year 1957 are budget estimates and do not reflect congressional action or later modifications made by the agencies themselves." *Id.* at 17.

² AMERICAN ENGINEER, December 1956, p. 19; Remarks of Commissioner of Patents, Hon. Robert C. Watson, Report of Army Patent Conference, at 141 (1955). This report sets forth the proceedings of a March 1955 conference of over 200 Department of Defense and other government patent personnel; a copy is on file in the library of the University of Michigan Law School.

that 48 percent of expenditures in this field by the federal government for fiscal year 1957 will be obligated for "intra-mural" work performed within the government's own research laboratories and facilities.³ The federal government today is the nation's largest single employer of scientists and engineers.⁴ In 1954 the government employed one out of every fifteen engineers in the country.⁵ During that year the government employed in research and development and related scientific activities a total of 142,180 persons,⁶ of whom 102,371 were civilian scientists and engineers.⁷ The number of civilian engineers employed by the government mushroomed from 4,229 in 1931 to 43,272 in 1954, an increase of 923 percent.⁸

Second, the traditional disadvantages of government in competing with industry for scientific talent, principally because of salary limitations,⁹ has become more serious recently,¹⁰ at a time when the requirements of national defense and the country's expanding technology call for added strength in govern-

³ NATIONAL SCIENCE FOUNDATION, *FEDERAL FUNDS FOR SCIENCE* (V. The Federal Research and Development Budget, Fiscal Years 1955, 1956, and 1957) 12 (1956). This figure excludes federal funds, estimated to be obligated for research and development at profit organizations, educational institutions, research centers, and state governments.

⁴ This fact, and the statistics which follow, are set forth in a draft report entitled *FEDERAL MANPOWER ENGAGED IN SCIENTIFIC ACTIVITIES 1954*, which, after possible minor revisions as a result of comments from various government agencies, will be published early this year by the National Science Foundation (hereinafter called "NSF Draft Report").

⁵ NSF Draft Report at II-1.

⁶ *Id.* at I-1B.

⁷ *Id.* at II-3A.

⁸ *Id.* at II-9B. See also *UNIVERSITY TRAINING FOR THE NATIONAL SERVICE* (University of Minnesota Press, 1932).

⁹ Statistics prepared by the Los Alamos Scientific Laboratory of the University of California indicate that in 1953 the average monthly salary of industrial research scientists and engineers with over 20 years experience was \$779 for those with a B.S. and \$863 for those with a Ph.D. Comparable figures for government employ were \$609 and \$716. NATIONAL SCIENCE FOUNDATION, *SCIENTIFIC PERSONNEL RESOURCES* 22 (1955). It is not irrelevant that, "the Government's share of the nation's scientific manpower rose during the Depression years, but has declined since World War II." NSF Draft Report at II-4A.

¹⁰ ". . . [T]he Federal Government . . . is feeling the manpower pinch along with other users. This is not a new problem, but it has been growing in severity, and it is now receiving study for action in the next Congress at the highest governmental level." *AMERICAN ENGINEER*, December 1956, p. 19.

"Nor is it any secret that our Government is facing grave difficulties in obtaining the necessary key scientific personnel to keep pace with the requirements of modern-day warfare.

"Our committee hearings on this legislation disclosed that inability to attract and retain competent top-level scientific, professional, technical and administrative personnel is one of the most pressing problems faced by the Department of Defense, National Security Agency and the National Advisory Committee for Aeronautics. Private industry has found the necessity for such top-level personnel, and private industry is prepared to pay substantially higher wages than is the Government under existing legislation.

". . . The condition is particularly evident in the field of research and development." Remarks of Congressman John E. Henderson, Ohio, on H.R. 11040, 84th Cong., 2d sess., 102 CONG. REC. A4936 (June 21, 1956).

mental research and development.¹¹ The immediacy of this problem is indicated by the fact that the President has appointed a high level committee to study the question and prepare a report for submission to the President and Cabinet looking toward early executive action and subsequent legislation.¹²

A natural inference from these statistics is that personnel policies and other actions affecting the interests of scientific personnel in the government are no minor matter, but have an impact on a significant part of the country's scientific resources. One important concern in this area is the extent of the legal rights of such personnel in their inventive creations, as against their employer, and as against other persons. Thus the determination of the relative rights (between government and employee) in inventions made by government employees, while an old problem,¹³ has recently acquired new significance.

It is the purpose of this article to review judicial standards applicable to the determination of rights in inventions made by employees of the federal government, to note statutory provisions affecting the problem, to examine the content and effect of the present Executive program for determining such rights, to review and evaluate two fundamental and conflicting theories in this field, and to propose legislation establishing appropriate standards and procedures. This topic is believed to have general interest because, in addition to the urgencies suggested above, the problem touches some of the basic legal philosophy underlying the United States patent system.

I. *Judicial Standards*

Under the patent laws, only the "inventor" may apply for a patent.¹⁴ However, the courts recognize and enforce property

¹¹ See, e.g., NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS, CRISIS IN THE RECRUITMENT AND RETENTION OF SCIENTISTS AND ENGINEERS IN THE FEDERAL GOVERNMENT (September 1956).

¹² This committee, entitled Committee on Engineers and Scientists for Federal Government Programs, is headed by the President's Adviser on Personnel Management and Chairman of the Civil Service Commission. It includes representatives of the major departments and agencies which employ engineers and scientists. An idea of the comprehensive scope of the committee's investigation of the problem is given by a list of its subcommittees: (1) Numbers, Kinds, Levels of Engineers and Scientists in the Government; (2) Comparison of Government Scientific Pay Levels of Engineers and Scientists with those in Other Sectors of the Economy; (3) Comparison of Other Benefits; (4) Attitudes of Scientists Toward Government Employment; (5) Turnover Analysis; (6) Recruitment Activities; (7) Utilization. AMERICAN ENGINEER, December 1956, p. 19.

¹³ See discussion in Parts I and X *infra*.

¹⁴ 35 U.S.C. (1952) §111. But see *id.*, §118 (permitting an assignee, or a person "who otherwise shows sufficient proprietary interest in the matter justifying such action," to

interests in patents and inventions. Thus, a patent may issue to an assignee,¹⁵ and patent applications and patents are assignable.¹⁶ Patents have "the attributes of personal property,"¹⁷ and before the grant of a patent an inventor has a qualified property interest in his invention.¹⁸ Questions of ownership of or license under inventions or patents are not governed by the patent statutes but must be resolved by the courts. A recurring judicial problem is the determination of the relative rights in an invention as between an inventor and his employer; it is a problem which has confronted the federal government in its capacity as an employer for many years.

The most important judicial decision involving inventions made by government employees is *United States v. Dubilier Condenser Corporation*.¹⁹ In this case the United States sued the Dubilier company as exclusive licensee of three patents, seeking assignment of the patents to the government, as equitable owner, and an accounting. The facts were not in dispute. Two physicists employed by the National Bureau of Standards, Dunmore and Lowell, had been assigned to the Radio Section of the Bureau's Electrical Division to perform research and testing in its laboratory. The Radio Section consisted of approximately twenty scientists, who were divided into various separate working groups. Dunmore and Lowell worked in a group which had been assigned the task of solving problems in the field of "airplane radio"; the subject of "radio receiving sets" was assigned to one of the other groups in the Radio Section.

While engaged in an assigned project involving the solution of design problems in the "airplane radio" field, Dunmore and Lowell conceived of and perfected two inventions involving the application of alternating house current in lieu of direct battery current to (1) a radio receiving set and (2) a dynamic

file an application if the inventor refuses to execute the application or cannot be found or reached after diligent effort. However, any patent which issues under such circumstances is granted to the inventor and not the applicant. The purpose of the section is to preserve the rights of the assignee).

¹⁵ 35 U.S.C. (1952) §152.

¹⁶ *Id.*, §261.

¹⁷ *Ibid.*

¹⁸ *Burton v. Burton Stock-Car Co.*, 171 Mass. 437, 50 N.E. 1029 (1898) and cases therein cited; *Marcalus Mfg. Co. v. Sullivan*, 142 N.J. Eq. 434, 60 A. (2d) 330 (1948).

¹⁹ 289 U.S. 178 (1933). Claims of all three patents involved in the Dubilier litigation were later held invalid. *Lowell v. Triplett*, (4th Cir. 1938) 97 F. (2d) 521, cert. den. 305 U.S. 634 (1938). See also *Radio Corporation of America v. Dubilier Condenser Corp.*, (3d Cir. 1932) 59 F. (2d) 305 at 309, cert. den. 287 U.S. 648 at 650 (1932) (two of the three held invalid).

loud-speaker. Dunmore alone made a third invention involving the application of alternating current to (3) a telegraph relay. These inventions were made at least partially during working hours, and were developed with government contributions of facilities, equipment and materials and with the knowledge and approval of the inventors' superiors. The invention relating to the application of alternating current to radio receiving sets solved one of the problems which had been assigned to the "radio receiving sets" group of the Radio Section. However, "there was no assignment by Dr. Dellinger, or by any other superior to these two employees of the Radio Section of any research problem involving the inventions in controversy. The most that can be said is that Lowell and Dunmore were permitted by Dr. Dellinger, after the inventions had been brought to his attention, to pursue their work in the laboratory and perfect the inventions which had theretofore been made by them."²⁰ Shortly after the completion of their inventions Dunmore and Lowell as joint inventors, and Dunmore as sole inventor of one of the inventions, filed separate applications covering each of the three inventions. In due course patents were issued to the inventors, who exclusively licensed them to Dubilier.

The defendant did not contest the proposition that the government was entitled to an irrevocable, nonexclusive, royalty-free license or "shop right"²¹ because of the government contributions of time, materials, equipment and facilities used in making the inventions,²² but contended that the government was not entitled to an assignment of the patents. The district court dismissed the bills,²³ the Court of Appeals for the Third Circuit affirmed,²⁴ and the Supreme Court took the case on certiorari.²⁵

²⁰ Opinion of the district court, *United States v. Dubilier Condenser Corp.*, (D.C. Del. 1931) 49 F. (2d) 306 at 311.

²¹ On scope of the license enjoyed by an employer under the "shop right" doctrine, see *Flannery Bolt Co. v. Flannery*, (3d Cir. 1936) 86 F. (2d) 43 at 44, cert. den. 309 U.S. 671 (1940); *Wiegand v. Dover Mfg. Co.*, (N.D. Ohio 1923) 292 F. 255 at 261; *Barber v. National Carbon Co.*, (6th Cir. 1904) 129 F. 370; *Tin Decorating Co. v. Metal Package Corp.*, (S.D. N.Y. 1928) 29 F. (2d) 1006, affd. (2d Cir. 1930) 37 F. (2d) 5; *Thompson v. American Tobacco Co.*, (4th Cir. 1949) 174 F. (2d) 773; COSTA, *LAW OF INVENTING IN EMPLOYMENT* 25-35 (1953).

²² This doctrine originated in *McClurg v. Kingsland*, 1 How. (42 U.S.) 202 (1843). See also *Haggood v. Hewitt*, 119 U.S. 226 (1886).

²³ *United States v. Dubilier Condenser Corp.*, (D.C. Del. 1931) 49 F. (2d) 306.

²⁴ *United States v. Dubilier Condenser Corp.*, (3d Cir. 1932) 59 F. (2d) 381.

²⁵ *United States v. Dubilier Condenser Corp.*, 287 U.S. 588 (1932).

In a 6 to 3 decision, the Supreme Court affirmed the judgments of the lower courts, and held that the government was not entitled to an assignment of the patents issued to Dunmore and Lowell. In stating the reasons for this holding, the opinion of the Court, written by Justice Roberts, was divided into several steps.

In the first step,²⁶ the Court noted that the basis for the grant of a patent to an inventor in the United States is Article I, section 8, clause 8, of the Constitution, which gives Congress the power "to promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries." As the opinion explained, a patent which has been created by Congress as the implementation of the constitutional provision is not, accurately speaking, a monopoly, because it does not take anything from the people but gives them something of value which they were unable to enjoy prior to its discovery by the inventor. The patent is granted to the inventor in consideration of his disclosing to the community the nature of the invention and the means for putting it to practical use in his patent application. In exchange for his disclosure, the patentee is granted the exclusive use of the invention for a statutory term of seventeen years, but at the expiration of that time the invention becomes public property or is dedicated to the public.

The Court stated, "A patent is property."²⁷ From this conclusion flow the subsidiary principles that title to a patent may pass only by assignment, that an agreement to assign a patent may be specifically enforced if the agreement is valid as a contract, and that the relative rights of an employer and employee in an invention made by the latter derive from the contract of employment.

If an employee is specifically employed to make a particular invention and successfully accomplishes the task for which he was employed, it is clear that the resulting invention is the subject of the contract of employment, and the employee may be required to assign the invention to his employer.²⁸ If the contract of employment is general, however, even though it

²⁶ 289 U.S. 178 at 186 (1933).

²⁷ *Id.* at 187.

²⁸ *Standard Parts Co. v. Peck*, 264 U.S. 52 (1924).

covers a field of endeavor to which the invention relates, it will not be construed so broadly as to require an assignment to the employer.²⁹

The Court acknowledged that there could be an express agreement between employer and employee requiring the employee to assign his patents³⁰ but stated that courts have been reluctant to *imply* any such agreement. The explanation for this fact lay in the unusual or dual nature of the act of "invention," as that term of art is used in the United States patent laws. Thus under the patent law an inventor will not be permitted to obtain a patent covering a concept or idea, but he must demonstrate a practical application or embodiment of the mental concept.³¹ In the absence of an agreement to assign, when an employee makes an invention and uses his employer's time, facilities, equipment, or materials to construct a practical application or embodiment of the invention (identified in patent terminology as a "reduction to practice"), the employer is entitled by operation of law to a nonexclusive right to make and use the invention; this is a matter of *equitable* principles. "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."³²

²⁹ Haggood v. Hewitt, 119 U.S. 226 (1886); Dalzell v. Dueber Watch Case Mfg. Co., 149 U.S. 315 at 320 (1893) ("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").

³⁰ 289 U.S. 178 at 187 (1933). Similarly, an agreement to assign future inventions is valid and specifically enforceable as long as it is reasonably limited in time and scope. Goodyear Tire & Rubber Co. v. Miller, (9th Cir. 1927) 22 F. (2d) 353; Guth v. Minn. Mining & Mfg. Co., (7th Cir. 1934) 72 F. (2d) 385, cert. den. 294 U.S. 711 (1935), and cases there cited. [However, "a naked assignment or agreement to assign, in gross, a man's future labors as an author or inventor—in other words, a mortgage on a man's brain, to bind all its future products," constitutes an unreasonable restraint contrary to public policy. See Aspinwall Mfg. Co. v. Gill, (C.C. N.J. 1887) 32 F. 697 at 700, appeal dismissed, 140 U.S. 669 (1891)]. On the subject of express contracts by employees to assign inventions or patents, see generally COSTA, LAW OF INVENTING IN EMPLOYMENT 112-126 (1953); Knoth, "Assignment of Future Inventions," 27 CHI-KENT L. REV. 295 (1949).

³¹ E.g., Clark Thread Co. v. Willimantic Linen Co., 140 U.S. 481 at 489 (1891) ("A conception of the mind is not an invention until represented in some physical form"); Wayne v. Humble Oil & Refining Co., (5th Cir. 1949) 175 F. (2d) 230.

³² 289 U.S. 178 at 189 (1933).

A fair result is thus achieved through recognition of the dual nature of invention, and through application of contractual and equitable principles. Unless the employee has promised to assign an invention to his employer (by an express contract, or by an agreement implied from conduct or the terms of a specific employment or assignment to invent), he is permitted to retain that portion of the invention which was his contribution alone, the conception or idea. The right retained by the inventor is the fundamental right of the patent, the right to exclude all persons other than his employer from practicing the invention. The employer is accorded that part of the invention which is mainly his contribution. He is allowed the right to make and use the invention in its practical form ("shop right"). The Court concluded that these rules of law are settled with respect to private employment.

In the second step, the Court considered whether rules of law different from those applicable in private employment should apply in determining the relative rights between the government and its employees.³³ It announced the rule that "the title of a patentee is subject to no superior right of the Government."³⁴ In arriving at the conclusion that "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,"³⁵ the Court quoted with emphasis the following famous dictum from an 1890 case, *Solomons v. United States*:³⁶

³³ *Id.* at 189-192 (1933). The Court cited several early cases, in addition to the *Solomons* and *Gill* cases, discussed *infra*. In *James v. Campbell*, 104 U.S. 356 (1882), the Court, in holding invalid a patent on a postmarking and stamp-cancelling device, stated important dicta to the effect that a patentee is entitled to compensation in a proper case even if his invention is usable only by the government as, for example, munitions of war. See also *Hollister v. Benedict Mfg. Co.*, 113 U.S. 59 at 67 (1885). In accord were the decisions in two cases in which Army officers successfully sued the government for royalties to compensate for use of patented inventions, *United States v. Burns*, 12 Wall. (79 U.S.) 246 (1871) (express royalty contract); *United States v. Palmer*, 128 U.S. 262 (1888) (contract implied in fact). As to implying an obligation to pay compensation from a license which is silent on the matter but is otherwise supported by consideration, see *McAleer v. United States*, 150 U.S. 424 (1893).

³⁴ *Cf.* *James v. Campbell*, 104 U.S. 356 at 358 (1882): "The United States has no such prerogative as that which is claimed by the sovereigns of England, by which it can reserve to itself, either expressly or by implication, a superior dominion and use in that which it grants by letters patent to those who entitle themselves to such grants. The Government of the United States, as well as the citizen, is subject to the Constitution; and when it grants a patent, the grantee is entitled to it as a matter of right, and does not receive it, as was originally supposed to be the case in England, as a matter of grace and favor."

³⁵ 239 U.S. 178 at 192 (1933).

³⁶ 137 U.S. 342 at 346 (1890).

“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 employé, 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.*”³⁷

In the third step in the opinion, the Court noted that the proofs in the case fell far short of sustaining the government’s contentions that the inventors were specifically assigned to make the inventions. However, the Court went on to discuss the government’s secondary position—that despite the lack of a specific assignment to make the invention, the government was entitled to ownership because the inventions were “within the general field of their research and *inventive work.*”³⁸ This point deserves comment.

The government’s position was apparently based on the “factual assumption that all research work in the Bureau is primarily concerned with invention and is so closely related to it as to be practically a part of it.”³⁹ Although both lower courts had rejected the government’s contention,⁴⁰ not only by denying the existence of the asserted factual equivalency but also by rejecting the argument as in reality a proposed new legal doctrine,⁴¹ the Supreme Court’s two-stage analysis on this point was not entirely clear.

³⁷ Emphasis supplied by the Court in the Dubilier opinion, 289 U.S. 178 at 191 (1933).

³⁸ Id. at 193.

³⁹ 3d Cir. 1932) 59 F. (2d) 381 at 385.

⁴⁰ 49 F. (2d) 306 at 311; 59 F. (2d) 381 at 385. The circuit court of appeals characterized the government’s contention as follows: “‘Inventions made by an employe in connection with his work and within the scope of his work, whose duties include the carrying on of research or inventive work,’ become the sole property of the employer together with accompanying patents.” The court noted, “If the proposition were reformed and made to read, that inventions of an employee, specifically employed or assigned to make them, are the sole property of the employer, we should approve it on authority of” the Solomons, Gill, Standard Parts, and Houghton cases, discussed *infra*, and Magnetic Mfg. Co. v. Dings Magnetic Separator Co., (7th Cir. 1926) 16 F. (2d) 739.

