# U. S. A R M Y TRANSPORTATION RESEARCH COMMAND FORT EUSTIS, VIRGINIA

TREC REPORT 61-5

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MONOGRAPH

ON

RIGHTS IN INTELLECTUAL PROPERTY

January 1961

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## MONOGRAPH ON RIGHTS IN INTELLECTUAL PROPERTY

January 1961

By James W. Colvin, Patent Consultant

### U. S. ARMY TRANSPORTATION RESEARCH COMMAND FORT EUSTIS, VIRGINIA

\* Pan + Ink changes made according to instructions from the author 6 Nor62.

### **FOREWORD**

The preparation of this monograph resulted from a series of informal discussions among staff members of the United States Army Transportation Research Command. These discussions highlighted the need for a simple explanation of the individual rights and responsibilities of Government personnel in regard to patents, inventions, and allied

Mr. James W. Colvin, the author, is well qualified to prepare comments on this subject because of his professional training, personal interest, and day-to-day duties as patent consultant to this command. I feel certain that the preparation of these comments was a true "labor of love", and I know that a great deal of personal time and effort was expended to achieve substantial results.

The comments, by their very nature, are personal in their approach to the problem and are designed primarily for distribution to personnel of the immediate command. However, they will be of equal interest and use to other Government agencies and personnel. We look forward with interest to receiving comments and suggestions relative to the contents of this monograph.

Colonel TC

Deputy Commander for Services

USATRECOM Fort Eustis, Virginia 5 January 1961

### **PREFACE**

The purpose of this monograph is two-fold: (1) to inform the reader of the opportunities and services available to a Government employee interested in obtaining a patent on his invention; of the policies and problems involved; of the employee's rights and his responsibilities to the Government; and of the great need for inventive effort within the Government, and particularly within the research and development field; and (2) to furnish guidance to a Government employee who desires to patent his invention.

This discussion is based on The Patent Law, The Government Procurement Law, The Government Personnel Law, The Trademark Law, The Copyright Law, The Rules of Practice of the U.S. Patent Office, and the pertinent Department of Defense and Department of the Army regulations, circulars, and official memorandums; however, the interpretations of these laws, rules, and regulations and the conclusions based on these publications are those of the writer and do not necessarily represent the official position of the Department of Defense or the Department of the Army.

No attempt has been made to give any specific instruction in the practice of patent law or in contract administration, nor a comprehensive or detailed discussion of the subject matter. More extensive and detailed information on any phase of the subject matter discussed herein may be obtained from the command attorneys or from the library in the Legal Office.

If the preparation and distribution of this monograph generate some genuine and abiding interest in the subject matter, the author will feel that his effort has been well repaid.

JAMES W. COLVIN
Patent Consultant

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### CHAPTER I

### WHAT IS A PATENT?

The term "Letters Patent" (Litterae Patentes) means an open letter or a letter addressed to the public and was technically a letter from the sovereign granting some right or privilege to an individual subject or organization. Such grants were usually for rights of ownership in public lands or for monopolies of one kind or another, such as hunting or trapping in certain areas; shipping on certain streams; importing certain kinds of merchandise; manufacturing certain items, devices, or materials; or mining certain minerals.

These grants or monopolies were particularly prevalent in the Middle Ages, when most governments were completely authoritarian, and extended into the Elizabethan and Jacobean periods of England. They became increasingly unpopular in these periods because they tended to limit the supply of and to increase the cost of commodities and to restrict the opportunities of people to engage in work of their choice. Finally, in 1623, after the courts had ruled against several specific monopolies, the English Parliament passed the famous Statute of Monopolies, which abolished the royal prerogative to grant any kind of monopoly. The Statute, however, contained an important section, namely, Section VI, which is as follows:

"VI. Provided also, and be it declared and enacted: That any declaration before mentioned shall not extend to any letters-patent and grants of privilege, for the term of fourteen years or under, hereinafter to be made, of the sole working or making of any manner of new manufactures, within this realm, to be the true and first inventor and inventors of such manufacturers, which others, at the time of making such letters-patent and grant, shall not use, so as also they be not contrary to the law, nor mischievous to the state, by raising prices of commodities at home, or hurt of trade, or generally inconvenient: The said fourteen years to be accounted from the date of the first letter-patent or grant of such privilege, hereafter to be made; but that the same shall be of such torce as they should be, if this act had never been made and of none other."