⁴¹ “Failing [establishment of the factual equivalency] we are back to the general law which forbids us laying down a new principle that, if invention occurs in the general field of an employee’s occupation, the employer would, without regard to the facts that control the law in varying situations, be entitled to receive the fruits of the employee’s invention.” 59 F. (2d) 381 at 385.

First, the Court concluded that the facts and circumstances precluded the implication of an agreement by the inventors to assign their inventions or patents. In the course of this analysis the Court made several statements, such as that the inventors "did not agree to exercise their inventive faculties,"⁴² and "in no proper sense may it be said that the contract of employment contemplated invention."⁴³ The generality of these statements unfortunately creates some confusion as to the rationale of the opinion. By implication these statements seemed to assume the validity of the proposition urged by the government, but to reject its applicability on the facts. In a dissenting opinion Justice Stone concluded, on the basis of this lapse, that the Court had established a new relaxed substantive rule (whether the contract of employment "contemplates" invention) as to what the employer must show to establish an implied agreement to assign.⁴⁴

Second, the opinion stated that the courts are not the proper agency to establish a new legal doctrine, which was what the government really was proposing, that "public policy . . . forbids one employed by the United States, for scientific research, to obtain a patent for what he invents."⁴⁵

Despite this disavowal of the government's argument, the Court's momentary failure, in characterizing the factual situation in the case, to state expressly that it was proceeding *arguendo*, left room for the dissent to interpret the majority opinion as establishing a new doctrine 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."⁴⁶ This interpretation of the rationale of the majority opinion is believed to be unwarranted. Nowhere did the majority opinion acknowledge a change in doctrine. The discussion in the first

⁴² 289 U.S. 178 at 193.

⁴³ *Id.* at 194-195.

⁴⁴ Stone, J., dissenting, *id.* at 209 and 213.

⁴⁵ *Id.* at 197.

⁴⁶ Stone, J., dissenting, *id.* at 213-214. The dissent reasoned, "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. . . . 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." See also the discussion of the majority and dissenting opinions of Dubilier in Kreeger, "The Control of Patent Rights Resulting from Federal Research," 12 LAW & CONTEMP. PROB. 714, 716-717, n. 17, n. 18 (1947).

and second steps of the opinion established that the Court intended to reaffirm traditional judicial standards. Subsequent lower court opinions cite or quote *Dubilier* as declaratory of traditional judicial standards⁴⁷ and do not mention any change in doctrine. It is believed that the *Dubilier* case accords with, and makes applicable to government employment, the usual rule⁴⁸ that the courts will not compel an employee to assign to his employer the title to an invention, even though made in the course of his employment, unless either (1) there is a valid express contract requiring him to assign, or (2) such a contract can be fairly implied from the fact that the employee was specifically hired or assigned to make the invention which he subsequently created.⁴⁹ Further, *Dubilier* does not disturb the precedents holding that the circumstances of the making of the invention may be such that on equitable principles the employer will be entitled to a royalty-free nonexclusive license (shop right).

In the fourth and fifth steps of the opinion, the Court reviewed prior legislative activity in the field and concluded that although the problem was properly a legislative matter, Congress had enacted no laws imposing on employees a contractual obligation of the type urged by the government.

The dissenting opinion of Justice Stone, although postulating that dicta in the majority opinion had established a new

⁴⁷ E.g., *Belanger v. Alton Box Board Co.*, (7th Cir. 1950) 180 F. (2d) 87 at 93; *Heywood-Wakefield Co. v. Small*, (1st Cir. 1937) 87 F. (2d) 716 at 717, cert. den. 301 U.S. 698 (1937); *Barton v. Nevada Consol. Copper Co.*, (9th Cir. 1934) 71 F. (2d) 381 at 384; *Crown Cork & Seal Co., Inc. v. Fankhanel*, (D.C. Md. 1943) 49 F. Supp. 611 at 617 ("There is nothing in [*Dubilier*] which modifies the principle announced in the earlier cases").

⁴⁸ This conclusion is supported by the Court's disposition of the government's contention that the inventions and patents should be declared to be held in trust for the United States because all the work of the Bureau was in the public interest: "The trust cannot be express. Every fact in the case negatives the existence of one. Nor can it arise *ex maleficio*. . . . 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." 289 U.S. 178 at 196-197 (1933).

⁴⁹ Or from other unequivocal conduct, such as employee statements that the work was for the employer's benefit and resulting inventions would be assigned to the employer, or a knowledge of, and personal enforcement of, a custom of the shop to assign inventions. *Marshall v. Colgate-Palmolive-Peet Co.*, (3d Cir. 1949) 175 F. (2d) 215. On implied agreements to assign, see generally COSTA, *LAW OF INVENTING IN EMPLOYMENT* 90-92, 109-112 (1953), and cases there cited; notes, 23 *COL. L. REV.* 311 (1923); 36 *HARV. L. REV.* 468 (1923); 12 *MINN. L. REV.* 670 (1928); 30 *COL. L. REV.* 1172 (1930); 46 *HARV. L. REV.* 149 (1932); 22 *NOTRE DAME LAWYER* 429 (1947).

standard (whether the employment contract "contemplates invention") for establishing an implied agreement to assign inventions, disagreed with the fundamental proposition that the question of the employer's right to an assignment is a matter of contract. Urging that the purported new rule of the Court was too mechanical, he suggested that it is really a matter of *equity* whether the employee will be ordered to assign title to the employer, not a mere matter of contract. From this it follows that the "function of the Court in every case is to determine whether the employee may, *in equity and good conscience* retain the benefits of the patent,"⁵⁰ a conclusion which permits a distinction to be drawn between public and private employment. The dissent asserted that where the work is accomplished in a government laboratory supported by public monies, the government must be free to use the results for the benefit of the public. And in order for the full benefit to be derived, a shop right is insufficient and the government must have title. Justice Stone acknowledged that a requirement of full title in the situation where the invention is only within the general scope of employment might be an advance beyond the decided cases, but saw nothing revolutionary in this step. He believed that the result of the case was "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.'"⁵¹

Another important case dealing with the relative rights between the government and its employees is *Solomons v. United States*,⁵² in which the Supreme Court held that the government was not liable as an infringer to the assignee of a patent for a self-cancelling revenue stamp which was invented and developed by the Chief of the Bureau of Engraving and Printing of the Treasury Department. The inventor had been assigned the duty of devising a revenue stamp, and he had accomplished this duty with the use of government machinery, property and services. The Court based its holding on a finding that the government had acquired a shop right to use the invention, and the plaintiff was

⁵⁰ Stone, J., dissenting, 289 U.S. 178 at 216 (1933).

⁵¹ Stone, J., dissenting, *id.* at 218. Cardozo, J., concurred in Stone's dissent. Hughes, C.J., in a separate dissenting opinion, agreed with the factual and legal analysis of Stone's dissent, and stated that the appropriate remedy would be to "cancel" the patents.

⁵² 137 U.S. 342 (1890). For discussion of this and other early cases, see Clinton, "The Patent Status of Federal Employees," 22 *Geo. L. J.* 58 (1933).

estopped to sue the government for such use. Although the Court rested its holding on the finding of a shop right, the opinion contained a famous and important dictum:

“If one is employed to devise or perfect an instrument, or a means for accomplishing a prescribed result, he cannot, after successfully accomplishing the work for which he was employed, plead title thereto as against his employer. That which he has been employed and paid to accomplish becomes, when accomplished, the property of his employer. Whatever rights as an individual he may have had in and to his inventive powers, and that which they are able to accomplish, he has sold in advance to his employer.”⁵³

Six years after its decision in the *Solomons* case, the Court in *Gill v. United States*⁵⁴ gave added vitality to this dictum by stating:

“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. On the other hand, it is equally clear that, if the patentee be employed to invent or devise such improvements his patents obtained therefor belong to his employer, since in making such improvements he is merely doing what he was hired to do. Indeed, the *Solomons case* might have been decided wholly upon that ground, irrespective of the question of estoppel, since the finding was that Clark had been assigned the duty of devising a stamp, and it was understood by everybody that the scheme would proceed upon the assumption that the best stamp which he could devise would be adopted and made a part of the revised scheme.”⁵⁵

Like *Solomons*, the *Gill* case was concerned with the determination of rights in an invention made by an employee of the government. The inventor in the *Gill* case had made several inventions while employed as a machinist in a government arsenal, and he sued the government upon an alleged implied contract for compensation for use of his inventions. As in *Solomons* the real basis for the holding in the *Gill* case was not that the employee had

⁵³ 137 U.S. 342 at 346 (1890).

⁵⁴ 160 U.S. 426 (1896).

⁵⁵ *Id.* at 435.

been employed to invent but rather that the government was entitled to a shop right due to the circumstances of the making of the inventions, and that the employee was estopped to claim compensation for their use by the government.

Finally in 1924 the Court affirmed the dictum of *Solomons* by an outright holding in a case involving private employment, *Standard Parts Co. v. Peck*.⁵⁶ This case arose when an employee sought to sue the successor of his employer for infringing his patent on an invention made while he was employed by the predecessor of the defendant. The Court reversed the court of appeals and affirmed the decree of the district court, which had required an assignment of legal title to the defendant, since the employee had contracted to devote his time and efforts toward the development of the invention which resulted. In other words, the employee solved the specific problem which he was hired to solve. In reaching this decision the Court acknowledged its debt to the famous dictum of *Solomons*:

“It is going very far to say that the declaration of *Solomons v. United States*, repeated in subsequent cases, and apparently constituting their grounds of decision, may be put aside or underrated—assigned the inconsequence of dicta. It might be said that there is persuasion in the repetition. It cannot be contended that the invention of a specific thing cannot be made the subject of a bargain and pass in execution of it.”⁵⁷

The decision in *Standard Parts Co. v. Peck* firmly established the principle that where an employee is “employed to invent,” the employer is entitled to an assignment of the patent rights in any invention which results directly from the terms of employment. A lower federal court later added a corollary to this rule in a case involving government employment, to the effect that not only could an employee who was originally hired to make specific inventions be required to assign inventions within the scope of his employment, but also if an employee hired for general employment was *thereafter* assigned to develop a specific invention, a resulting invention would become the property of the employer. This principle was announced in *Houghton v. United*

⁵⁶ 264 U.S. 52 (1924).

⁵⁷ *Id.* at 59.

States,⁵⁸ which decided that the government was equitable owner of a patent which had been granted to one of its employees. The language adopted by the court is as follows:

"The right of the employer to the invention or discovery of the employee depends, not upon the terms of the original contract of hiring but upon the nature of the service in which the employee is engaged at the time he makes the discovery or invention, and arises, not out of the contract of hiring but out of the duty which the employee owes to his employer with respect to the service in which he is engaged. It matters not in what capacity the employee may originally have been hired, if he be set to experimenting with the view of making an invention, and accepts pay for such work, it is his duty to disclose to his employer what he discovers in making the experiments, and what he accomplishes by the experiments belongs to the employer. During the period that he is so engaged, he is 'employed to invent,' and the results of his efforts at invention belong to his employer in the same way as would the product of his efforts in any other direction.
. . ."⁵⁹

Although the rule of the *Houghton* case has never been considered by the Supreme Court, it seems a logical and equitable extension of the *Standard Parts* rule. An employer is not rigidly bound by the express terms of the original contract of employment but may in effect modify the contract and assign employee inventors to various specific problems as these arise in the employer's business with the same protection to which he would have been entitled had the resulting inventions been specifically called for in the original employment contract.

II. *Executive Activity — Content and Administration of Executive Order 10096*

On January 23, 1950, President Harry S. Truman signed Executive Order 10096⁶⁰ to provide for "a uniform patent policy for the Government with respect to inventions made by Government employees and for the administration of such policy." The

⁵⁸ (4th Cir. 1928) 23 F. (2d) 386, cert. den. 277 U.S. 592 (1928), affg. (D.C. Md. 1927) 20 F. (2d) 434. *Accord*, *Goodyear Tire & Rubber Co. v. Miller*, (9th Cir. 1927) 22 F. (2d) 353; *contra*, *Texas Co. v. Gulf Refining Co.*, (S.D. Tex. 1926) 13 F. (2d) 873, affd. (5th Cir. 1928) 26 F. (2d) 394, cert. den. 278 U.S. 625 (1928).

⁵⁹ 23 F. (2d) 386 at 390 (1928).

⁶⁰ 37 C.F.R. (Supp. 1956) §300, 32 J.P.O.S. 724 (1950).

policies and provisions contained in this executive order had been recommended strongly by a 1947 Report of the Attorney General to the President (discussed in Part V below).

Executive Order 10096, which is still in effect, is administered by the chairman of a Government Patents Board (GPB) established by the order. This board consists of the independent chairman and a representative from each cabinet department and executive agency (except the Atomic Energy Commission) which is substantially concerned with inventions made by government employees. A brief consideration of the substantive terms of the order may be helpful.

Paragraph 1 sets forth the substantive criteria for determining the relative rights between the government and its employees in inventions. Paragraph 1 (a) provides:

“The Government *shall obtain* the entire right, title and interest in and to all inventions made by any Government employee

“ (1) during working hours, *or*

“ (2) with a contribution by the Government of facilities, equipment, materials, funds, *or* information, *or* of time or services of other Government employees on official duty, *or*

“ (3) which bear a direct relation to *or* are made in consequence of the official duties of the inventor.” (Emphasis added.)

The disjunctive criteria set forth in paragraph 1 (a) are broad and sweeping and would include within their terms, if literally applied, most inventions made by government employees. The one exception is the category of invention made by an employee solely on his own time, without any government contribution, in a field entirely unrelated to his assigned duties.

However, paragraph 1 (b) of the order provides that if the government contribution as determined by the criteria of paragraph 1 (a) is “*insufficient equitably* to justify a requirement of assignment to the Government” (emphasis added) (or if the government is not sufficiently interested in an invention to require title), the executive agency concerned, if it has the approval of the chairman of the Government Patents Board, shall permit the employee to retain title to the invention “subject, however, to the reservation to the Government of a non-exclusive, irrevocable, royalty-free license in the invention with power to grant licenses for all governmental purposes.”

Paragraph 1 (c) describes four categories of employment in the research and development field. If an employee is assigned or employed in any one of the four categories, paragraph 1 (c) establishes the presumption that any invention made by him falls within the purview of paragraph 1 (a).⁶¹ Any invention made by an employee whose assigned duties are outside the enumerated categories is presumed to fall under paragraph 1 (b) (title in employee and license to the government). Either of the presumptions of paragraph 1 (c) may be rebutted by the facts or circumstances surrounding the making of a particular invention, and notwithstanding all the foregoing provisions of the order a determination under paragraph 1 (d) is not precluded.

Paragraph 1 (d) states that whenever the facts do not entitle the government to either an assignment under paragraph 1 (a) or a license under paragraph 1 (b), the entire right, title and interest to the invention shall be retained by the employee, "subject to law."

It is believed to be fair to state that Executive Order 10096 is a remarkable departure from the law governing employee rights in inventions as it had been carefully developed by the Supreme Court in the sixty years before 1950. Under a strict or literal construction of paragraph 1 (a) of the order the government is required to take an assignment of full title from an employee-inventor merely because his invention is made during working hours, or with some contribution by the government. If the employee's assigned duties involve almost any conceivable relationship to research or development work,⁶² a presumption is raised that the government is entitled to an assignment, and the burden is placed upon the employee to rebut this presumption by establishing pertinent facts or by satisfying an administrative official that it would be "inequitable" for the government

⁶¹ These four categories of employment cover situations in which an employee is employed or assigned: (1) to invent or improve any subject matter which falls within the class of patentable inventions; or (2) to conduct or perform research or development work; or (3) to supervise, direct, coordinate, or review government financed or conducted research or development work; or (4) to act in liaison capacity among agencies or individuals engaged in such work. In practice perhaps the most difficult problem of interpretation of these classifications has involved inventors who are government patent attorneys or agents. These individuals come within the strict judicial control established in such cases as *Reusch v. Fischer*, (C.C.P.A. 1931) 49 F. (2d) 818; *Phillips Screw Co. v. Givnan*, 200 Ore. 279, 256 P. (2d) 253 (1953); *Goodrum v. Clement*, (D.C. Cir. 1922) 277 F. 586; and yet do not seem to be covered expressly by any of the four categories listed in paragraph 1 (c) of Executive Order 10096.

⁶² See note 61 *supra*.

to demand an assignment. These harsh rules are a far cry from the strong recognition accorded to the property rights of employees in their inventions which was established in *Dubilier* and other leading cases.

Legal objections to Executive Order 10096 have been raised in the seven years since its issuance, such as the proposition that the order is unconstitutional.⁶³ This argument proceeds on the theory that executive orders must be based on either valid delegations of power from Congress or specific powers of the President granted by Article II of the Constitution,⁶⁴ if issued in the absence of such authority they constitute an improper attempt at executive legislation.⁶⁵ Because Executive Order 10096 on its face runs contrary to judicial principles which would otherwise obtain,⁶⁶ in effect it is an attempt, so the argument runs, by the President to legislate rules governing the disposition of private property, improper by analogy to the *Steel Seizure* case.⁶⁷ At best, constitutionality of the order can be said to be subject to serious legal doubts. Uncertainty of its status has lingered in the absence of judicial test.⁶⁸

In administering the order, the first chairman of the GPB was confronted with the stringency of its terms. (The board itself is purely advisory and does not participate in the decision-making process.) However, in the opinion of the authors, based on in-

⁶³ See Gerber, "Patents—Inventions by Federal Employees and Contractors—Disposition of Title and Rewards," 35 J.P.O.S. 426 (1953). "Can the President, by an executive order, change the patent status of government employees so as to deprive them of either the valuable right in the application or the personal property of the patent grant to which they were entitled under the common law?" *Id.* at 428.

⁶⁴ *Youngstown Sheet Tube Co. v. Sawyer*, 343 U.S. 579 at 585 (1952): "The President's power, if any, to issue the order must stem either from an act of Congress or from the Constitution itself."

⁶⁵ "In the framework of our Constitution, the President's power to see that the laws are faithfully executed refutes the idea that he is to be a lawmaker." *Id.* at 587.

⁶⁶ See discussion of prior judicial standards, Part I *supra*.

⁶⁷ *Youngstown Sheet and Tube Co. v. Sawyer*, 343 U.S. 579 (1952). The recitation of authority in Executive Order 10096 ("... by virtue of the authority vested in me by the Constitution and statutes and as President of the United States and Commander in Chief of the Armed Forces of the United States") is practically identical to the recitation in Executive Order 10340, which was in issue in the *Steel Seizure* case. With respect to the attempt to justify the order under authority of Rev. Stat. §161 (1876), 5 U.S.C. (1952) §22, see note 166 *infra*.

⁶⁸ Legality of the order also has been questioned, as applied to employees the beginning of whose employment antedates 1950, in view of the limitations on executive discretion to alter compensation set by statute. The argument is that the right to retain commercial rights in inventions was part of the employees' compensation prior to issuance of the order, and cannot be affected by mere Executive action. See Gerber, "Patents—Inventions by Federal Employees and Contractors—Disposition of Title and Rewards," 35 J.P.O.S. 426 at 433-434 (1953).

interviews and analyses of representative cases,⁶⁹ the chairman in general departed from the literal strictness of the policies of the of the order and applied instead principles consistent with the judicial standards of the *Dubilier* and other cases discussed above.⁷⁰

⁶⁹ In analyzing the administrative decisions of the chairman during the period fiscal years 1951 through 1955, it is convenient to group the decisions according to their general facts in the following categories:

(1) Full title has been retained by the inventor:

(a) Where there was no contribution of time, materials, facilities, equipment, funds, or information by the government and no relation of the invention to the inventor's duties; or

(b) Where there was no significant government contribution and

(i) the equity in the government was insufficient because it was merely that the employee's awareness of the problem arose in some manner through his employment; or

(ii) the equity in the government was insufficient because the relation of the invention to the general field of the inventor's official duties was only slight, or because the invention was insufficiently related to those duties to justify the requirement of a license to the government;

(c) Where there were minor or insignificant government contributions but they were equitably insufficient to overcome a lack of relation of the invention to the inventor's official duties.

(2) Title has been left with the inventor subject to a license to the government:

(a) Where there was no government contribution of time, facilities, materials, equipment, funds, or information, but there was a substantial though indirect relation of the invention to the inventor's official duties;

(b) Where there was a government contribution and/or a direct relation of the invention to the inventor's duties sufficient to justify an assignment, but the government was not sufficiently interested in the invention to require an assignment;

(c) Where there was a government contribution and/or a direct relation of the invention to the inventor's duties sufficient to require an assignment, but due to special facts or circumstances it was determined that the requirement of an assignment would be inequitable.

In each of the nine cases during this period in which the chairman determined that the government was entitled to an assignment, the critical factor was the close relation between the invention and the inventor's duties.

Cf. Forman, "The Government Patents Board—Determination of Patent Rights in Inventions Made by Government Employees," 35 J.P.O.S. 95 (1953).

⁷⁰ This view is held by the former chairman (Dr. Archie M. Palmer) himself:

"During the five years, from 14 June 1950 through 30 June 1955, that I was Chairman of the Government Patents Board, I rendered 1376 decisions under Executive Order 10096, on review of determinations by various Government agencies of the respective rights and interests of the inventors and of the Government in and to inventions made by Government employees on and after 23 January 1950.

"Those decisions were rendered and Executive Order 10096 was administered during that period in accordance with existing case law, as established in such cases as *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 (1933); *United States v. Houghton*, 20 F. (2d) 434 (D. Md. 1927) aff'd, *Houghton v. United States*, 23 F. (2d) 386 (4th Cir. 1928); *Solomons v. United States*, 137 U.S. 342 (1890); *McAleer v. United States*, 150 U.S. 424 (1893); *Gill v. United States*, 160 U.S. 426 (1896); and *Standard Parts Co. v. Peck*, 264 U.S. 52 (1924).

"In the administration of the Government's patent policy under Executive Order 10096, as well as in the rendering of my decisions, during the period that I was Chairman of the Government Patents Board, the Government was treated the same as a private employer, as established in the case law, and the respective rights of the inventors and the Government were determined accordingly on the basis of the information submitted by the Government agencies with their determinations and supplemented, where necessary, by additional information obtained from the inventors in order to arrive at an

(This result was accomplished primarily by reliance on the term "insufficient equitably" appearing in paragraph 1 (b).)⁷¹

The significance of this conclusion is severely limited by the fact that the order does not provide for review by the chairman of cases in which there is an uncontested agency determination that the government is entitled to an assignment, and the chairman has not assumed any such power of review. Thus, in spite of the avowed purpose of the order to provide a uniform policy throughout the executive branch, uniformity has not been achieved in practice because assignment determinations are reviewed by the chairman only in the rare case of an appeal by an employee. Each agency can control the policy applicable to its own employees. Accordingly, in those agencies which favor a policy of strict interpretation and application of the criteria of paragraph 1 (a) of the order, the ratio of assignment cases to total cases naturally tends to be much higher than the comparable ratio in those agencies which construe and apply Executive Order 10096 less strictly.⁷²

equitable decision in each case." Letter to the authors dated January 9, 1957, on file in *Michigan Law Review* offices.

Insufficient time has elapsed since assumption of office by the second chairman, Mr. Benjamin B. Dowell, on July 1, 1955, to warrant conclusions as to interpretation and application of the order since that date.

⁷¹In a talk which he gave at the U.S. Navy Electronics Laboratory in San Diego, California on May 27, 1953, Dr. Archie M. Palmer, the first Chairman, GPB, made the following statement:

"The Order itself contains the general or basic principles of the policy. Those principles have in many instances been misunderstood. . . . The first paragraph is often misleading and has misled, confused, and upset many inventors. . . . The four paragraphs must of necessity be considered in their entirety. The first paragraph often is mistaken as the policy. It is subject to great misunderstanding unless viewed in the light of the subsequent paragraphs. . . .

"Now in interpreting the first paragraph in the light of the subsequent paragraphs and the administration of the program, I am going to first change the words, 'the Government shall obtain the entire right, title and interest in the invention' to these words, 'that the Government may be entitled to obtain.' In other words, if these circumstances exist, there is a possibility of the Government obtaining an assignment. . . . Paragraph 2 [sic] shows that it is a matter of equity here, i.e., whether the contributions of the Government are sufficient equitably to justify an assignment to the Government." Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 38 J.P.O.S. 647 at 665 (1956).

⁷²This conclusion is supported by a startling comparison of statistics concerning activities of the Agriculture and Navy Departments. In operations under Executive Order 10096 from January 1950 through December 31, 1956, the Department of Agriculture made 526 determinations of rights; in 471 of these cases the government required an assignment and in 24 the invention was published or dedicated to the public; in the same period the Department of the Navy had 1661 cases, in 616 of which the government required an assignment and in three of which dedication by publication was required. (The residue in each case represents the inventions in which the government obtained only a license or no rights.) Thus the ratio of assignments (and dedications) to total cases during this period was 94.1% in Agriculture, and 37.3% in the Navy. Sources: Government Patents Board, Department of the Navy, Department of Agriculture. It is believed that this

Illustrative of the effect of this procedural limitation is the fact that despite the equitable administration of the order by the chairman with respect to the cases which he is able to review, the annual percentage of assignment as compared with the total number of employee cases in which the government has an interest has increased alarmingly since issuance of the order,⁷³ as has the percentage of assignments as compared with the total number of all cases (i.e., cases in which the government received an assignment, a license, or no interest).⁷⁴ The explanation for this inconsistency is probably that personnel in the agencies responsible for administering the order have felt bound to make their determinations in accordance with the strict terms and intent of the order rather than under the more liberal rules of case law. In view of the fact that certain agencies such as the Department of Agriculture

disparity is far too great to be explained merely on the basis of different conditions of employment which might distinguish the two departments.

⁷³ The following table shows the number of assignments and licenses, and the percentage of the total represented by assignments, acquired by the government in each calendar year from 1940 through 1956:

Year	Assignments	Licenses	Total	Assignment Percentage
1940	37	197	234	15.8
1941	39	192	231	16.9
1942	57	311	368	15.5
1943	40	316	356	11.2
1944	96	380	476	20.2
1945	74	383	457	16.2
1946	79	434	513	15.4
1947	91	429	520	17.5
1948	188	574	762	24.7
1949	202	835	1037	19.5
1950	197	782	979	20.1
1951	191	708	899	21.2
1952	239	596	835	28.7
1953	192	442	634	30.3
1954	187	272	459	40.7
1955	231	368	599	38.6
1956	368	431	799	46.1

Source: Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 38 J.P.O.S. 647 at 665-666 (1956); and Government Patents Board.

⁷⁴ Government Patents Board activities were in full operation by 1952. The statistics for the 1952-1956 period (by calendar years) are as follows:

Year	Assignments	Licenses	No Gov't Interest	Total	Assignment Percentage
1952	239	596	129	964	24.8
1953	192	442	245	879	21.8
1954	187	272	258	717	26.1
1955	231	368	147	746	31.0
1956	368	431	150	949	38.8

Source: Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 38 J.P.O.S. 647 at 665-666 (1956); and Government Patents Board.

traditionally obtained an extremely high percentage of assignments prior to issuance of the order,⁷⁵ the rise in the percentage on a government-wide basis must be attributed to actions taken within the agencies which traditionally favored a policy less stringent than the terms of the order.

III. *Legislative Consideration*

Although government employee rights in inventions is a subject most appropriately the concern of Congress,⁷⁶ legislation in this field has consisted of a few piecemeal enactments of essentially unrelated statutory provisions. Attempts at comprehensive legislation have been made, but only a handful of isolated proposals have become law.

The first statute affecting government employees' rights in their inventions was the act of July 8, 1870, which has been codified in Title 35, United States Code, substantially in its original form.⁷⁷ This provision bars employees of the Patent Office from applying for patents, or from acquiring any interest (except by inheritance or bequest) in any United States patent issued or to be issued, during the period of their employment and for one year thereafter. The provision is a salutary one, designed not to discriminate against a certain class of employee-inventors, but rather to assure that employees of the Patent Office use independent judgment in acting on applications pending in the office.

The Appropriation Act of March 3, 1883, as amended, the pertinent section⁷⁸ of which is now codified as 35 U.S.C. §266, provides that the Commissioner of Patents may grant a patent to any officer, enlisted man, or employee of the government (except Patent Office employees) without payment of any fees, if the head of a department or agency certifies that the invention "is used or likely to be used in the public interest." The act also requires the employee to stipulate in the application and in any

⁷⁵ From 1910 to 1927 the Department of Agriculture obtained 259 patents of which 254 (or 98%) were dedicated to the public, and from 1926 to 1943 the department obtained 675 patents of which 600 were either dedicated to the public or assigned to the government; the inventors were permitted to retain title to the remaining 75 patents subject to a nonexclusive royalty-free license to the government—only 11% of the total. Department of Agriculture Monograph, 2 REP. ATTY. GEN. 25 (1947).

⁷⁶ See discussion, Part X *infra*.

⁷⁷ 35 U.S.C. (1952) §4. In addition to the statutes discussed in the text, the Atomic Energy Acts of 1946 and 1954, to the extent that they denied issuance of, or authorized the Atomic Energy Commission to affect title to, patents in the atomic energy field, correspondingly affected employees' rights in inventions.

⁷⁸ 22 Stat. 625, amended by act of April 30, 1928, 45 Stat. 467.

patent which may issue thereon that the invention may be manufactured and used by or for the government for governmental purposes without payment of royalty. The statute affects employees' rights only in a limited way, for it is permissive, not mandatory. Prior to 1928 this act required the employee to stipulate that the invention, if brought under the provisions of the act, could be used royalty-free by the government "or by *any other* person in the United States." (Emphasis added.) The quoted language was subject to two interpretations — it opened the invention either to free public use (dedication) or only to free governmental use. The Attorney General ruled that the latter interpretation was proper,⁷⁹ but in 1924 a federal district court ruled that the statutory language resulted in dedication of any patent obtained under the act.⁸⁰ Congress was requested to amend the law in order to encourage government employees to obtain patents on their inventions and to assure protection of the government's interests; it did so in 1928.⁸¹ It is believed that the 1928 amendment evidences legislative recognition of the beneficial effects as an incentive to be derived from leaving commercial rights in employee inventions with the employee.⁸²

The first statute specifically providing for determination of title to employee invention and patent rights was the Tennessee Valley Act of 1933,⁸³ which provides that title to inventions (and any patents thereon) made by employees working under the act "shall be the sole and exclusive property of the Corporation."

⁷⁹ 32 OP. ATTY. GEN. 145 (1920). This holding accorded with an opinion of The Judge Advocate General of the Army, 2 OPS. J.A.G. 1029 (1918), characterized in the Dubilier case as a "well-reasoned opinion," which was based on the theory that if the statute were construed to require dedication, the so-called patent would amount to nothing more than a publication or prior reference.

⁸⁰ *Squier v. American Tel. & Tel. Co.*, (S.D. N.Y. 1924) 21 F. (2d) 747. Judge Knox concluded that even if this interpretation were incorrect, plaintiff by his actions and statements had effectively dedicated to the public the patent sued on. This alternative holding, which prompted the Supreme Court in *Dubilier* to label the statutory interpretation "dicta," was affirmed, (2d Cir. 1925) 7 F. (2d) 831. See also *Hazeltine Corp. v. Electric Service Engineering Corp.*, (S.D. N.Y. 1926) 18 F. (2d) 662; *Hazeltine Corp. v. A. H. Grebe & Co.*, (E.D. N.Y. 1927) 21 F. (2d) 643; and *Selden Co. v. National Aniline & Chemical Co.*, (W.D. N.Y. 1930) 48 F. (2d) 270.

⁸¹ Act of April 30, 1928, 45 Stat. 467.

⁸² *Contra*, Stone, J., dissenting in the *Dubilier* case, 289 U.S. 178 at 220-221: ". . . 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. . . . The purpose of Congress . . . was to protect the existing right of the government to use all devices invented in the service. . . ."

⁸³ Act of May 18, 1933, 48 Stat. 58, as amended, 16 U.S.C. (1952) §§831-831dd. The employee invention provision is set forth at 16 U.S.C. (1952) §831d(i).

The corporation was authorized to grant licenses and to "pay to such inventor such sum from the income from sale of licenses as [the board of directors of the corporation] may deem proper." Under this legislation, the TVA developed a system by which the government, in cases in which the TVA has little interest in the invention, grants an *exclusive* license (with the right to grant sublicenses) to the employee, subject to a royalty-free nonexclusive license to the government.

Section 12 (b) of the National Science Foundation Act of 1950⁸⁴ provides in part that "no officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof. . . ." This subsection, enacted three years after publication of the recommendations of the 1947 Attorney General's Report, discussed below, was the result of extensive congressional discussion during the period 1945-1950 as to what patent provisions should be included in the act.⁸⁵ Although the quoted language is somewhat vague and general, it is believed that the subsection substantially adopts prior judicial standards.

The most recent legislative action affecting employees' rights in inventions was the 1952 amendment to the statute known to most patent attorneys as the act of 1910,⁸⁶ or 28 U.S.C. §1498.

⁸⁴ Act of May 10, 1950, 64 Stat. 154, 42 U.S.C. (1952) §1871.

⁸⁵ Although a bill concerning national scientific resources had been introduced and considered in hearings as early as 1942 in the 77th Congress (S. 2721, 77th Cong., 2d sess.), the impetus toward legislation creating a federal agency to administer a balanced research program for the nation was received in 1945. For discussion of the various proposals and testimony in the 1945-1946 period concerning the controversial question of the proper patent provision to be included in the proposed science legislation, see 3 REP. ATTY. GEN. 221-281 (1947). See also 27 CONG. DIG. 297-320 (1948). Illustrative of patent debate is testimony on the bill (S. 247, 81st Cong., 1st sess.) which became the National Science Foundation Act of 1950. Hearings Before a Subcommittee of the House Committee on Interstate and Foreign Commerce, 81st Cong., 1st sess., at 68-72, 77-78, 87, 110-112, 120-124, 125-132, 134-136, 150-151, 157-159, 162-171, 184-186 (1949).

⁸⁶ Act of June 25, 1910, 36 Stat. 851. This act was revised by act of June 25, 1948, 62 Stat. 941, as amended, 28 U.S.C. (1952) §1498; the present statute is referred to in later text as 28 U.S.C. (1952) §1498.

Prior to the Act of 1910 a patentee seeking to recover compensation for use by the United States of a patented invention was required to establish a contract, express or implied, by which the government promised to pay for such use. *United States v. Burns*, 12 Wall. (79 U.S.) 246 (1871); *United States v. Palmer*, 128 U.S. 262 (1888); *Cramp & Sons v. Curtis Marine Turbine Co.*, 246 U.S. 28 (1918) (dicta, in a suit against a government contractor). No recovery could be had where the circumstances, such as the government's assertion of a shop right, were inconsistent with a promise to pay. *Knapp v. United States*, 46 Ct. Cl. 601 (1911). Cf. *Kelton v. United States*, 32 Ct. Cl. 314 (1897); *E. W. Bliss Co. v. United States*, 253 U.S. 187 (1920). See also *McKeever v. United States*, 14 Ct. Cl. 396 (1818). In the absence of contract, the patentee had no remedy, *Schillinger*

By this statute the government has consented to suit in the Court of Claims for compensation for patent infringement committed by or for the government. Prior to the 1952 amendment, the statute contained a disability provision stating, "This section shall not confer a right of action on any patentee who, when he makes such a claim, is in the employment or service of the United States, or any assignee of such patentee, and shall not apply to any device discovered or invented by an employee during the time of such employment or service." Legislative history⁸⁷ indicates that this proviso in its original form was believed necessary primarily to prevent employees from using their official positions in order to induce use of an invention by the government and thus to lay the basis of a claim against the government. By 1952 government operations had become so complex that no individual employee was likely to have sufficient power or influence to accomplish the evil results feared in earlier times, a fact apparently recognized by Congress. Accordingly, the proviso was deleted and the following statutory language was substituted:

"A Government employee shall have the right to bring suit against the Government under this section except where he was in a position to order, influence, or induce use of the invention by the Government. This section shall not confer a right of action on any patentee or any assignee of such patentee with respect to any invention discovered or invented by a person while in the employment or service of the United States, where the invention was related to the official functions of the employee, in cases in which such functions included research and development, or in the making of which Government time, materials or facilities were used."⁸⁸

The House Committee on Patents, in reporting out the bill, stated in part: "The right to sue, pursuant to this bill, in large part, follows title under the present law as established by the *Dubilier* case and similar decisions."⁸⁹ This, the most recent

v. United States, 155 U.S. 163 (1894); *United States v. Berdan Firearms Co.*, 156 U.S. 552 (1895) (dicta); *Belknap v. Schild*, 161 U.S. 10 (1896) (dicta, in a suit against government official), unless Congress enacted special jurisdictional acts, such as those involving employees barred from suit by the proviso in the act of 1910, *Dahlgren v. United States*, 16 Ct. Cl. 30 (1880); *Talbert v. United States*, 25 Ct. Cl. 141 (1890); *Gates v. United States*, 87 Ct. Cl. 358 (1938); *Shearer v. United States*, 87 Ct. Cl. 40 (1938); *Van Meter v. United States*, (2d Cir. 1931) 47 F. (2d) 192.

⁸⁷ E.g., 45 CONG. REC. 8767, 8772-8773, 8782-8783, 8785 (1910). See also H.R. Rep. 1726, 82d Cong., 2d sess. (1952).

⁸⁸ Act of July 17, 1952, 66 Stat. 757.

⁸⁹ H.R. Rep. No. 1726, 82d Cong., 2d sess., 3 (1952).

congressional declaration in the field of employee invention rights, demonstrates legislative recognition of the judicial standards established in the *Dubilier* and other opinions, although here too the statutory language is imprecise.

These statutes are diverse in origin, objective, and result; clearly they do not present an organized legislative pattern for uniform treatment of government employees' invention rights. The closest resemblance to establishment of a pattern is the 1952 amendment to 28 U.S.C. §1498, which, although directed at protection of the government shop right, reflects, in imperfect language and in legislative history, judicial standards for determining title as well. The government has ruled administratively that determinations under Executive Order 10096 will not stand if they conflict with 28 U.S.C. §1498.⁹⁰ Validity of Executive Order 10096 (on questions of title as well as license) perhaps would have been tested in the courts by this time had the order been applied by the administering official literally rather than in conformance with the judicial standards summarized in *Dubilier*, and with the legislative standards stated in the 1952 amendment of the Act of 1910 and supporting legislative history.