Since letters patent protecting new inventions for a limited period of time do not withhold from the public anything that was in the public possession before the grant of the patent, they are not monopolies of the objectional type outlawed by the Statute. On the contrary, they have always been considered desirable and beneficial, since they encourage the improvement of old products and development of new products for the ultimate benefit of the public.

The above quoted section from the Statute of Monopolies established the patent law in England about the time the colonization of America was beginning. It is not known to what extent residents of the British colonies in this country applied for patent grants under the patent laws of England, but it is certain that at the time of the writing of the Constitution of the United States, the framers of the Constitution had the idea of patents for inventions well in mind and fully realized the benefits to society of a suitable patent system.

When the Constitution was finally approved, it contained Article I, Section 8, Clause 8, which states that the Congress shall have the power:

"To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

Under this constitutional authority, the Congress has passed several laws establishing in this country an operative patent system and the necessary facilities for putting the system into effect. The first of these laws was passed in 1790 and the latest in 1952.

A patent is a contract between the Government and an individual inventor, granting to the inventor for a term of seventeen years from the issue date the right to exclude others from making, using, or selling his invention in this country. The only contribution that the Government makes to the inventor, however, is the right to bring suit in the federal courts to enjoin others from infringing his patent. A patent is thus a prohibitive, or negative, instrument. It does not give the patent owner any right to use, make, or sell the invention covered by his patent since this right may be precluded by prior patents of broader scope; it gives him only the right to exclude others from making, importing, using, or selling the particular invention protected by his patent, and the use of the federal courts, including the Supreme Court of the United States, to enforce this right.

As a concrete document, a patent consists of the official grant, bearing the signature of the Commissioner of Patents and the official seal of the United States Patent Office; a written description or specification; a drawing, or set of drawings, if the invention can be conveniently illustrated; and one or more claims that define the limits of the particular invention. The claims are drawn in general terms and determine the scope of the patent, that is, the breadth of the field of equivalents covered under the protection of the patent. The drafting of valuable claims therefore requires highly perfected skill in that particular specialty.

Patents are dominant or subservient, depending on the sequence of issue and on the subject matter and scope of the claims. Thus, if a certain invention is fully disclosed and properly claimed in one

patent and a subsequently lissued patent discloses an invention based on or including the invention of the first patent and including an improvement on the invention of the first patent, the first patent dominates the second patent to the extent of any common subject matter in the claims of the two patents. Althoughtan earlier patent may dominate a later patent, the earlier patent may itself be subservient to one or more still earlier patents.

Since the disclosure of a patent becomes public property at the end of seventeen years and since this subject matter cannot be claimed in any subsequent patent, there are very few, if any, patents at the present time that are not dominated by earlier active patents or limited in scope by prior expired patents.

To illustrate this situation by a classical oversimplification of the legal concepts involved, we will assume that:

Inventor A takes out a patent on a stool and that the broadest claim in this first patent is as follows: "A support comprising a roat, and legs extending from one side of said seat in spaced apart relationship to each other for maintaining said seat a predetermined distance above a floor for supporting a person in a sitting position."

Inventor B then takes out a patent for an Improvement on A's stool in which Inventor B adds to the subject matter of the claims of the patent of A, "the arrangement wherein the legs extend from each corner of a rectangular seat in divergent relationship to each other and rungs extend between the legs to maintain them rigidly in their relative position." It will be seen that, although B has invented a better stool or seat from that originally conceived by A, B cannot manufacture his seat without infringing the broad claim of A's patent and hence would have to reach an agreement with A before he could practice his invention. At the same time A cannot build a seat having the particular leg arrangement devised by B without infringing B's improvement patent.