IV. *Conflicting Policy Considerations — Title vs. License Theory*

In the evolution of practices for determining federal employee invention rights in the past half century, two extreme views have emerged. One of these views, which may be characterized loosely as the "title theory," was best expressed in the 1947 report of the Attorney General to the President, entitled "Investigation of Patent Practices and Policies."⁹¹ In this report the Attorney

⁹⁰ An opinion of the comptroller general established that the government may not contract to pay royalties based on use of an invention made by an employee whose duties or use of government facilities or materials bring him within the employee disability provisions of 28 U.S.C. §1498, despite a determination by the Government Patents Board under Executive Order 10096 leaving full title in the employee with no license to the government. 108 U.S.P.Q. 271 (1956). Note that in this type of determination by the GPB, made under paragraph 1(d) of the executive order, the form prescribed by the order states that title is left with the employee "subject to law." *Supra* at p. 21. *Queare*: does "law" in this sense include the limitations of 28 U.S.C. §1498? If so, of what efficacy is a GPB determination that the employee is entitled to a 1(d) (all rights) decision rather than a 1(b) (title subject to government license) decision?

⁹¹ REPORT AND RECOMMENDATIONS OF THE ATTORNEY GENERAL TO THE PRESIDENT (undated, but usually cited as a 1947 document), hereafter referred to as the "Attorney General's Report" or "Rep. Atty. Gen." The three-volume, 982 page report was the product of a four-year study requested by a letter from the President to the Attorney General dated February 5, 1943. The study and report covered the government's patent and invention policy with respect to contractors as well as employees.

General, after an exhaustive study of agency practices, recommended the following policy for the executive branch of the government:

“(1) The Government should obtain all rights to inventions made by its employees:

“(a) during working hours; or

“(b) with a substantial contribution by the Government in the form of facilities, equipment, materials, funds, information, time or services; or

“(c) bearing a direct relation to the employee’s official functions.

“(2) In other cases, where there is some Government contribution, or some relationship between the invention and the employee’s official functions, but where these are clearly insufficient to warrant assignment to the Government of all rights to the invention, as determined by the Government agency concerned, with the approval of the Government Patents Administrator, ownership of the invention should be left to the employee, subject to a nonexclusive, irrevocable, royalty-free license to the Government, and also subject to the obligation on the part of the employee or his assignee to make the invention available to the public on reasonable terms.

“(3) In all other cases, the employee should retain all rights to the invention, subject to existing provisions of law.”⁹²

Although published ten years ago, the Attorney General’s Report is acknowledged to be the best exposition of the title theory.

Directly contrary to this view is the approach which may be termed the “license theory.” This approach postulates that the government should take no more than a royalty-free non-exclusive license in any case, even if the invention was the direct result of a specific assignment of duty. The license theory was followed by several agencies, notably War and Navy Departments, at various times prior to issuance of Executive Order 10096 in January 1950.⁹³

Each of the theories is inadequate in several respects.

⁹² 1 REP. ATTY. GEN. 2 (1947).

⁹³ 1 REP. ATTY. GEN. 24, 39. The report stated that this theory was realized in practice by the military departments even at times when their regulations purported to follow common law standards. *Id.* at 24.

V. *Analysis of Title Theory*

The recommendations of the 1947 Attorney General's Report (which eventually became the substance of Executive Order 10096)⁹⁴ accorded substantially with traditional policies of the Department of Agriculture, which since the turn of the century had generally required that employees' patent rights be assigned to the government or dedicated to the public.⁹⁵ The arguments in support of this theory are set forth in detail in the Attorney General's Report; they may be briefly summarized and criticized as follows:

(1) The Report asserts that inventions financed with government funds or produced in the course of a federal function should inure to the benefit of the public, and that this result cannot be assured unless the inventions made with appropriated monies are controlled by the government. Further, because "the great bulk of inventions made by Federal employees . . . result[s] from an operation of Government financed with public appropriations,"⁹⁶ their use should not be denied the public which paid for them through taxation, nor should the public be charged a royalty for their use because the royalty charge would in effect be a second tax for use of the inventions.

These arguments, the core of the "title theory," have an appealing ring because they are cast in the language of the public interest. They are fundamentally defective, however, in their unspoken assumption that almost all inventions made by federal employees equitably belong to, and are paid for by, the government as agent of the public. To the extent that this argument is applied to fact situations justifying ownership in the government under established judicial standards, it has merit. But the case law, particularly the *Dubilier* opinion, is a *measurement* of the area of inventions which belong to the public; to the extent that title argument is applied to inventions lying outside this area,

⁹⁴ For a discussion of the extent to which the executive order was coordinated within the government prior to issuance, see Chap. VI of Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 38 J.P.O.S. 534 at 535-551 (1956).

⁹⁵ Monograph, "Patent Policies and Practices of the Department of Agriculture Concerning Inventions of its Employees and Contractors," 2 REP. ATTY. GEN. 3-22, 36-37 (1947). The employee was permitted to retain title, subject to a license to the government, if the invention was unrelated to his official duties and was made on his own time and with his own funds and facilities. This category of inventions was about 10% of the total, over a period of 40 years. Relaxation of the policy following the *Dubilier* case caused dissatisfaction in Agriculture bureau chiefs, and a strict policy was later reinstated. For more detailed statistics on Agriculture practices see note 75 supra.

⁹⁶ 1 REP. ATTY. GEN. 30 (1947).

the government is acquiring *more* than it is fairly entitled to. In the latter situation, the public will not only avoid double payment — it will avoid any payment at all, because by definition (judicial standards) it never really paid for the inventions in the first place. This is the critical weakness in the structure of the “title theory.”

(2) In addition to this affirmative argument, the Attorney General’s Report urged that the “license theory,” and other views which would permit employees to retain patent rights, are defective for several reasons. Retention of commercial rights by employees was said not to be a necessary form of incentive. “[A]s a rule the scientific or technical worker in the Government has little interest in obtaining or exploiting patent rights.”⁹⁷ This proposition is allegedly supported on several grounds:

(a) Agencies which have followed a “title theory” have not found that such a policy affects their ability to attract or retain competent personnel. (There are a number of answers to the asserted success of “title” agencies in retaining competent personnel, e.g., the unpatentable nature of the work involved,⁹⁸ self-serving statements of officials,⁹⁹ and ignorance of employees of the fact that other agencies had a more lenient policy [prior to the Attorney General’s comprehensive compilation of agency practices]. Further, testimony indicating the contrary is available.¹⁰⁰)

⁹⁷ *Id.* at 40. Cf. discussion of activity of a grievance committee of an employees’ union in the Department of Agriculture, 2 REP. ATTY. GEN. 13 (1947). See also note 143 *infra*.

⁹⁸ In 1955 the Department of Agriculture, cited by the Attorney General’s Report as strongly favoring the “title” policy, spent 15.3% of its research and development expenditures on basic, as opposed to applied, research. Comparable percentages for the Department of Defense, and the entire government, were 1.3 and 6.4 respectively. NATIONAL SCIENCE FOUNDATION, FEDERAL FUNDS FOR SCIENCE (V. The Federal Research and Development Budget Fiscal Years 1955, 1956, and 1957) 10 (1956). Almost all discoveries resulting from basic research do not constitute patentable subject matter.

⁹⁹ Proof of the value or lack of value of commercial rights as an incentive is difficult, and is often unavailable to support opinions offered on the subject. See, however, notes 140-143 *infra*, and accompanying text.

¹⁰⁰ See discussion at notes 140-142 *infra*, and accompanying text. See also 2 REP. ATTY. GEN. 274-275 (1947). The opinion of the district court in the Dubilier case, (D.C. Del. 1931) 49 F. (2d) 306 at 312, stated:

“In commenting upon the retirement of Dr. Samuel W. Stratton, formerly Director of the Bureau of Standards, President Hoover, then Secretary of Commerce, said:

“While the Massachusetts Institute of Technology is to be congratulated on securing Dr. Stratton, one cannot overlook the fact that the desperately poor pay which our government gives to great experts makes it impossible for us to retain men capable of performing the great responsibility which is placed upon them. The Institute of Technology,

(b) The majority of educational and industrial organizations do not permit their employees to retain commercial rights. (The citation of industrial practices is unconvincing in view of the variety of alternative incentives available to private concerns, such as promotions, salary increases, bonuses, stock options, and royalty-sharing plans.¹⁰¹ Further, the statement is debatable.¹⁰² Scientific personnel in educational institutions have special incentives inducing them to remain at their jobs despite the loss of patent rights, such as freedom from restrictions on their work, active contact with students, and academic prestige.¹⁰³)

(c) Patent rights are of such uncertain value as to provide at best a speculative incentive.¹⁰⁴ (The uncertainty of the value of the incentive does not justify elimination of the incentive—a chance of success is far more appealing than no chance at all—as the patent system itself attests.)

(3) A third argument set forth in the Report was that even if retention of commercial rights does in fact constitute a material incentive to government employees, it is an undesirable form of incentive, because:

an educational institution, finds no difficulty in paying a man of Dr. Stratton's calibre three times the salary the government is able to pay him.

"Dr. Stratton has repeatedly refused large offers before, but the inability of the scientific men in the government to properly support themselves and their families under the living conditions in Washington and to make any provision for old age makes it impossible for any responsible department head to secure such men for public service at government salaries."

"Under such conditions, should the normal reward of inventors be withheld from research workers in the Bureau of Standards? I think not. To do so would measurably crush the inventive genius, enthusiasm, and spirit of the employees. It would drive unusual men out of the public service and correspondingly lower the efficiency of the Bureau. If the rules of law heretofore prevailing are to be extended to bring about this result, resort should be had to the Congress and not to the courts."

¹⁰¹ For surveys of industrial practices, see NATIONAL ASSOCIATION OF MANUFACTURERS, TRENDS IN INDUSTRIAL RESEARCH AND PATENT PRACTICES 66-70 (undated but apparently published in 1948), which analyzes the practices of 684 corporations; and Rossman, "Stimulating Employees to Invent," 18 J.P.O.S. 110, 189 (1936) (233 "large corporations"). The NAM survey states (at 68) that 35% of reporting corporations divulged that their inventors received extra compensation for meritorious inventions.

¹⁰² The NAM survey, *supra* note 101, indicated, at 67, that only 344 of the 684 reporting corporations required assignment agreements from employees on their research and engineering staffs.

¹⁰³ The President's Scientific Research Board, 4 SCIENCE AND PUBLIC POLICY (Manpower for Research) 17 (1947); *id.*, vol. 3 (Administration for Research) 206, 212-216 (1947).

¹⁰⁴ The substantial value of commercial rights in some cases is reported. See, e.g., 2 REP. ATTY. GEN. 197, 256, 269-270, 450 (1947). Note also that an accounting for profits and damages was decreed in *Lyon v. Bausch & Lomb Optical Co.*, (W.D. N.Y. 1953) 119 F. Supp. 42, *affd.* (2d Cir. 1955) 224 F. (2d) 530, cert. den. 350 U.S. 911 (1955), a case involving an invention made by a government employee which "supplanted the existing practice and occupied substantially the whole field." 224 F. (2d) 530 at 535.

(a) It may lead to secretiveness and lack of cooperativeness on the part of the employees, including the withholding or concealment of new ideas from their employers or fellow employees. (This argument presents only one side; if an employee knows he will be required to assign title to his invention he may conceal his inventive concepts in anticipation of disclosure after separation from the government.¹⁰⁵ Further, an employee who becomes secretive in his work can be transferred or given different job assignments.)

(b) Retention of commercial rights may create conflicts of interest disabling employees from acting in the fields in which they are qualified; examples supposed include situations in which the employee is in a position to induce or recommend use of an invention by the government or its contractors, or to test or appraise competing inventions. (The rare employee who may be in a conceivable "conflict of interest" situation can disqualify himself, be transferred to a different job assignment,¹⁰⁶ or can be made subject to penal laws.¹⁰⁷ In this connection, it is sometimes maintained that unless the government follows the title theory or something akin thereto its research and development contractors will be cautious in disclosing new developments to government scientific personnel working in the field who might stand to benefit from special knowledge gained through close contact with such contractors, and that the government may thereby lose valuable opportunities to learn of new developments not specifically covered by existing contracts. The basic fallacy in this argument is that it should not make a significant difference whether the

¹⁰⁵ This practice, and the practice of "bootlegging" an invention to an outside source because of the inability of the employee-inventor to retain any rights in his invention, are clearly unlawful or fraudulent. One government employee noted that the "title" policy, in the absence of a strong, realistic incentive awards program, might cause the government inventor to decide that "his personal advantage lies in concealing an important invention until after severing Federal employment." Part II, ARMED SERVICES PATENT POLICY REVIEW BOARD REPORT, *infra* note 141, at 32 (1952).

¹⁰⁶ An example is cited in 2 REP. ATTY. GEN. 198 (1947).

¹⁰⁷ See generally act of June 25, 1948, 62 Stat. 691, 18 U.S.C. (1952) §202; 62 Stat. 694, 18 U.S.C. (1952) §216; 62 Stat. 697 (as amended, May 24, 1949, 63 Stat. 90), 18 U.S.C. (1952) §281; 62 Stat. 698 (as amended, May 24, 1949, 63 Stat. 90), 18 U.S.C. (1952) §284; 62 Stat. 749, 18 U.S.C. (1952) §1001; 62 Stat. 753, 18 U.S.C. (1952) §1018; 62 Stat. 793, 18 U.S.C. (1952) §1914. Army Regulations 600-205, expressly requires any member of the service assigned to procurement and related activities to report to his superiors any situation in which "he finds that his duties require him to act as an agent of the United States in a manner from which he may derive financial profit or other benefits"; in such cases he must divest himself of his interest, disqualify himself, or be relieved from his assignment. It is probable that other agencies have comparable regulations. Some agencies in the past have specifically required employees to report any commercial arrangements concerning patent rights. 2 REP. ATTY. GEN. 448-449 (1947).

government follows a title policy or a liberal policy of permitting inventors to keep their commercial rights whenever possible, because under either policy contractors would stand to lose all rights to these inventions if government employees should choose to claim inventorship. Under a liberal or license theory title would usually be retained by the government employees, and under a title theory, would usually be in the government itself; but it would never be in the contractors if it is assumed that the government employees would be successful in their claims of inventorship. Even if the government followed a strict title policy, there would still be an incentive for its employees to want to file applications on worthwhile inventions, because at the very least they would receive recognition and credit for making the invention and would in some cases be eligible for cash awards. The latter incentives are sufficient to induce government employees to file applications when, as assumed under this argument, the real effort of conception or making of the inventions has already been performed by contractors. A further answer to this argument is that contractors should take advantage of the protection which is afforded by the patent laws against possible theft or misappropriation of inventions and protect themselves by prompt filing of applications. If a contractor is the first to conceive an invention and files his application with reasonable promptitude, he should have no trouble in successfully asserting his rights over possible adverse claims of a latecomer government employee. The usual remedies outside the patent laws for theft of ideas or inventions are also available to contractors. Government agencies could require their employees whenever they submit a disclosure to execute statements averring that they did not derive the invention from information obtained from a government contractor. Such a requirement would seem to be superfluous, however, in view of the oath which each inventor is required to make upon filing an application in the Patent Office affirming that he believes himself to be the original and first inventor of the matter claimed in the application as patentable.)

(c) Retention of commercial rights may cause employees to become overly "patent conscious" to the detriment of their assigned work; they may devote greater energies to work on inventions with commercial promise. (The employee who becomes unduly "patent conscious" can be kept in bounds by normal persuasion or change of specific job assignment.)

(d) Retention of commercial rights results in inequities, because as an incentive it discriminates against nontechnical personnel, and against those technical personnel who are in the field of basic, as distinguished from applied, research. (The argument concerning discrimination seems farfetched — because a man technically trained in a certain field makes an invention entitling him to a patent does not mean that those who do not make inventions are thereby victims of discrimination. Otherwise the patent system itself would be considered unfairly discriminatory.)

These four arguments urging the undesirability of patent rights as an incentive seem to have more theoretical than actual basis, and the first three bespeak a lack of faith in the integrity of federal employees which, with occasional exceptions, is unsupported. Further, as discussed after each of these arguments, independent sanctions are available to combat the supposed evils and prevent their occurrence.

Upon reflection it will be seen that almost all of these arguments advanced by the Attorney General's Report in favor of a "title theory" may be applied with equal pertinency in favor of abolition or radical change of the principles upon which the American patent system itself is based.¹⁰⁸

VI. *By-Product of the Title Theory — Government Ownership of Patents*

An additional difficulty with the title theory is that, as illustrated by the Attorney General's Report, the emphasis on government ownership of invention rights is usually accompanied by a recommendation that the government practice of prosecuting patent applications and obtaining patents be continued.¹⁰⁹ Although the matter of administration of government-owned inventions and patents is subsidiary to the main issue of this article, it is so closely related as to require limited discussion.¹¹⁰

¹⁰⁸ Arguments against employee retention of commercial rights as an incentive are essentially arguments against the use of patent rights per se as incentives to invent. But the idea of the patent as a stimulus to invention is one of the cornerstones supporting the philosophy of the United States patent system. Perhaps the Attorney General's Report is an unconscious reflection of the "restrictionist" attitude current at the time it was written. An adoption of the restrictionist viewpoint would presuppose an advocacy of fundamental and far-reaching changes to the structure of the patent system. See notes 148-151 infra, and accompanying text.

¹⁰⁹ Cf. 1 REP. ATTY. GEN. 126-130 (1947).

¹¹⁰ On this subject generally, see S. Doc. 83, 68th Cong., 1st sess. (1923); Second Report of the National Patent Planning Commission, H.R. Doc. 22, 79th Cong., 1st sess. (1945),

A number of legal objections have been raised with respect to any system based upon government acquisition of title to patents. These objections go to the heart of the constitutional basis for the patent system.

First, under the contract theory of patents the patent is considered to be a contract¹¹¹ under which the government grants exclusive rights for a limited time to the patentee in return for a full disclosure of all the essential elements of his invention.¹¹² Upon expiration of the patent the entire claimed disclosure is dedicated to the public. The public interest is thus

reprinted at 27 J.P.O.S. 76 (1945); 37 OP. ATTY. GEN. 180 (1933); 39 OP. ATTY. GEN. 164 (1938); Ewing, "Government Owned Patents," 10 J.P.O.S. 149 (1928); Broder, "Government Ownership of Patents," 18 J.P.O.S. 697 (1936); Wille, "Government Ownership of Patents," 12 *FORD. L. REV.* 105 (1943); Kramer, "Exclusive Licenses under Government Owned Patents," 28 J.P.O.S. 319 (1946); Boyle, "Exploitation of Government Owned Patents," 35 J.P.O.S. 188 (1953); Forman, "Government Ownership of Patents and the Administration Thereof," 28 *TEMP. L. Q.* 31 (1954); Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 38 J.P.O.S. 380, 478, 534, 647, 705, 762, 866 (1956), and 39 J.P.O.S. 62 (1957); note, 7 *GEO. WASH. L. REV.* 249 (1938).

¹¹¹ This theory accords with the common law theory of consideration as a bargained-for exchange between the parties. The consideration furnished by the inventor is the disclosure of his invention ". . . in such full, clear, concise, and exact terms as to enable any person skilled in the art . . ." (35 U.S.C. §112) to understand and practice it. The proffered consideration of the inventor in the form of an application for patent is tested by examination in the Patent Office for adequacy to make certain that it discloses and teaches how to practice a new, useful and meritorious invention and that the exact boundaries of the invention are distinctly pointed out to inform the public of the area of exclusiveness claimed by the inventor. 35 U.S.C. (1952) §§112, 131.

¹¹² "By the patent laws Congress has given to the inventor opportunity to receive the material rewards for his invention for a limited time, on condition that he make full disclosure for the benefit of the public of the manner of making and using the invention, and that upon the expiration of the patent the public be left free to use the inventions. . . . As has been many times pointed out, the means adopted by Congress of promoting the progress of science and the arts is the limited grant of the patent monopoly in return for the full disclosure of the patented invention and its dedication to the public on the expiration of the patent." Chief Justice Stone in *Scott Paper Co. v. Marcalus Mfg. Co.*, 326 U.S. 249, 255 (1945).

". . . [I]t cannot be doubted that the settled purpose of the United States has ever been, and continues to be, to confer on the authors of useful inventions, an exclusive right in their inventions for the time mentioned in their patent. It is the reward stipulated for the advantages derived by the public for the exertions of the individual, and is intended as a stimulus to those exertions. The laws which are passed to give effect to this purpose ought, we think, to be construed in the spirit in which they have been made; and to execute the contract fairly on the part of the United States, where the full benefit has been actually received: if this can be done without transcending the intention of the statute, or countenancing acts which are fraudulent or may prove mischievous. The public yields nothing which it has not agreed to yield; it receives all which it has contracted to receive. The full benefit of the discovery, after its enjoyment by the discoverer for fourteen years, is preserved; and for his exclusive enjoyment of it during that time the public faith is pledged." Chief Justice Marshall in *Grant v. Raymond*, 6 Pet. (31 U.S.) 218 at 241-242 (1832). Cf. OPPENHEIM, *FEDERAL ANTI-TRUST LAWS* 472 (1948).

"Patent Law as such . . . relates only to the contract character of the patent privilege and forms one branch of the Laws of Contracts. It deals with a single form of

served by the effect of the patent system in inducing inventors to make full and public disclosures of their inventions instead of attempting to protect them through secrecy.¹¹³ The government in granting the right to exclude acts as agent of the public.

When the government acquires title to an invention, the legal relationships do not fit the mold of the contract theory. The only party in interest is the government itself. It owns

obligation, and with but two classes of parties whose relations to each other are always substantially the same. The principles on which it rests are simple, though often difficult of application on account of the abstruse or intricate character of the invention concerning which the controverted questions rise. These principles may be finally reduced to two, as fundamental grounds on which all others rest:—

“I. That the inventor, having made such an invention as is entitled to the patent privilege, must communicate it to the public by publishing an accurate description of its character and uses;

“II. That the public having received from the inventor this communication, must thenceforth, during the period for which his privilege is granted, protect him in the exclusive use of the invention so described.” 1 ROBINSON, PATENTS §41 (1890).

¹¹³ “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. . . . 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.” *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 at 186 (1933).

“ . . . [T]he inventor who designedly, and with the view of applying it indefinitely and exclusively for his own profit, withholds his invention from the public comes not within the policy or objects of the Constitution or acts of Congress. He does not promote, and, if aided in his design would impede, the progress of science and the useful arts. And with a very bad grace could he appeal for favor or protection to that society which, if he had not injured, he certainly had neither benefitted nor intended to benefit.” *Kendall v. Winsor*, 21 How. (62 U.S.) 322 at 328 (1858).

“The patent privilege, if wisely guarded, effects this purpose [to secure the early disclosure of inventions to the public]. It removes from the inventor all inducement to conceal his discovery, by affording him the same protection that could be obtained by the most rigid secrecy. It encourages him to make known his results, as the method of securing for himself the largest recompense. It compels him to acquaint the public, thoroughly and at the outset, with all the details of his invention and with the various modes of benefiting by its use. It appropriates to the whole people, after a short period of exclusive ownership by the inventor, the entire invention as a portion of that common property in which all men may exercise an equal right.” 1 ROBINSON, PATENTS §39 (1890).

“The first . . . reason for granting patents on invention is to substitute a definite and regulated form of monopoly under the law for a broader and entirely unregulated one which the patentee might otherwise secure by retaining his secret. Even today many manufacturers prefer to rely upon this secrecy in many instances rather than take out patents.” *Hearings Before Senate Committee on Patents*, 65th Cong., 3d sess., 12 (1919).

Cf. remarks of Chief Justice Stone in *Special Equipment Co. v. Coe*, 324 U.S. 370 at 378 (1945): “. . . Congress was aware that an unpatented invention could be suppressed and the public thus deprived of all knowledge or benefit of it. It could have concluded that the useful arts would be best promoted by compliance with the conditions of the statutes which it did enact, which require that patents be granted only for a limited term upon an application fully disclosing the invention and the manner of making and using it. It thus gave to the inventor limited opportunity to gather material rewards for his invention and secured to the public the benefits of full knowledge of the invention and the right to use it upon expiration of the patent.”

the disclosure which it turns over to itself as agent of the public in return for the right to exclude which it grants to itself. But it is a legal impossibility to have a contract where one party purports to contract with itself.¹¹⁴

Second, under the property theory of patents the point is made that acquisition of title to a patent by the authority which created it, the federal government, affects a "merger," which results in extinguishment of the right to exclude.¹¹⁵

Although these and other¹¹⁶ arguments asserting the unconstitutionality or illegality of government ownership of patents have been advanced from time to time, the issue has perhaps become moot as a result of administrative practice, legislative enactments, and judicial dicta or decisions, based on an assumption that the practice is lawful. The various departments of the executive branch of the government have been acquiring title to patents for well over half a century,¹¹⁷ and

¹¹⁴ "There must be at least two parties to the making of a contract, that is, one on each side, for it is a rule of the common law that no man can contract with himself. In its simplest form the rule is a corollary of any definition of contract." 1 WILLISTON, *CONTRACTS*, rev. ed., §18 (1936). "There must be at least two parties in a contract, but may be any greater number. . . . It is not possible under existing law for a man to make a contract with himself. This rule is one of substance and independent of mere procedural requirements." *CONTRACTS RESTATEMENT* §15 (1932).

¹¹⁵ Analogy is made to the principle of real property that when an estate in fee and an easement in the estate are acquired by the same person, the easement is extinguished by merger. [Cases are collected in 3 TIFFANY, *REAL PROPERTY*, 3d ed., §822 (1939).] The reasoning by analogy proceeds as follows: ". . . the disclosure by the owner of the invention may be considered the dominant estate, and the common law right to make, use, and sell a disclosed invention, the servient estate." The patent "is the easement enjoyed by the dominant estate, owned by the inventor, over the servient estate, owned by" the public. When title to the patent is acquired by the government, which is the agent of the public, "title to both the dominant and servient estates is . . . in the same owner, and the easement disappears." Wille, "Government Ownership of Patents," 12 *FORD. L. REV.* 105 at 112, 25 *J.P.O.S.* 729 at 737 (1943). This analogy is criticized in Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 28 *J.P.O.S.* 380 at 419-420 (1956). The merger principle was apparently applied in an English patent case, *Re Taylor's Agreement Trusts*, [1904] 21 *R.P.C.* 713; but see *Re Dutton's Patent*, [1923] 40 *R.P.C.* 84.

¹¹⁶ Thomas Ewing, former Commissioner of Patents, contended that the lack of a specific delegation of power by the Constitution implied the absence of authority in the federal government to *exercise* the patent monopoly. Ewing, "Government Owned Patents," 10 *J.P.O.S.* 149-151 (1928). Both Wille, *supra* note 115, and Ewing also set forth historical arguments.

¹¹⁷ In 1881 the Supreme Court noted in passing, "It has been the general practice, when inventions have been made which are desirable for Government use, *either for the Government to purchase them from the inventors*, and use them as secrets of the proper department; or, if a patent is granted to pay the patentee a fair compensation for their use." *James v. Campbell*, 104 U.S. 356 at 358 (1881). (Emphasis supplied.) By 1917, the government owned 122 patents. Remarks of Commissioner of Patents in *REPORT OF ARMY PATENT CONFERENCE*, note 2 *supra*, at 141 (1955). If a patent is acquired by purchase, appropriations must be available. With respect to patents acquired by

the annual number of acquisitions has steadily increased in recent years.¹¹⁸ A number of statutes enacted through the years have expressly or impliedly provided for government acquisition of title to patents and patent applications.¹¹⁹ A recent illustration of this congressional indulgence may be found in the 1956 codification of Title 10, United States Code, section 2386 of which provides that funds appropriated for a military department available for procurement of supplies "may be used" to acquire ". . . patents, and applications for patents."¹²⁰ The principal judicial sanction¹²¹ for the practice is

donation or agreement, however, no specific statutory authority is necessary. See discussion of Interdepartmental Patents Board, S. Doc. 83 (68th Cong., 1st sess., 1923) p. 1. Patents issued to employees under the "no-fee act" (35 U.S.C. §266) may be assigned to the government. 37 OP. ATTY. GEN. 180 (1933). See also 31 OP. ATTY. GEN. 463 (1919); 32 OP. ATTY. GEN. 321 (1920); 34 OP. ATTY. GEN. 320 (1924); 38 OP. ATTY. GEN. 425, 534 (1936); 39 OP. ATTY. GEN. 164 (1938). As a matter of practice in such cases, the assignment is often executed prior to filing the application in the Patent Office.

¹¹⁸In 1917 the government owned 122 patents, whereas at the beginning of 1955 the government owned 4,926 patents in force. Of these, 2,057 resulted from inventions made by government employees and 2,869 originated from contractors or other sources outside the government. Government-owned pending applications totaled 5,573; 1,796 of these were from government employees, and 3,779 were from outside sources. The fact that the number of pending government-owned applications was greater than the number of government-owned patents in force, coupled with the fact that in the five years immediately prior to 1955 over 600 patents per year were issued to the government, gives some indication of the recent tremendous increase in the rate of acquisition of government-owned patents. Remarks of the Commissioner of Patents, Hon. Robert C. Watson, Report of Army Patent Conference, note 2 supra, at 141-142 (1955). By April 1956 the government held an interest (license or assignment) in 23,073 unexpired patents, and by December 28, 1956, the government held assignments in 6,579 unexpired patents—an increase of 33.6% over the beginning of 1955. (Source: Government Patents Board). See also tables set forth in notes 73 and 74 supra. One estimate has predicted 10,000 unexpired government-owned patents by 1960. Forman, "United States Patent Ownership Policy and Some of its Administrative Implications," 38 J.P.O.S. 308 at 402 (1956).

¹¹⁹Between 1916 and 1943 at least 30 statutes were passed which made funds available for the purchase of, or otherwise referred to acquisition of patent rights, 3 REP. ATTY. GEN. 130, n. 9 (1947), and similar statutes were enacted annually for the military departments thereafter until 1953 (see note 131 infra). Other statutes which may be said to recognize by implication government ownership of patents include pertinent sections of the Tennessee Valley Authority Act of 1933, 48 Stat. 58, 16 U.S.C. (1952) §831d (i); National Science Foundation Act of 1950, 64 Stat. 149, 42 U.S.C. (1952) §1871; Atomic Energy Act of 1954, 68 Stat. 921, 42 U.S.C. (1952) §2189; Synthetic Liquid Fuels Act of 1944, 58 Stat. 191, 35 U.S.C. (1952) §267. Seizure and sale of enemy-owned patents by the Alien Property Custodian were upheld in *United States v. Chemical Foundation, Inc.*, 272 U.S. 1 (1926). As early as 1864 Congress authorized the Court of Claims to investigate and rule upon a claim for compensation for use by the United States of patented inventions, and directed that if judgment were rendered against the United States, ". . . payment of such judgment shall vest the full and absolute right to said patents in the United States." Joint Resolution No. 37, June 3, 1864, 13 Stat. 588.

¹²⁰70A Stat. 137 (1956). This section of the law, which became effective on August 10, 1956, the day of passage, codified similar provisions which had appeared in annual appropriation acts for the military departments until it became permanent legislation by §609 of the Department of Defense Appropriation Act of 1954, 67 Stat. 350 (1953), 31 U.S.C. (Supp. III 1956) §649b. The latter provision was held by the Comptroller

found by negative implication from the Supreme Court's action in the *Dubilier* case, in striking from its opinion a paragraph which questioned the authority of the government to hold a patent, on motion of the Solicitor General.¹²²

More persuasive than merely legal objections to a wholesale assignment policy by the government which would result from the title theory are policy considerations reflecting the fundamental purposes and philosophy of the patent system, and certain practical objections.

A well-known basic purpose of the patent system is the encouragement of full public disclosures of inventions. As an inducement designed to achieve this objective, the patent system provides the grant of the *right to exclude* others from making, using, or selling the invention in the United States for a term of seventeen years.¹²³ When the government obtains title to inventions on which patents issue, however, the right to exclude is not exercised. As a matter of governmental practice infringement suits are never instituted¹²⁴ and, with the exception of certain

General to provide authority to purchase patent rights as well as to make appropriations available for the purpose. 109 U.S.P.Q. 322 (1956). But see 70A Stat. 444 (1956) 10 U.S.C. §7210.

¹²¹ The courts have ordered assignments of patents or inventions to the government in at least three cases involving the respective rights of the government and an employee-inventor. *United States v. Houghton*, (D.C. Md. 1927) 20 F. (2d) 434, *affd.* (4th Cir. 1928) 23 F. (2d) 386, *cert. den.* 277 U.S. 592 (1928); *Kober v. United States*, (4th Cir. 1948) 170 F. (2d) 590, *cert. den.* 336 U.S. 945 (1949); *United States v. Shook*, (6th Cir. 1956) 238 F. (2d) 952. Another means of accomplishing essentially the same result is an injunction against enforcement of the patent, a method used in at least one unreported case. 2 *REP. ATTY. GEN.* 6 (1947).

¹²² On May 8, 1933, the Court struck the following passage, which had been included in the original opinion, 289 U.S. 178 at 196 (1933), 28 days earlier:

"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." 289 U.S. 706 (1933).

A search in the office of the Clerk of the Supreme Court in October 1956 failed to reveal any briefs or other papers in support of the motion to strike.

"This action of the Supreme Court, in effect, sanctions the assignment of a patent to a Government department or officer for the benefit of the Government of the United States." 37 *OP. ATTY. GEN.* 180 at 185 (1933).

¹²³ 35 U.S.C. (1952) §154.

¹²⁴ Mr. T. Hayward Brown, Chief, Patents Section, Civil Division, Department of Justice, has stated that to his knowledge no infringement suits have been instituted by the United States. (Telephone conference with the authors, January 16, 1957). An opinion of Attorney General Reed suggested that ". . . should a proper case warranting

operations by the Alien Property Custodian¹²⁵ and the Tennessee Valley Authority, the government has traditionally issued royalty-free nonexclusive licenses under government-held patents to almost all applicants.¹²⁶ As stated by the Supreme Court in a passage struck from the *Dubilier* opinion, “. . . 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.”¹²⁷ Although legislative proposals which would have authorized issuance of royalty-bearing exclusive licenses under government-owned patents passed each house of Congress but did not become law,¹²⁸ and proposals to exploit government-

such action arise, the Government should undertake to maintain in the courts the exclusive right of the United States under a duly acquired patent.” 38 OP. ATTY. GEN. 425 at 428 (1936). Note that the issue of enforcement might arise if the government's domestic royalty-free licensees sought action by the government to prevent importation of infringing articles (or articles made by an infringing process), under §337 of the Tariff Act of 1930, 46 Stat. 703, 19 U.S.C. (1952) §1337, as supplemented by act of July 2, 1940, 54 Stat. 724, 19 U.S.C. (1952) §1337a.

¹²⁵ During World War II the Alien Property Custodian (whose functions were transferred to the Attorney General by 1947 Reorg. Plan No. 1, §101, eff. July 1, 1947, 61 Stat. 951), in administering the Trading with the Enemy Act, 40 Stat. 411 (1917), as amended, 50 U.S.C. App. (1952) §§1-40, 616, vested approximately 50,000 patents and patent applications. Although the licensing policy of the Custodian primarily consisted of the issuance of nonexclusive, royalty-free licenses, there were three exceptions—(1) where vested enemy-owned patents were already exclusively licensed to an American licensee; (2) where the patents vested were the property of nationals of enemy-occupied countries; and (3) where patents were not vested directly but were owned by corporations controlled by the Custodian. In such cases royalties were collected by the Custodian. Apparently no infringement suits were instituted. See generally Roe, “War Measures, The Alien Property Custodian and Patents,” 25 J.P.O.S. 692 (1943); comment, 12 GEO. WASH. L. REV. 330 (1944).

¹²⁶ The grant of nonexclusive, revocable licenses has been upheld in a series of opinions by attorney generals, 31 OP. ATTY. GEN. 463 at 466 (1919); 34 id. 320 (1924); 37 id. 180 at 185 (1933); 38 id. 425 (1936); 38 id. 534 (1936). (Unless the license is non-exclusive and revocable, it may constitute an alienation of property improper without legislative authority under Art. 4, §3, cl. 2 of the Constitution). Some agencies require the licensee to give a grant-back, to submit a report on its experience or know-how, or to submit samples for testing and approval. In the period 1935-1952 a total of 968 licenses were issued. See generally Forman, “United States Patent Ownership Policy and Some of its Administrative Implications,” 38 J.P.O.S. 705-712 (1956).

¹²⁷ Emphasis added. *United States v. Dubilier Condenser Corp.*, 289 U.S. 706 (1933), quoted in note 122 supra.

¹²⁸ In the 66th Congress, these bills were reported favorably by the House and Senate Patent Committees (S. Rep. No. 405 on S. 3223 and H. Rep. No. 595 on H.R. 9932). The Senate bill passed the Senate on March 22, 1920, but it was not voted on in the House; it was then included by the Senate Patents Committee as part of another general bill which had already passed the House. The new bill was passed by the Senate on June 4, 1920, and by the House with amendments on February 16, 1921, but it did not reach a vote again in the Senate because of an objection and the close of Congress. This legislative history is reviewed in more detail in 3 REP. ATTY. GEN. 178-184 (1947). Note that identical bills had been reported favorably by the respective Patents Committees in the 65th Congress, but failed to come to a vote. *Id.* at 176-178. However, in the 70th

owned patents on a revenue basis have been discussed in the executive branch for many years,¹²⁹ the government has in the main adhered to its royalty-free nonexclusive licensing policy.¹³⁰ Indeed, to some patent attorneys, a patent held by the government is in practice not really a patent at all, but more precisely a form of technically accurate publication.¹³¹

The government's policy of nonenforcement of the right to exclude means that government ownership of patents is also objectionable for three practical reasons. First, the normal incentive offered by the patent system is inoperative where the right to exclude is taken from the inventor without specific compensation and is then permitted to lie fallow. Thus disclosures may not be forthcoming, to the ultimate disadvantage of the public. Second, the procurement of patents by the government, even under a defensive theory,¹³² constitutes an economic waste. The lack of utility of government-owned patents has led the present Commissioner of Patents to protest that examination of cases filed by the government imposes a needless additional work load on an already harried Patent Office staff.¹³³ Third, and perhaps most important, the government-owned patent does not yield the economic benefits intended to

Congress, a different bill, which would have authorized exclusive licensing, passed the House, on April 4, 1928; the bill died in the Senate. *Id.* at 198-200.