Inventor C may now patent an invention for putting a back on the stool of either A or B, thus actually devising the first chair. If, as a part of his chair, C uses a seat and legs as patented by A, C's patent will be subservient to the pstent of A even though he has produced a new combination of legs, seat, and back. Moreover, if he uses the leg and rung arrangement as patented by B, his patent would also be subservient to the patent of B and he could not make and sell his chair without either infringing the patent of B or obtaining rights under B's patent.

Inventor D later devises a special replacement seat for the chair of C, the patent for which relates only to the specific seat and does not claim any part of the chair. D's patent would not be subservient to the patents of A, B, and C, and D could make and sell his special seat to the general public without infringing any one of these patents (assuming, of course, that none of these prior patents had claims to the same or a similar seat). However, if another manufacturer were making and selling chairs, the design of which infringed on the prior patents of A, B, or C and if Inventor D were to sell seats to this infringing manufacturer for incorporation into his chairs, D could then be guilty of contributory infringement. Further pursuit of this phase of patent law is, however, believed to be beyond the scope of this paper.

If inventor E adds rockers to C's chair and takes out a patent on this combination after the patents of A, B, and C have all expired and if E does not use D's special seat, E is free to make and sell his rocking chair without infringing any of the prior patents, but he cannot prevent anyone else from building and selling any previously used or patented chair without rockers.

The manner in which these several inventors might be able to exchange rights under their particular patents so that any one of them or all of them could manufacture chairs is more fully covered in Chapter V, entitled "How are Rights in Patents Transferred?"

### CHAPTER II

### WHAT IS A PATENTABLE INVENTION?

Since patents of the character here under discussion are granted only for patentable inventions, it now becomes important to determine, insofar as possible, what actually constitutes a patentable invention. Patents may be obtained for inventions in the following categories:

- 1. New mechanical devices or improvements on existing mechanical devices, including both manufacturing equipment and the products of manufacture.
- 2. New electrical and electronic circuitry and improvements on existing circuits and circuit components.
  - 3. New materials and new compositions of matter.
- 4. New methods or processes of manufacture or construction, or of utilization of existing forces or substances.
  - 5. Certain kinds of botanical plants.
  - 6. New ornamental designs.

The prime requirement for patentability is that the invention be embodied in at least one exemplary form of physical structure, composition of matter, or process steps. An abstraction is not patentable, and the frequent expression "I would like to patent my idea" indicates a fundamental misconception of the operation of the patent laws. Statements such as "I would like to patent my new transmission, " ". . . my new computer, " ". . . my new plastic," or ". . . my new method of welding aluminum" would be in keeping with the fundamental requirements for patentability.

### As stated in Deller's Edition of Walker on Patents:

"An invention is the result of an inventive act; it consists in (1) a mental operation involving the conception of an idea and (2) a physical operation involving the reduction to practice of the inventive concept. An invention is the product of original thought; it is a concept, a thing evolved from the mind. It involves the spontaneous conception or 'happy thought' of some idea not previously present to the mind of the inventor; it is the creation of something which did not exist before. Such is the mental part of the inventive act.

"An invention is not complete by the mere conception of the idea; there must be something more than vague notions of some mode of application of the idea. Such an idea is a mere conjecture; it creates nothing until it is reduced to practice and embodied in tangible form."