¹²⁹ E.g., the 1923 Interdepartmental Patents Board (discussed in Part X *infra*) recommended legislation authorizing exclusive licensing or sale of government-owned patents, see 3 *REP. ATTY. GEN.* 192-208 (1947), as did (for certain limited areas) the National Patent Planning Commission appointed by President Roosevelt, in its second report, *H.R. Doc. 22, 79th Cong., 1st sess.* 5-8 (1945), reprinted in 27 *J.P.O.S.* 76 at 83-84 (1945).

¹³⁰ For a presentation of arguments in opposition to royalty-free nonexclusive licensing of government-owned patents, see Boyle, "Exploitation of Government-Owned Patents," 35 *J.P.O.S.* 188 (1953). Boyle concludes, at 212:

"If the exclusive right of the Government-owned patent is not to be enforced by the Government or disposed of then there is no justification in prosecuting the patent application for the purpose of defining the exclusive right. If the Governmental policy of royalty free licenses is to be considered as fixed, then the registration system for patents which was in effect prior to 1836 would be adequate from the standpoint of Government-owned patents."

¹³¹ See Part IX *infra*.

¹³² *Ibid.*

¹³³ See note 162 *infra*. "It is the rising total of Government-owned patents, Government-owned applications, which gives me concern. These patents cost money; the Government no doubt pays for the drafting, filing and prosecution, and also pays for the examination of the applications from which they mature, that is, the Patent Office cost of examination. Each operation costs a substantial sum. After issue, each is licensed nonexclusively to anyone who asks for a license. Hence, they are not used as patents should be." Remarks of the Commissioner of Patents, Hon. Robert C. Watson, *REPORT OF ARMY PATENT CONFERENCE*, note 2 *supra*, at 143.

be derived from the patent system, such as the incentive to invest speculative risk capital in new and untried concepts, and the spurring of competition in research and development.

VII. *Analysis of License Theory*

Supporters of the "license theory"—that the government should require from the employee no more than a royalty-free license regardless of the circumstances of the making of the invention—urge that the government has no need for anything more than a royalty-free nonexclusive license to protect itself from liability for use of the invention, and that retention of patent rights by employees acts as an incentive to keep employees in government service and spurs them to inventive activity. In addition it is maintained that the license theory affords a uniform and unequivocal rule which cannot be expanded and contracted, capriciously or otherwise, by administrative or judicial construction and application.¹³⁴ Finally, it is argued that if there are situations in which the government desires to have control over use of particular inventions made by employees, it may purchase the necessary rights from the inventor.¹³⁵

The basic difficulty with the license theory is disregard of the double payment proposition as applied to inventions made as a direct result of a specific assignment of duty. In these situations (discussed in Part V above), which are described and delimited by the case law,¹³⁶ it would be unfair to permit enforcement of resulting patent rights to the personal profit of the employee and at the expense of the public, because in such cases the invention was originally paid for, as established by the traditional judicial standards, by the public.

¹³⁴In 1951 Subcommittee No. 3 of the House Committee on the Judiciary conducted hearings on a proposed amendment to 28 U.S.C. §1498 to enable a government employee to sue the United States in the Court of Claims for patent infringement. This amendment in modified form was eventually enacted. See discussion in Part III at note 86 supra. In commenting on one proposed version of the amendment which would have barred suit by the employee if the patented invention was "related" to his assigned duties at the time the invention was made, Captain George N. Robillard USN, Patent Advisor to the Secretary of Defense, stated that ". . . very frankly, I as an administrative officer, can relate almost any invention to anybody's duties." Transcript of Hearings Before Subcommittee No. 3 of the House Committee on the Judiciary, 82d Cong., 1st sess., 29 (1952).

¹³⁵See note 117 supra.

¹³⁶Compare *Standard Parts Co. v. Peck*, 264 U.S. 52 (1924), with *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 (1933).

VIII. *The Middle Ground—Prior Judicial Standards*

Somewhere between the "title" and "license" theories lies the system of rules for apportioning rights in employees' inventions which was hammered out by the courts in case-by-case formulation over the years. This system has much to commend it. A compelling practical advantage is that it represents a fair compromise between two extremes; as illustrated by the GPB chairman's administration of Executive Order 10096, imposition of an extreme by executive fiat is unlikely to yield the results contemplated if there is a legitimate means of escape, because of the natural resistance on the part of those who are required to administer the rules. In addition, the system has the advantage of judicial sanction, and was developed independently of political considerations. Of course any rule or standard must be stated as a generality, and will be subject to the interpretation of, and application by, those responsible for its administration, particularly in the somewhat nebulous area of "invention" and the relation of invention to job duties; but the specificity and consistency of judicial precedents in defining the proper standards provide as stable and fair a base as may be devised.

A policy for determining rights which incorporates prior judicial standards would be eminently fair to employees, because it would take from them only that patent and inventive property which, according to the Supreme Court, lawfully belongs to the government, and at the same time it would avoid the criticism of a "double charge on the public," because the employee would be disentitled from prohibiting use of, or obtaining revenue from, those inventions which, judged by Supreme Court standards, were in legal contemplation paid for by the public.

The sizable category of inventions with respect to which the government would require an assignment under the "title" theory, but only a license under judicial standards, is the critical area. In this area, the factor of the public interest should be entitled to controlling influence. "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"¹³⁷ is an extremely difficult question. However, in this area the standards evolved

¹³⁷ Stone, J., dissenting, in *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 at 222-223 (1933).

by the courts, as opposed to the principles proposed in the Attorney General's Report, provide opportunity for operation of several of the strong public policy factors which support the patent system itself; the incentive to invent, the incentive to invest, and the incentive to further research.

A fundamental purpose of the patent system is to provide a stimulus to invent through a reward for success in the form of patent rights. Invention is painful. It often demands of the inventor a tremendous amount of personal effort and self sacrifice, and it may entail lavish expenditure of time and money. Inventive creations serve the public, but the inventor himself must be spurred to accomplishment by the hope of reward.

The incentive to invent is extremely important to the federal government, in view of its tremendously increased emphasis on research and development in recent years. The relative difficulty of government as against industry, in providing effective stimuli to inventive activity and in attracting and retaining able personnel has long been recognized. Recent federal employee awards legislation points up the need and has improved the situation somewhat, but the awards program is an inadequate answer.¹³⁸ Of course the proposition has limitations—the public interest in establishing incentive is not so strong as to override the rule of *Standard Parts v. Peck*¹³⁹ that inventions

¹³⁸ Awards made under existing awards legislation, the Government Employees Incentive Awards Act, 68 Stat. 1112, 5 U.S.C. (Supp. III, 1956) §§2121-2123 (which became law September 1, 1954), and its predecessors, have traditionally been small. The 1954 act places a \$5,000 limit on departmental awards in the absence of Civil Service Commission approval, and lumps inventions with meritorious suggestions, superior accomplishments, and personal efforts. A recipient of a cash award is required to waive any claim (apparently including patent infringement or royalty claims) against the government. Cash awards may be made only to civilian employees. In addition, it is generally impossible to determine the importance or cash value of an invention at the time it is made. As applied to inventions, the awards program is not entirely dissimilar to the *ex gratia* awards system used to reward employee-inventors by the British and Russian governments, as described in Johnson, "Encouraging Employees to Invent," 13 *Mod. L. Rev.* 428 (1950), which states in conclusion, at 444, that if the patent system should be abandoned or abolished, ". . . the need for an alternative yet remains. At present everything points to the cash award as the natural alternative in all three [Britain, U.S., and U.S.S.R.] countries. The cash award, however, may prove no less contentious than the patent. . . . [T]he policy of the cash award still does not meet the difficulty that modern research is nearly always organized on a group basis. It may be that the collective reward to a whole laboratory, already provided for under the Soviet law, will prove the answer to this problem."

¹³⁹ 264 U.S. 52 (1924). "The primary reason . . . that the War Department has acquired legal title to those patents which it now owns has not been based upon the fact that the acquisition of title was not necessary to its operations, but that as between itself and the inventor, it, that is the Government, had a paramount right to such title and would therefore claim it to prevent the inventor from asserting his right of exclusion against the general public and in this way force the payment of tribute to him in the

resulting from specific assignments of duty belong to the employer; that is, stated from policy viewpoint, this interest is not so strong as to justify infringement or royalty payments by the public where the public has already paid for the making of the invention. Subject to this limitation, however, stimulus to invent can best be provided by application of judicial standards. Refusal to leave commercial rights with the employee dampens incentive,¹⁴⁰ and makes continued government service far less attractive. The comments of numerous government employees both before and after issuance of publication of the strict criteria of Executive Order 10096 substantiated this fear.

It is difficult to gather evidence of the presence, or absence, of this incentive factor. However, an example may illustrate its value in a specific case. One of the government's most outstanding scientists, Dr. Robert M. Page, who made some of the basic inventions in radar and who owns commercial rights in the patents covering his inventions, early in his career turned down an industrial offer which included great opportunities for future advancement and would have paid him almost twice his

form of royalties to which he would not otherwise be entitled." Hearings Before the House Committee on Patents, 79th Cong., 2d sess., 12 (1946).

¹⁴⁰ Prior to issuance of Executive Order 10096 the U.S. Naval Research Laboratory had a policy of permitting its inventors to retain the commercial rights to their inventions whenever possible. After issuance of the order NRL policies were, of course, limited by the terms of the order. The following table tends to show that the number of reported invention disclosures dropped off very significantly once the impact of the order was felt (1950 and later). The figures are even more startling in view of the fact that, because of the Korean War, in the years commencing with 1950 the number of scientific personnel employed by the laboratory and the amount of available funds were materially increased over those for the years 1947, 1948 and 1949. Thus, between December 1949 and December 1952 the number of scientific personnel employed by the laboratory jumped approximately 25%.

This table indicates a high degree of correlation between the incentive to make and report inventions and policies governing retention of commercial rights. A strict policy dampens incentive.

Year	Number of Invention Disclosures Received
1947	163
1948	167
1949	173
1950	131
1951	133
1952	128
1953	87
1954	88
1955	111
1956	127

Source: Records of Patent Branch, U.S. Naval Research Laboratory.

government salary at the start. The primary reason for his refusal was that the policy of the Navy Department in permitting him to retain commercial rights in his inventions whenever possible compensated for the disparity between the salaries.¹⁴¹ Even from a mercenary point of view, the government's interest in the inventions later made by Dr. Page probably avoided vast royalty payments. As illustrative of the opinion of able inventors employed by the government, this scientist's reaction to the proposals outlined in the 1947 Attorney General's Report merits quotation:

"Government inventors will not file patent applications without strong incentives. The preparation of patent disclosures, the legal red tape that goes with making patent applications, and the nature of the controversies involved in patent interferences are in themselves distasteful to the average engineer. In addition, they are particularly annoying when they take his time away from the technical work in which he is primarily interested. In commercial companies the initiative is taken by legal engineers in seeking out patentable material in the laboratories and taking steps to protect the company's interest in such matters. Such a process appears to be infeasible at NRL [Naval Research Laboratory] because of the

¹⁴¹At the time that Dr. Page turned down this very favorable offer from a large and established corporation and in the years prior to the issuance of Executive Order 10096 the Navy followed a policy of permitting employee inventors to retain commercial rights to their inventions whenever possible under its existing regulations. A typical Navy regulation in the field of invention rights which was in force without substantive change during the period from 1929 to the issuance of the executive order is set forth in 2 REP. ATTY. GEN. 320-322 (1947). In the Hearings on Science Legislation at the close of World War II, Rear Admiral Harold G. Bowen, Chief of the Navy's Office of Research and Invention, testified as follows: ". . . In all of these cases where the Government employees are involved, we have allowed them, as a rule, their commercial rights. We have done that as an incentive. The people in the Government service can't expect to get the same rates of pay paid in industry, and this acts as an incentive. I have been told that the Naval Research Laboratory, which operates under that system, submits far more patent disclosures than other Government laboratories where what I call the incentive system is not established." Hearings on Science Legislation Before a Subcommittee of the Senate Committee on Military Affairs, 79th Cong., 1st sess., pt. 1, 250-251 (1945).

In his letter in reply to the offer from industry, Dr. Page stated: "I am in doubt as to the expediency of a change in my connections at the present time inasmuch as the working and living conditions here are very much to my liking. Although my present salary is rather low it represents only a part of my income as I retain the commercial rights on all my inventions." [The letter is quoted here with Dr. Page's permission.]

Dr. Page's refusal of this and other lucrative commercial offers over the years has undoubtedly resulted in great savings to the government, and through it, to the taxpayers. The fact that the government holds licenses under Dr. Page's patents covering many of the basic inventions in radar enabled it to avoid royalty payments which it otherwise would have had to pay. Government procurement of radar devices amounted to billions of dollars in World War II alone. Even a very low royalty rate on this amount of procurement would yield vast sums.

tremendously expanded legal department that would be required to perform this function. If the Government's interests, and therefore, the people's interests, are to be protected, some alternate provision is necessary to get the engineers to file patent applications. Present Navy policy in this regard provides in part the necessary incentive. Even with this policy it is still necessary to stimulate by direct action the keeping of proper legal records and the filing of important patent applications.

"Present policy is an important factor in attracting and holding a certain type of scientist. This writer testifies that were it not for the hope, through commercial rights on patents, of filling the gap between his Government salary and the average value of his many commercial offers, he would never bother to file patent applications for the Navy. The use of other pressures to force filing of patent applications would only serve to make commercial offers appear even more attractive."¹⁴²

Statements of similar purport have been made by other government scientists.¹⁴³

¹⁴² Part II, ARMED SERVICES PATENT POLICY REVIEW BOARD REPORT 31-32 (1952). This report constituted a thorough study of military patent policies in effect in and before 1952. The board was comprised of the Judge Advocates General of the Army and Air Force, and the Chief of Naval Research (chairman). A copy of Part II of the report, dealing with employee (as distinguished from contractor) rights in inventions, is on file in the library of the University of Michigan Law School.

¹⁴³ After the issuance of Executive Order 10096 (which, if strictly applied, would have imposed the stringent "title policy" recommended by the Attorney General's Report on all employees of executive agencies), the following statements were made by various government scientists in response to questions concerning the effect of the expected loss of commercial rights on the incentive to invent:

"It is an accepted fact that salaries in Government scientific work are less than corresponding salaries in industry by a factor of $\frac{3}{4}$ to $\frac{1}{2}$. The other circumstances surrounding Government employment, such as prestige, leave privileges, retirement, etc., are at the present time only slightly more advantageous than those offered in industry and are steadily becoming less attractive as Congress whittles away privileges of Government workers and as industry adopts more liberal policies. Consequently, a liberal patent policy might be a deciding factor in recruiting new employees and retaining old employees, particularly with respect to employees with inventive talent." (Emphasis added.) FINAL REPORT, Part II, ARMED SERVICES PATENT POLICY REVIEW BOARD 33 (1952).

"Keeping adequate records for patent purposes, preparing disclosure records and aiding patent personnel in the prosecution of applications is a chore for scientists which requires a certain amount of extra effort. *Without any individual stimulus*, employees have relaxed their efforts to record inventions. Issuance of a patent in his name in the remote future does not counterbalance human inertia and certainly does not generate an aggressive attitude toward reporting inventions. While in some fields patent personnel may be able to recognize potential invention by inspection of records, logs, and the like, such solution is generally not practical because of the enormous output and swift development in research activities. The cooperation of the inventor is essential." (Emphasis added.) *Id.* at 34.

". . . In industry an individual with vision and ability is compensated by increased salary or bonus or even a percentage of royalties. In Government, as of now, an indi-

In recent years, with the rise of research on a corporate or organizational basis, and with the increasing crowding and competitive struggle within various areas of technology, the courts have emphasized another desideratum of the patent system—investment incentive. After an invention is conceived it generally requires much additional development before it is ready for market or industrial use. In order to attract investment capital for these purposes, the developer must be assured of some protection, at the outset, against immediate competition which would destroy the advantages flowing from the investment. The patent system is, or should be, well adapted to this purpose; as Judge Jerome Frank stated in another context in a famous concurring opinion, “. . . there still seems to be room for some kind of patent monopoly which, through hope of rewards to be gained through such a monopoly, will induce venturesome investors to risk large sums needed to bring to the commercially useful stage those new ideas which require immense expenditure for that purpose.”¹⁴⁴ This

vidual receives no added remuneration for a patentable idea or process. It is recognized that the Government should be entitled to a royalty-free license on patents developed by Government employees but the employees should have an option to develop the commercial aspects of the invention without prejudice to his [sic] position.” *Id.* at 37.

“I was approached by several organizations with offers of what then appeared to be fabulous salaries, but what interested me most was NRL which offered no net increase in salary, but rather *the opportunity to procure commercial rights to my inventions* and the opportunity to do basic work in the field of magnetic amplifications. I joined NRL as a Unit Head . . . in September 1949.

“In the two years since joining NRL, I have led first a unit, and then a Section which has consisted for most of the time of only two men besides myself. My work has resulted to date in eight patent disclosures on new and improved circuitry and a new theoretical approach to solutions of magnetic amplifier problems. . . .

“This [issuance of Executive Order 10096] has called for a re-evaluation of my position here. I have found that it is no longer to my advantage to remain at NRL and I am now examining some positions in private industry which prove more remunerative for my special talents. I can say, quite frankly, that the offers I am receiving from well established and stable organizations make my present salary look quite small. Since comparisons can now be made only on the basis of salary I seem to have no choice.” (Emphasis added.) *Id.* at 37-38.

“To operate effectively, our laboratory absolutely must be able to compete with private industry, for competent physicists and engineers, particularly at the top levels. It is a sober fact that industry is offering \$2,000 more per year than the Government for men with a Master's degree in servomechanisms and no experience. For experienced men that differential is greater. In two years of searching our section has not succeeded in hiring a single man of either category. In that period, industry has siphoned off key personnel throughout the laboratory. There was a time when skilled, aggressive people could be attracted because they were willing to gamble on an immediate salary loss, confidently *expecting commercial patent rights* for their outstanding contributions. Executive Order 10096 leaves us totally unable to compete for personnel in fields which parallel the needs of industry. Still worse, we are threatened with the loss of key personnel who feel the order was a breach of contract.” (Emphasis added.) *Id.* at 39-40.

¹⁴⁴ Concurring opinion in *Picard v. United Aircraft Corp.*, (2d Cir. 1942) 128 F. (2d) 632 at 642, cert. den. 317 U.S. 651 (1942).

objective of the patent system cannot be realized if the government acquires title to patents, because the government has neither the facilities or interest to indulge in production activities,¹⁴⁵ nor the interest or willingness to grant exclusive licenses protecting an investor. On the other hand, if the employee retains commercial rights and grants the government a royalty-free nonexclusive license, the government's interests are protected, and in addition the investment incentive objective of the patent system has an opportunity to operate, because the employee is able to interest manufacturing concerns in the invention; in this way, the invention stands a much better chance of being placed into actual operation, to the benefit of the public.

It is occasionally maintained that employees who retain commercial rights will naturally tend to sell them to dominant concerns in the particular industry, which will be able to make the most attractive proposals, and that this practice will be one more device facilitating concentration of economic power in the hands of a few corporate giants. Although the premise is suspect, even assuming its accuracy *arguendo*, the obvious point is that the anti-trust laws provide powerful sanctions against excessive economic concentration; further, the fact that some employees *might* sell their patent rights to large companies is no basis for destroying entirely the opportunity of all employees to realize a reward for their inventive efforts in accordance with their own choice of assignee or exclusive licensee.

Finally, industrial elements may resent federal employee ownership of patent rights, if they do not rely upon their own patent position or have reason to apprehend enforcement of particular patents held by government employees. These interests may even support the "title theory" proposed in the 1947 report of the Attorney General. However, it is likely that a contrary position would be taken by another segment of industry; and it is doubtful whether many industrial proponents of the "title theory" would

¹⁴⁵ "Frequently inventions that are developed require additional work before they are made available for industrial uses. They tell me in the scientific bureaus that they feel they are not at liberty without some authorization by Congress to go ahead with a line of investigation after they have reached the point where it is of use or ceases to be of use to the Government, however useful it might be in industry.

"The Bureau of Chemistry, for instance, when we were threatened a year or so ago with a shortage of dyes, developed a great deal of material over there which they still have and which is not being made useful to anybody because the dye situation has been relieved by the licensing under German patents. Now, in the nitrate plants they got an enormous amount of oxygen as a by-product after they had taken the nitrogen out of the air. There are many commercial uses to which that can be put, but they say the

favor an across-the-board application of the theory to embrace government research and development contracts as well as the field of inventive employment.¹⁴⁶

Another factor in favor of permitting employees to retain commercial rights in a maximum number of cases is that such a policy tends to support the normal operation of the patent system in providing the bundle of incentives and benefits derived from the "working patent." If a government inventor licenses a commercial firm to practice his patented invention, the patent is permitted to function in its proper way as envisioned in the Constitution and by Congress. The working patent injects a new product, machine, process, or chemical composition into the economy, and, if commercially successful, it places the licensee in a competitively advantageous position. The success of the new invention stimulates unlicensed competitors to further their research programs to create still new and better inventions to meet the competition. The cycle continuously repeats itself; competition in research is stimulated and the public benefits as new inventions reach the market place and the broad base of technology expands. The working patent thus "makes the pot boil," creates new jobs, and extends the horizons of research.¹⁴⁷

Government is not authorized to go ahead; that it is not in the oxygen business. No private individual is going to put money into this thing for additional development unless he can get some measure of protection." Hearings Before the Committee on Patents of the Senate, 65th Cong., 3d sess., 7 (1919).

¹⁴⁶The military departments require the contractor in research and development contracting to grant the government a royalty-free, nonexclusive, worldwide license in inventions developed under the contract, with title remaining in the contractor. However, if the contractor elects not to seek patent protection on a certain invention, he is required to grant title to the government, reserving a royalty-free, nonexclusive, license. Paragraph 9-107.1, Armed Services Procurement Regulation, 32c. F.R. §9-107-1 (1956 Supp.). The Attorney General recently suggested that this policy may be a factor tending to concentrate economic power excessively in a few large government contractors, and that a re-evaluation of the policy might be desirable. Report of Attorney General (to the President and Congress) pursuant to Section 708 (e) of the Defense Production Act of 1950, as amended (1956).

¹⁴⁷"A patent, to be effective to the greatest extent in advancing the useful arts, should be in the hands of one who is manufacturing the article covered. He is supplying the public with the needed thing; he is creating jobs; increasing the prosperity of the area in which his plant is located. He is also asserting his patent against infringers and in so doing, stimulates them and other actual and prospective competitors into actively looking toward production of something different, even something better, which is of competitive character, but is without the scope of the patent. This stimulation of competitive research is one of the most important functions of the patent. Patents held by the Government do not perform these several useful functions. . . ." Remarks of the Commissioner of Patents, Hon. Robert C. Watson, REPORT OF ARMY PATENT CONFERENCE, note 2 supra, at 143.

James T. Newton, former Commissioner of Patents has stated: "One of the main benefits of a patent is that it gives the manufacturer a monopoly at the beginning of the

Additional benefits of the working patent are that it gets new ideas before the public in concrete form; and ideas beget ideas. It enables small businesses to receive an assured return, a portion of which may be devoted to further research, and makes it possible for them to use new inventions to compete in markets otherwise restricted to larger companies.

To those who question the fundamentals of the patent system,¹⁴⁸ government ownership of inventions, which in practice amounts to public dedication, seems a salutary policy. However, dedication prevents operation of the strong public policy factors which underlie the constitutionally created monopoly of the patent grant. Without the patent the incentives to invent and invest and the benefits furnished by the working patent are lost to the public. The continuing vitality of the patent system as evidenced and reinforced by the 1952 Codification Act¹⁴⁹ and the history of judicial decisions over the past quarter century¹⁵⁰ demonstrates

working or operation of the thing patented. You gentlemen must give consideration to the fact that when an invention comes into the world it is like a newborn baby; nobody wants it particularly; nobody thinks much of it, and the new thing has got to be developed. And if you take out a patent and throw it out to the public, it destroys the value of that patent, because no manufacturer wants to take an invention, undeveloped, and run the risk of making a market for it and then have somebody else come in and cut off all of his profits. And the value of the patent is right there; it enables the manufacturer to get an industry started. That is the value to the public, too. After the industry is started and the public gets the benefit of the invention, then the patent is beginning to perform the function that the framers of the Constitution intended it should perform, in making work easier for the general public, in giving them something they never had before and something that they wanted.

"To simply patent a thing and throw it into the world is a miscarriage of the functions that the patent ought to have, and it destroys the value of the patent not only to the inventor but to the public generally; because nobody would take up and develop the invention." Hearings Before Senate and House Committees on Patents, 66th Cong., 1st sess., 16 (1919). See also Hearings Before the House Committee on Patents, 79th Cong., 2d sess., 7 (1946).

¹⁴⁸ One writer has referred to this group as "the restrictionists" because they favor a general narrowing of the area in which exclusive rights granted for inventive creations will be upheld. Oppenheim, "The Public Interest in Legal Protection of Industrial and Intellectual Property," 32 J.P.O.S. 903, 905 (1950). Representative expressions of the restrictionist viewpoint are set forth in the following: Hamilton, "Patents and Free Enterprise," TNEC MONOGRAPH No. 31 (1941); Feuer, "The Patent Privilege and the TNEC Proposals," 14 TEMP. L. Q. 180 (1940); Petro, "Patents: Judicial Developments and Legislative Proposals," 12 UNIV. CHI. L. REV. 80, 352 (1944-45); Hamilton and Till, "What is a Patent?" 13 LAW & CONTEMP. PROB. 246 (1948); Kahn, "Fundamental Deficiencies of the American Patent Law," 30 AM. ECON. REV. 475 (1940); GILFILLAN, *THE SOCIOLOGY OF INVENTION* (1935); Gilfillan, "Social Principles of Invention," 17 J.P.O.S. 216 (1935); Watkins and Stocking, "Patent Monopolies and Free Enterprise," 3 VAND. L. REV. 729 (1950).

¹⁴⁹ 35 U.S.C. (1952) §§1-293.

¹⁵⁰ "Despite some striking attempts to cut out the heart of patent rights, there is no substantial evidence of a drift away from judicial protection of the 'hard core' of the patent grant. This conclusion may surprise the reader at first because a few dramatic

that Congress and the courts have not departed from the view that the legal protection of inventive ideas has been worth more to society than it has cost.¹⁵¹

IX. *Defensive Protection Without Government Patenting*

In view of the foregoing, it is proposed (in Part XI below) that a policy structure for determining rights in employees' inventions based on judicial standards is the optimum, and that Congress should take action to codify such a policy. The policy for determining rights is not quite enough, however. It alleviates the

deviations from traditional safeguards of patent rights, or judicial dicta, may have deflected attention from the march of decisional law and the facts of particular cases. A dispassionate examination of judicial trends since the 1930's will disclose few breaches in patent law policy. In this appraisal we must exclude every adjudicated case where the court found genuine patent misuse or antitrust abuse, since these do not shrink the legitimate sphere of lawful patent rights." Oppenheim, "Patents and Antitrust: Peaceful Coexistence?" 54 MICH. L. REV. 199 at 203 (1955).

¹⁵¹ The National Patent Planning Commission, appointed by President Franklin D. Roosevelt with Charles F. Kettering as its chairman pursuant to Executive Order No. 8977, December 12, 1941, 3 C.F.R. 316 (Supp. 1941), made the following statement in its initial report which was transmitted by the President to Congress on June 18, 1943:

"The American patent system established by the Constitution giving Congress the 'power to promote the progress of science and useful arts,' is over 150 years old. The system has accomplished all that the framers of the Constitution intended. It is the only provision of the Government for the promotion of invention and discovery and is the basis upon which our entire industrial civilization rests.

"The American people and their Government should recognize the fundamental rightness and fairness of protecting the creations of its inventors by the patent grant. The basic principles of the present system should be preserved. The system has contributed to the growth and greatness of our Nation; it has—

"(1) Encouraged and rewarded inventiveness and creativeness, producing new products and processes which have placed the United States far ahead of other countries in the field of scientific and technological endeavor;

"(2) Stimulated American inventors to originate a major portion of the important industrial and basic inventions of the past 150 years;

"(3) Facilitated the rapid development and general application of new discoveries in the United States to an extent exceeding that of any other country;

"(4) Contributed to the achievement of the highest standard of living that any nation has ever enjoyed;

"(5) Stimulated creation and development of products and processes necessary to arm the Nation and to wage successful war;

"(6) Contributed to the improvement of the public health and the public safety; and

"(7) Operated to protect the individual and small business concerns during the formative period of a new enterprise.

"The strongest industrial nations have the most effective patent systems and after a careful study, the Commission has reached the conclusion that the American system is the best in the world." H.R. Doc. 239, 78th Cong., 1st sess., 1 (1943).

In its summary of findings and recommendations the commission further stated: "The patent system is the foundation of American enterprise and has demonstrated its value over a period coextensive with the life of our Government. The principle of recognizing a property right in intellectual creation is sound and should be continued as contemplated in the Constitution." *Id.* at 9. But see note 184 *infra*.

anomalous situation resulting from sterile government ownership of patents, by limiting the area in which the government requires assignment of title to the minimum consistent with fairness and equity, but even within this minimal area progress would be made if a further proposal were enacted into law.

The government's primary interest in obtaining patents covering inventions in which it owns full title is *defensive*. The defensive theory justifying the patenting of government-owned inventions is founded on the idea that a government-owned patent offers the best possible means of protection to the government in avoiding or defending against claims of patent infringement.¹⁵² The government has relaxed its sovereign immunity in the realm of patents to permit institution of patent infringement suits in the Court of Claims,¹⁵³ and presentation by private persons of administrative claims¹⁵⁴ alleging infringement by the government. Advocates of government ownership maintain that a government-owned patent provides the best possible defense to infringement claims for several reasons. The obtaining of a patent is said to avoid the costly procedures of tracking down records and witnesses to prove priority of invention as a defense against claims arising years after an invention is made, as well as to avoid the danger of complete loss of some essential proofs through death of witnesses and loss or destruction of records. Mere publication of government-owned invention disclosures is asserted to be inadequate for protection because a publication is only effective as an anticipatory reference from the date of its publication to prevent another from obtaining a patent on the same invention,¹⁵⁵ and a private party who actually makes his invention after the government inventor but prior to the publication date would be able to obtain a patent if he filed within one year of the publication date.¹⁵⁶ The publication alone thus furnishes the government no means of provoking an interference in the Patent Office to prove priority of invention over a private party who makes the invention in the interim period between invention by a government employee and publication. Further, publication may not be possible if the subject matter of the invention is classified, but

¹⁵² The defensive theory of government patenting is best presented in Saragovitz, "Procurement of Patents by Government Agencies," 37 J.P.O.S. 677 (1955). See also Hearings Before the House Committee on Patents, 79th Cong., 2d sess., 56-57 (1946).

¹⁵³ Act of June 25, 1948, 62 Stat. 941, as amended, 28 U.S.C. (1952) §1498.

¹⁵⁴ 10 U.S.C. (1956) §2386.

¹⁵⁵ 35 U.S.C. (1952) §102 (a).

¹⁵⁶ *Id.*, §102 (b).

when a patent application is filed the subject matter may be kept in secrecy for an indefinite period without loss of rights under the provisions of the Inventions Secrecy Act.¹⁵⁷

The proposed legislation codifying a policy for determining rights (see Part XI below) should be complemented by a means which assures that the government's defensive interests in the inventions which it owns are protected but which at the same time avoids the waste attendant to prosecution and examination of patent applications and the issuance and free licensing of patents. To accomplish this purpose, a complete legislative program should include provisions which would amend the Patent Code to provide that examination and prosecution of government-owned applications could be suspended at the time of filing (or possibly later in some cases) upon order of the commissioner at the request of the government and that such applications could be printed and published at a time selected by the government.¹⁵⁸ The application as filed would be no different from any other application.¹⁵⁹ A provision should be included which would make it possible for the Patent Office to declare an interference between a published government-owned application and a later-filed application of a private party for a period of one year from the publication date of the government-owned application.¹⁶⁰ The published application would thus

¹⁵⁷ *Id.*, §§181-188.

¹⁵⁸ A similar proposal was made during the 1951 Hearings on the codification and revision of the patent laws. This proposal was to add the following paragraph (which had been included in H.R. 9133, 81st Cong.) to section 122 of H.R. 3760: "Pending applications for patents may be printed and published by the Commissioner, at the request and expense of the applicant and owner. Such publication shall have the same effect as an issued patent for the purposes of section 102(e) of this title." Hearings Before Subcommittee No. 3 of the House Committee on the Judiciary, 82d Cong., 1st sess., ser. 9, p. 79 (1951).

¹⁵⁹ It is contemplated that this provision would relieve the examiner from making any close study of the government-owned application and from making a prior art search, except in those cases, few in number, in which an application or patent of a private party is found to interfere with the subject matter claimed in a government-owned application. The government could normally refrain from publishing the application as filed until a reasonable time had elapsed; the purpose of the delay would be to allow time in which an interference might be provoked.

¹⁶⁰ After one year from publication the government-owned application as a printed publication would be a statutory bar as to all that it disclosed against the subsequent filing of a patent application by another. 35 U.S.C. (1952) §102(b). For this provision to be fully effective, however, it would be necessary to amend §135 of the Patent Code to provide that a claim for the same subject matter as a claim of a published government-owned application may not be made in any application unless it is made within one year of publication of the government-owned application. Section 135 now provides that "a claim which is the same as, or for the same or substantially the same subject matter as, a claim of an issued patent may not be made in any application unless such

remain *pro tanto* an application for purposes of permitting declaration of an interference between the published application and a later-filed application of another claiming the same subject matter.¹⁶¹ Provisions enacting these proposals would succeed in removing one of the most serious objections to government ownership of patents by relieving the Patent Office examining corps of the burden of examining government-owned applications, without sacrificing the defensive benefits which accrue to the government through filing of patent applications on government-owned inventions.¹⁶²

X. *Need for Legislation*

As the foregoing discussion indicates, the subject of the rights of federal employees in their inventions is complex, and has been debated for many years. It is a problem which involves

a claim is made prior to one year from the date on which the patent was granted." 35 U.S.C. (1952) §135.

¹⁶¹The Patents Act of Great Britain has a provision which enables the government to protect its defensive interests in inventions which it owns without the necessity of obtaining patents. "(1) . . . any Government department . . . may make, use and exercise any patented invention for the services of the Crown. . . . (2) If . . . the invention has before the priority date of the relevant claim of the complete specification been duly recorded by . . . or on behalf of a Government department . . . free of any royalty or other payment to the patentee," provided the invention which was recorded did not reach the government through the patentee. Sections 46(1) and 46(2), Patents Act, 1949. The existence of a prior Crown record thus does not act as an anticipatory reference or bar the obtaining of a patent by another but merely relieves the government from any liability for infringement. Under the objectives of the American patent system, however, it is believed to be more desirable to publish and dedicate to the public inventions owned by the government, than to bury them in a government file as a defense available to the government alone.

¹⁶²In March 1955, the government owned 0.8% of the total number of patents in force, but it owned 2½% of the total number of pending applications. The burden placed on the Patent Office by government-owned applications is thus increasing appreciably. Remarks of the Commissioner of Patents, Hon. Robert C. Watson, REPORT OF ARMY PATENT CONFERENCE, note 2 *supra*, at 142. In commenting on the patenting of government-owned inventions, the commissioner stated, at 143:

"Patents held by the Government . . . serve to safeguard the defensive position of the Government against the claims of late-comer patentees. The question is, therefore, cannot some substitute be found for the defensive patent, which substitute costs less to bring into being and which doesn't have to be sent to the Patent Office for processing. We are having a tough time in the Patent Office, as many of you perhaps know; we are greatly understaffed. We need 150 more examiners there today just to keep abreast of the inflow of new cases, not to mention to try to reduce the enormous backlog of 210,000 applications we have pending. We are falling behind day by day, now in the neighborhood of over a thousand applications a month, and some of those applications are quite large in size, covering very complicated and complex inventions, much more so now than formerly. Much thought has been given to this circumstance, I am aware—it's not at all a new problem which I have mentioned, and I know that many have worked on it. I just ask you to take it under consideration and see if the problem can't be licked."

the interplay of many legal and policy considerations; adherents may be found for many positions within an extensive range. This reason alone stamps the problem as a legislative one; it is not a field in which the fundamental policies should be promulgated by the judicial or executive branches of the government. The need for legislation is particularly clear in view of the Supreme Court's dicta in the *Dubilier* case commenting on the fact that the Court was not called upon to decide whether government departments had "power to impose such a contract [requiring assignment of inventions] upon employees without authorization by act of Congress."¹⁶³ There has been substantial consensus through the years, the Attorney General's Report accepted, that the subject matter should be covered by legislation.

The desirability of legislative resolution of the problem has become increasingly evident since promulgation of Executive Order 10096. The uneasy feeling of many government patent and scientific personnel that an administrative or executive regulation, even if purportedly justified as a condition of employment, is of doubtful validity¹⁶⁴ leaves substantial questions of title and license beclouded.¹⁶⁵ Although the Attorney General's Report sought

¹⁶³ 289 U.S. 178 at 208 (1933). For discussion of the effect of the disparity of bargaining power between inventors and their employers, see COSTA, LAW OF INVENTING IN EMPLOYMENT 8, 77 (1953). Cf. note, 40 HARV. L. REV. 1000 (1927).