Thus, an invention, to be complete, must not only have its conception in the inventor's mind but this conception must be followed up by a reduction to practice. A reduction to practice can be either actual or constructive. An actual reduction to practice would involve the preparation of drawings and either an engineering determination of the operativeness and practicality of the device or the production of a working model that would fully demonstrate the principles of the invention and the operativeness of these principles. The model can, of course, be a "test bed" device and does not have to have the appearance nor all of the features of a finished or a commercial device embodying the invention. For a constructive reduction to practice, the invention must be developed to a point where it is completely understood and can be fully explained. It must then be disclosed in a patent application; the application must include a written description of the invention and explanatory drawings (if the invention is subject to being illustrated by drawings). The filing of the application in the Patent Office then completes the constructive reduction to practice.

It is, therefore, axiomatic that abstract research is not usually productive of anything patentable. Patentable inventions normally occur as the result of product development or product improvement effort, usually the latter.

In addition to abstract concepts or ideas, the following subject matter is arbitrarily placed outside the field of patentable inventions: printed matter, such as tables, charts, diagrams, and scales; methods of transacting business, such as forms, accounting procedures, and sales techniques; discovery of the laws of nature, such as hybridizing or other biological actions; mental processes, such as calculations or operations that are dependent in whole or in part on human judgment; and subject matter involving factors such as dishonesty, immorality, or damage to health that is inimical to the public interest.

It may be noted, however, that entertainment and amusement are included within the limits of patentable subject matter.

The secondary requirement for patentability is the newness or novelty of the invention. No monopoly will be granted on anything that is already known or that is already in the public domain. In fact — to illustrate the extreme of this ruling — if a person of ordinary skill in the particular art or industry to which the invention relates, given the problem to be solved, could take what

is already known and with the routine application of his skill and knowledge devise the alleged invention, a patent on the invention would be denied.

In this connection, the Patent Statute 35 U.S.C. 103 states:

"A patent may not be obtained though the invention is rot identically disclosed or described \* \* \*, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which that subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

Subject matter in the public domain comprises, but is not necessarily limited to, published patents, both domestic and foreign; textbooks, papers and articles published in newspapers and magazines; and any definite information of the previous use or sale of subject matter embodying the invention.

Since the inventor is charged with familiarity with all prior knowledge relating to his invention, an examiner in the Patent Office, in applying the prior art to the claims of an application, or a federal court judge, in applying the prior art to the claims of an application or a patent, may combine references in any reasonable manner to build up an anticipation of the invention as long as he does not use the application or patent itself to teach him how to make the combination. Frequently a judge, exercising a stricter judgment as to patentable novelty or having additional prior art before him, will hold invalid a patent that the Patent Office has allowed.

In the entire history of patent law, no one has been able to devise a positive rule of general application as to what constitutes patentable novelty. However, in considering Patent Office rejections and decisions in actions for patent infringement on a case by case basis, the courts have developed a set of so-called negative rules of patentability to assist them in applying the prior art to the application or patent under consideration. According to these negative rules, it does not involve patentable invention to:

- 1. Change from one material to another.
- 2. Omit an element or component and its function.
- 3. Add an element or component without any material change in function.

- 4. Combine old elements or components into an aggregate, the total function of which is no more than the sum of the individual functions of its parts.
  - 5. Make integral that which was separate or vice versa.
- 6. Make automatic that which was manual unless the automatic mechanism itself involves invention.
  - 7. Reduce in size or weight.
  - 8. Make portable that which was fixed.

The last important criterion of patentability is utility, or usefulness of the invention. The invention must be practical (in that it does not violate any cf the established laws of physics or chemistry), and it must not be merely frivolous or worthless. As a matter of fact, at the present time the usefulness of a patent is measured largely by its actual economic value; that is, the potential market for the invention, the breadth of protection available and hence the amount of royalties or damages that might be collected, the cost of use or manufacture, and the nature of the competition that would be encountered. It is perhaps for this reason that most patents applied for in this present period relate to improvements to products that are already on the market or to processes that are already in use. An exception to this general rule may be the case when an inventor believes he sees an opportunity to make an exorbitant profit by patenting a very expensive item having a market of a very few customers or perhaps only one customer, such as the Government. In such a case, the damages would be set very high and the Government has, in some cases, paid hundreds of thousands of dollars to settle individual infringement claims.