¹⁶⁴ Three lower court opinions have upheld administrative regulation contracts required by the government. *Selden Co. v. National Aniline & Chemical Co.*, (W.D. N.Y. 1930) 48 F. (2d) 270; *Kober v. United States*, (4th Cir. 1948) 170 F. (2d) 590, cert. den. 336 U.S. 945 (1949); *Shook v. United States*, (6th Cir. 1956) 238 F. (2d) 952. [A contract similar to that involved in the Kober case was mentioned in passing in *Fox v. Kingsland*, (D.C. D.C. 1948) 81 F. Supp. 433, affd. sub nom. *Marzall v. Fox*, (D.C. Cir. 1950) 180 F. (2d) 45]. However, in the *Selden* case the court considered the regulation to be consistent with the act of March 3, 1883, 22 Stat. 625; in the *Kober* case, the court noted that the result would have been the same even if the regulation were invalid for want of statutory authority; and in the *Shook* case the court held alternatively that *Standard Parts Co. v. Peck*, 264 U.S. 52 (1924) was controlling. Thus there has been no square ruling on the point.

¹⁶⁵ Ordinarily it is no defense in an infringement action by a government employee against a private party to show that equitable title is in the government. *Hazeltine Corp. v. Electric Service Engineering Corp.*, (S.D. N.Y. 1926) 18 F. (2d) 662 at 668 ("Whatever rights the United States Government may have in the invention, growing out of the inventor's employment, the patent was issued in his name and his assignees hold the full legal title, which must be recognized in a court of equity until superior equities are asserted"); *Yablick v. Protecto Safety Appliance Corp.*, (3d Cir. 1927) 21 F. (2d) 885; *Dubilier Condenser Corp. v. Radio Corporation of America*, (D.C. Del. 1929) 34 F. (2d) 450, revd. on other grounds (3d Cir. 1932) 59 F. (2d) 305, 309, cert. den. 287 U.S. 648, 650 (1932). Cf. Kwai, "Patents to Government Employees," 13 J.P.O.S. 387 at 390-394 (1931). Of course, the defense would probably be good if legal title was in the United States, as evidenced by a recorded assignment or one suitable for recording.

For an illustrative case involving private employment in which rights to an invention were determined by means of a suit brought by an employee to disperse cloud on title, see *Marshall v. Colgate-Palmolive-Peet Co.*, (3d Cir. 1949) 175 F. (2d) 215.

to establish by argument that the executive branch does have authority in this field to issue regulations which have the force of law,¹⁶⁶ the Supreme Court's powerful dictum that "any such declaration of policy must come from Congress and . . . no power to declare it is vested in administrative officers"¹⁶⁷ has kept the issue open. A recent decision of the Comptroller General¹⁶⁸ indicates that the question whether the government is entitled to a nonexclusive license or no interest at all in a given invention remains open after a ruling on the point adverse to the government under Executive Order 10096, if the latter ruling is interpreted as in conflict with the employee disability provisions set forth in 28 U.S.C. §1498. This decision creates further doubts as to the efficacy of administrative regulations in this field unsupported by congressional sanction. To the extent that any executive policy (whether by contract, executive order, or regulation) for determining rights in federal employees' inventions conflicts with the substantive criteria established by case law, it will run into the serious question of lack of statutory authority which was raised but not decided in the *Dubilier* case.

Enactment of any legislation on the subject is perhaps more important than the precise terms of the legislation. Although such a view might be unacceptable to those who have developed a *modus vivendi* under present regulations, it would seem that any advance toward certainty in a confused field would be beneficial. In considering legislation congressional committees would be presented with a great variety of opinion, and would be able to weigh intelligently the conflicting interests and equities.

The subject has been presented to and discussed in Congress before in many different forms but never on a comprehensive basis with any sense of unity or urgency.

As early as the period 1894-1907 the Navy Department sought legislation specifying its rights in inventions made by employ-

¹⁶⁶ 3 REP. ATTY. GEN. 153-157 (1947). The argument is based on Rev. Stat. §161, 5 U.S.C. (1952) §22, which provides that "The head of each department is authorized to prescribe regulations, not inconsistent with law, for the government of his department, the conduct of its officers and clerks, the distribution and performance of its business and the custody, use, and preservation of the records, papers, and property appertaining to it." The report cited one or two incidents said to demonstrate congressional acquiescence in departmental regulations governing the rights of employee and the government. *Id.* at 155-157.

¹⁶⁷ *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 at 209 (1933). This statement has been interpreted by one commentator as applying only to retroactive regulations, Kreeger, "The Control of Patent Rights Resulting from Federal Research," 12 LAW & CONTEM. PROB. 714 at 721, n. 45 (1947).

¹⁶⁸ See note 90 *supra*.

ees.¹⁶⁹ During these years a number of bills were introduced, several of which passed one House of Congress, but legislation was not forthcoming. Out of the effort, however, grew a Joint Resolution of February 18, 1907,¹⁷⁰ directing the Secretary of Commerce and Labor to investigate the problem on a government-wide basis. The ensuing report,¹⁷¹ submitted to Congress on May 5, 1908, recommended that government employees be treated in the same way that private inventors were treated, and stressed the need for legislation to dispel the confusion in the field. However, no action was taken on the report.

The rights of employees were discussed at length in floor debate on the bill which became the act providing for infringement suits against the government,¹⁷² but only in terms of the proviso disentitling employees from the benefits of the act.

Discussion in hearings, reports, and floor debate on the bills, which would have authorized the Federal Trade Commission to exploit patents on inventions made by government employees (and others), introduced in the Sixty-fifth and Sixty-sixth Congresses, recognized the lack of a fixed policy with respect to employee inventions, but the proposals narrowly missed enactment in 1921.¹⁷³

In 1922 President Harding by Executive Order 3721 established an Interdepartmental Patents Board, which survived until its abolition by Executive Order 6166 in 1933. The Interdepartmental Patents Board in its eleven-year existence made a number of legislative proposals which included schemes for determining rights in employee inventions; several of the proposals were put into bill form and introduced in Congress, but none were passed. (The principal congressional interest in the proposals concerned the exclusive licensing provisions.¹⁷⁴)

Employee rights were also considered at length in the congressional consideration of various proposals for national science legislation, introduced after World War II which eventually resulted in laws establishing the National Science Foundation and

¹⁶⁹ See 3 REP. ATTY. GEN. 167-169 (1947).

¹⁷⁰ Pub. Res. No. 15 (H. J. Res. 224), 59th Cong., 2d sess. (1907).

¹⁷¹ H.R. Doc. 914, 60th Cong., 1st sess. (1908). The report, noted (at 7), "There are certain doctrines of law but these have received no uniform development with regard to the Government employees. . . ."

¹⁷² Act of June 25, 1910, 36 Stat. 851, note 86 supra, and accompanying text.

¹⁷³ See note 128 supra.

¹⁷⁴ For extensive discussion of the various proposals of the Interdepartmental Patents Board, and congressional reception of the proposals, see 3 REP. ATTY. GEN. 184-208 (1947).

the Office of Technical Services.¹⁷⁵ However, most of the comments in hearings and debates which concerned the subject of employee rights were extremely general in nature, and no comprehensive approach to the subject was proposed.

Finally, one of the activities of the Government Patents Board in recent years has been an attempt to draft comprehensive legislation on the subject.¹⁷⁶

Perhaps the principal explanation of the failure to arrive at a legislative solution, aside from the fact that scientific personnel in government have no organized group equipped to protect the particular interest involved, lies in the fact that conflicting philosophies, such as the "title theory" and "license theory," have been supported with equal vigor by advocates from the various executive agencies. This divergence in views has fairly effectively paralyzed executive leadership in proposing legislation. The time has perhaps come, however, when the need for statutory treatment, in view of the situation described in the introduction of this article, is serious enough to warrant concessions from various quarters. For this reason, the middle ground represented by prior judicial standards is believed to represent an ideal starting point for congressional consideration.

XI. *Content of Proposed Legislation*

Substantive criteria for determining employees' rights in inventions need not be complex. It is submitted that legislation on the subject can and should be straight-forward and direct, with a minimum of detailed administrative complication.

Another desirable objective is uniformity of treatment.¹⁷⁷ Resolution of the problem would be relatively simple if legislation empowered each government agency to establish its own criteria—title theory, license theory, judicial standards, or some other system. Such legislation, however, would of necessity discriminate against those employees who happened to work for an agency which adopted a strict policy, and might tend to encourage com-

¹⁷⁵ National Science Foundation Act of 1950, 64 Stat. 149, 42 U.S.C. (1952) §§1861-1875; act of September 9, 1950, 64 Stat. 823, 15 U.S.C. (1952) §§1151-1157. See note 85 supra.

¹⁷⁶ Interview with the Chairman, Government Patents Board, December 7, 1956.

¹⁷⁷ The desirability of a uniform policy has long been noted in congressional hearings, e.g., Hearings Before the House Committee on Patents, 65th Cong., 3d sess., 3, 6 (1919); Hearings Before the Senate Committee on Patents, 65th Cong., 3d sess., 4, 24 (1919); Hearings Before the Senate Committee on Patents, 66th Cong., 2d sess., 10 (1920); Hearings Before the House Committee on Patents, 79th Cong., 2d sess., 5, 17 (1946).

petition among the agencies for employees. The President, in authorizing the study which culminated in the 1947 Attorney General's Report, noted the "need for a uniform Government-wide policy."¹⁷⁸

It is sometimes urged that the differences in objectives of the various agencies necessitate varying policies in this field. For example, public welfare agencies, such as the Departments of Agriculture, Interior, and Health, Education and Welfare, have as one of their objectives the providing of research facilities for areas of the economy which do not otherwise support such research, whereas other agencies, such as the military departments, have as one of their primary objectives attainment of the most effective defense program for the taxpayer's dollar. However, even aside from the obvious limitations on the significance of this distinction, it is submitted that on balance the importance of the distinction fades in comparison with the overriding scientific morale benefits to be derived from a uniform policy.

With these broad objectives established, preparation of a bill is simplified. As indicated previously, it is believed that the criteria pronounced in the *Dubilier* and other Supreme Court cases should provide the foundation of legislation. Administrative procedures should be left to the discretion of the respective agency heads, subject, however, to an appeal on behalf of any employee who believes himself aggrieved. A statutory admonition against adverse treatment of an employee who exercises his right of appeal should be included for whatever effect it may have in encouraging dissatisfied employees to appeal.

The selection of an appropriate appellate body raises certain problems. Many government personnel believe that the appellate function should not be lodged in a separate administrator or agency,

¹⁷⁸ 1 REP. ATTY. GEN. 9 (1947). The Attorney General's Report endorsed this view, 1 REP. ATTY. GEN. 54-55, 143 (1947), and cited examples of potential difficulties which might arise if employees of different agencies having different policies made inventions in the same field (e.g., in interference proceedings). Further, industry's access to free use of employees' inventions "should not turn upon so fortuitous a factor as which department has developed" them. *Id.* at 55. The 1923 Interdepartmental Patents Board report, S. Doc. 83, 68th Cong., 1st sess., 3, decried the lack of "any general governmental policy" in this field. Uniformity was one of the objectives of the bills introduced in the 65th and 66th Congresses (see note 128 *supra*); e.g., testimony by advocates of the legislation in Hearings Before the House Committee on Patents, 65th Cong., 3d sess., 3, 6, 24 (1919). (Mr. Edward S. Rogers stated at 3: "One of the purposes of this bill is to make it possible to unify the practice in the various bureaus of the Government in the matter of inventions made in the Government service.") Cf. statements by Congressman Lanham, Chairman of the House Committee on Patents, in hearings before that committee in the 79th Cong., 2d sess., 5, 17 (1946).

because of the inevitable bureaucratic tendency to build "empires" of authority. The authors express no opinion on this point, but note that the need for an administrator (with the necessary staff) would not seem justified in view of the meager workload anticipated under the statutory system proposed. Although either the Civil Service Commission or the General Services Administration¹⁷⁹ has been proposed as the proper appellate body, the authors believe that the Department of Justice is a more logical selection. The function of the Attorney General in defending patent infringement suits brought against the government¹⁸⁰ is recognized, but it is believed that action on appeals from agency determinations of rights in employee inventions could be kept separate from and independent of the purely advocatory function of the Attorney General. Provision for an appeal to the courts by an aggrieved employee would help to assure this separation of function.

Finally, the proposed legislation should provide: sufficient flexibility to permit handling of such subsidiary problems as foreign rights,¹⁸¹ authority to leave title with an employee when the government would ordinarily be entitled to an assignment of title but is insufficiently interested in the particular invention to file a patent application thereon,¹⁸² authority to issue regulations implementing the legislation, and provision for meetings of the persons who administer the law for the respective agencies.

Enactment of the proposed statute would require related changes in other provisions of law dealing with the subject. Rescission of Executive Orders 10096 and 9865 would be necessary. More important, however, would be revision of the limitations on employees' rights to sue the government, presently set forth in 28

¹⁷⁹ The Administrator of General Services has general responsibility for procurement, management, utilization, and disposal of government property, under the Federal Property and Administrative Services Act of 1949, 63 Stat. 378, 40 U.S.C. (1952) §§471-514. However, this fact in itself might prejudice application of statutory standards by GSA, because of the underlying assumption that employee inventions are essentially government property.

¹⁸⁰ R.S. §361, as amended, 5 U.S.C. (1952) §306; act of June 25, 1948, 62 Stat. 942, as amended, 28 U.S.C. (1952) §1498.

¹⁸¹ Presently covered by Executive Order 9865, 12 FED. REG. 3907 (1947), the subject of foreign rights appears to be a flexible matter best left to case-by-case treatment.

¹⁸² This problem has caused administrative difficulties. Assuming that the government owns equitable title to a given employee invention under judicial standards, *quære* the legality of leaving title with the employee under paragraph 1(b) of Executive Order 10096 (see discussion in Part II *supra*) on grounds of insufficient government interest in the subject matter, in the light of Congress' exclusive power to dispose of government property (Art. IV, U.S. CONST., Sec. 3, cl. 2).

U.S.C. §1498, to make the limitations match the situations spelled out in the proposed determination of rights legislation.¹⁸³

A final qualification is necessary. The authors recognize that the rise of group research with the attendant de-emphasis on the inventive contribution of the individual inventor has subjected the patent system to serious scrutiny, and that proposals for substantial revision of the system are still being sought.¹⁸⁴ In this context employees' rights legislation is ancillary to the patent system itself. If the patent laws undergo major amendment, employee invention legislation should reflect the change. The proposal set forth below, which is designed to carry out the objectives emphasized in this article and is offered as a legislative starting point, is based upon the law as it stands in 1957.

AN ACT

To establish a policy for the determination of rights of the Government and its employees in inventions made by such employees and to set forth criteria to be used in making such determinations.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Employee Invention Rights Act of 1957."

Congressional Declaration of Policy

SEC. 2. It is the intent of the Congress in enacting this legislation (a) to encourage employees of the Government to make and disclose inventions, in aid of the national defense and in furtherance of the public health, safety, economy, and welfare; (b) to assure that prompt¹⁸⁵ administrative proceedings are avail-

¹⁸³ In addition, 28 U.S.C. (1952) §1498 could be amended so as to bar any action by an employee who has not received an administrative determination of his rights in the patented inventions sued on.

¹⁸⁴ "1. *The present patent system should be adjusted to modern conditions*

"When the patent laws were first drawn, invention and discovery were almost exclusively the product of the efforts of individuals working alone. Today, invention and discovery are largely the work of research laboratories. In other words, individual enterprise has been gradually yielding to collective enterprise." S. Rep. 1464, 84th Cong., 2d sess., 1 (1956). Cf. Bush, "Proposals for Improving the Patent System," Study No. 1 of the Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary, 84th Cong., 2d sess., 8-9 (1956).

¹⁸⁵ Prompt administrative determination of rights may avoid prolonged and complicated patent litigation. The last patent suit growing out of World War I, Thompson

able to establish the rights of the Government in inventions, many of which result from the expenditure of government funds for scientific and technological research and developments, made by government employees; and (c) to provide policies, procedures, and criteria to assure uniform and fair determination of the respective rights of the Government and its employees in all inventions made by such employees.

Definitions

SEC. 3. As used in this Act—

(a) The term "agency" means any executive department or independent establishment in the executive branch of the Government, including any wholly-owned government corporation.¹⁸⁶

(b) The term "employee" means any officer, enlisted man, or employee of any agency, except such part-time consultants or employees as may be excepted by regulations issued by the heads of the respective agencies.

(c) The term "invention" means any new and useful process, machine, manufacture, or composition of matter which is or may be patentable under the patent laws of the United States.

Criteria for Determination of Rights

SEC. 4. Except as otherwise provided by law, each agency shall determine rights in inventions made by employees of that agency in accordance with the following criteria and in accordance with such regulations as may be issued by the head of such agency in conformance with these criteria:

v. United States, 102 Ct. Cl. 402, was not decided until 1944. Prompt decision, plus encouragement of employee patenting, may substantially benefit the government: "At the present time there are a large number of suits for infringement of patents pending in the Court of Claims in which the amount claimed is something over \$600,000,000. It is well known by the departments that in a number of instances the inventions involved in these suits were made by Government employees, but for one reason or another were not patented. . . ." H.R. Rep. No. 871, 70th Cong., 1st sess., 1 (1928).

¹⁸⁶ Although this comprehensive definition includes agencies such as the Atomic Energy Commission, National Science Foundation, and Tennessee Valley Authority, which at present have special statutory guidance in the field of employee rights, it is believed to be proper. Perhaps the special statutes should be repealed to conform standards of these agencies to government-wide standards. Even if not, the broad definition of "agency" would not create difficulties, because as long as the special statutes stay on the books, they are taken out of the operation of the proposed bill by the qualifying phrase ("except as otherwise provided by law") in section 4.

(a) Title to any invention made by an employee shall be in the employee, subject to no rights in the Government (unless otherwise provided by law), unless the invention was made under circumstances described in (b) or (c) below.

(b) Title to an invention made by an employee shall be in the employee, subject to a nonexclusive, irrevocable, royalty-free, world-wide license to the Government to practice and cause to be practiced the invention by or for the Government, if the invention was made or developed to practical form with a substantial contribution by the Government of time, facilities, equipment, materials, or funds, and the invention was not made under circumstances covered by (c) below.

(c) Title to an invention shall be in the Government, subject to no rights in the employee, if the invention is the direct result of a specific hiring or assignment of duty to make the invention.

(d) Notwithstanding the provisions of (c) above, if the agency concerned finds that the Government is entitled to an assignment of title to the invention but is insufficiently interested in the invention to publish the invention or to seek patent protection, it may determine that domestic and/or foreign title in the invention shall be left in the employee subject to a nonexclusive, irrevocable, royalty-free, world-wide license to the Government to practice and cause to be practiced the invention by or for the Government.

Procedures

SEC. 5. In each case in which rights in an invention are determined under this act, the agency shall prepare a written determination of rights, including a statement of facts and supporting reasons, and shall furnish a copy of the determination to the employee-inventor. The determination shall be administratively final unless the employee appeals to the Attorney General within 45 days from the date the determination is transmitted to him. Upon receipt of an appeal, the Attorney General shall request the views of the agency and shall, after reviewing all available information (by means of hearings if necessary), render a decision sustaining, modifying, or reversing the agency determination. The decision of the Attorney General shall be adminis-

tratively final. In no case shall the fact that an employee exercises any right of appeal under this Act be used against him, for promotion or other purposes.

Judicial Review

SEC. 6. Any employee aggrieved by the final determination of the Attorney General may file a petition for a review of the determination in the court of appeals of the United States for any circuit having jurisdiction over the residence of the inventor, or in the United States Court of Appeals for the District of Columbia, within one year of the date of the determination of the Attorney General.