From the theoretical consideration of utility, such devices as perpetual motion machines are held to be useless and unpatentable because they violate established laws of physics; storage battery additives have been held useless and unpatentable because they violate established laws of chemistry; and medicinal preparations are denied patentability until their usefulness as clinically demonstrated.

Normally, inventions are not conceived in a single inspiration or made in a single effort but are developed step by step over a considerable period of time. Some years ago the Supreme Court, in attempting to define "invention", used some very loose and inappropriate language, including the "flash of genius" requirement. In other words, in attempting to distinguish between the production of a person of ordinary skill working in the art and the production that would involve patentable invention, the court implied that the making of an invention required an exceptional inspiration or flash of genius, such as the mental process frequently described by engineers as a "brainstorm". In

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writing the 1952 patent law, the Congress voided this idea and stated, "Patentability shall not be negatived by the manner in which the invention was made".

In practically all cases, an invention comprises the solution of a difficult problem, frequently of long standing, in a particular art or industry through the use of an ingenious new device or a new arrangement or a combination of old elements, components or ingredients, the new device or arrangement taking advantage of obscure principles or possibilities to provide a solution that is simpler and more direct, efficient, and effective than any solution that could have been obtained by routine engineering and development work in the problem area. Thus, in many cases, the invention may be considered as a shortcut, or breakthrough, in the routine attempts to solve a problem confronting the art or industry, it is immaterial that it may have taken a long time and many intermediate steps to reach the final answer. The recondite concept is potentially patentable; the obvious never is.

### CHAPTER III

### WHO MAY APPLY FOR A PATENT?

Under the patent laws of the United States, only the inventor, or the joint inventors, may apply for a patent. In the event that an inventor should die during the time between the making of the invention and the filing of the application, his executor may apply for the patent in the name of the deceased inventor; in the case of an insane inventor, the application may be filed by his guardian, also in the inventor's name. Two recent laws, namely, the Atomic Energy Commission (AEC) Act and the National Aeronautical and Space Administration (NASA) Act, allow exceptions to this general rule; for example, the AEC or the NASA can, in certain circumstances, have the patent issued directly to the Commissioner or to the Administrator. Even in these cases, however, the application still has to be filed in the name of the inventor(s).

The inventor who signs the application must be the individual who actually made the invention. A person who merely provides financial backing for the development and patenting of an invention is not an inventor and his name does not appear on the application for patent. If an inventor submits his invention to a draftsman or to a technician for the preparation of illustrative drawings, technological analysis, or engineering design, he is still the sole inventor provided the draftsman or technician is not required to exceed routine design or analysis in illustrating and describing the invention.c Conversely, if the originator of a project has merely a broad idea or concept of how a certain thing could be done or how a problem could be solved, but has not thought of any practical method or mechanism whereby the objective could be accomplished, and if he turns this broad idea over to someone else to develop the practical aspects of his idea, the person who develops the practical aspects rather than the originator of the broad idea becomes the inventor. Most cases involving questions of inventorship fall somewhere between these two clear-cut limits; someone, usually the patent attorney, then has to develop the complete state of the facts and make a decision as to which of two or more claimants should be given credit for the invention.

Under conditions that existed some years ago, nearly all inventions were made by sole inventors. The so-called "attic inventor" of the preceding era was not only an individual but usually a rank individualist who desired little assistance and no interference with his activities. However, with the development of modern research and engineering facilities, this condition has changed to the extent that today a large proportion of important inventions are made by research teams rather than by individuals, and many applications today are filed in the names of two or more joint inventors. In these cases, each inventor must have actually contributed more than

mere routine or professional assistance to the inventive concept and its development. As an example, a joint invention may be born at a conference table where three or four technical or professional persons are discussing a troublesome problem and the possible solutions to it. One conferee may suggest a tentative solution, and another of the conferees may object to some part of the proposed solution and suggest a change to that part. Still another may show that the proposed solution is not complete and may suggest additional ideas to complete the solution. Thus, a tentative theoretical solution to the problem may be finally worked out at the conference table, and then the individuals involved may further cooperate to analyze, test, and develop the solution, probably making a number of changes and modifications during this procedure, until the final answer is obtained in the form of working drawings, a working model, a process, a composition of matter, or a complete patent application. In cases such as these, all of the joint inventors would sign the patent application.

In a case of doubt as to whether an individual actually is a joint inventor, his name should be added to the application. If it is later determined that he was not a joint inventor, his name can be removed from the application. On the other hand, if the name of the individual If a joint later determined that he was a joint inventor is inadverting that he was a joint inventor, his name can not be added to the application after the application has been filed. Accordingly, a patent-issuing on the based by filing a new early.

No restrictions as to age, race, sex, or nationality are applied to applicants for letters patent. Any subject or citizen of any foreign country may file an application for letters patent of the United States provided he complies with all requirements. A citizen or subject of any of the countries subscribing to the treaty for the protection of intellectual property may carry the effective filing date of his application back to the filing date of a corresponding application in his own country; however, if a patent on the invention has already been granted in his own country, this will constitute a bar to the granting of a United States patent.

### CHAPTER IV

### HOW IS A PATENT OBTAINED?

The major prerequisite for obtaining a patent is the filing of a patent application in the Patent Office. A patent application normally comprises seven parts as follows:

- 1. Petition
- 2. Specification
- 3. Drawings
- 4. Claims
- 5. Oath
- 6. Power of Attorney
- 7. Filing Fee

The <u>petition</u> is a legal request to the Commissioner of Patents to grant a patent on the invention disclosed in the application.

The specification usually contains three parts: .... (1) a statement of the objects of the invention, (2) a general description of the figures of the accompanying drawing(s), and (3) a detailed description of the invention, as illustrated in the drawings. The statement of objects sets forth, usually in brief, general terms, the state or condition of the art or industry at the time the invention was made and the objectives of the invention with relation to the existing conditions. It usually defines the problem that confronted the inventor and sets forth the advantages of the solution to the problem provided by the particular invention. The general description of the drawing figures merely describes the different views of the invention as illustrated in the drawings, and the detailed description gives a complete account of all of the elements of the form of the invention shown in the drawings and their relationship to each other. The specification normally states, however, that the scope of patent protection sought is in no way limited to the particular example illustrated and described.

The <u>drawings</u> must illustrate at least one example of a physical embodiment of the invention in sufficient detail to provide a thorough understanding of the invention.

The claims define the invention in general, abstract terms. The word "means", or some equivalent thereof, is used to denominate various elements and components rather than using specific part names, such as "gears", "shafts", "screws", or "bolts". The Ratent Law of 1952 specifically states that the word "means" followed by a statement of the function of the mechanism or structure denominated thereby is an entirely adequate description of such element or structure for the purpose of the claims. The

claims must conform to the specification and cannot include elements, materials, or components that are not described in the specification nor can they define specifically different combinations of such elements, components, or materials than the combinations described in the specification. Any one claim, however, does not have to include all of the elements, components, or materials mentioned in the specification if an operative combination can be defined with fewer than those mentioned.

The <u>oath</u> must be executed before a notary public in this country or validated by a consular officer in foreign countries and must state that the person signing the oath believes himself to be the first, original, and sole (or joint) inventor of the invention described in the specification.

Most patent applications are prepared and filed by patent attorneys and usually include a <u>power of attorney</u> granted by the applicant to the attorney for filing and prosecuting the application. The power of attorney is usually revokable at the option of the applicant.

The <u>filing fee</u> is \$30 and must be remitted along with the application in order to obtain a filing date. When patent applications are filed by the Government on a "no fee" basis, the filing fee is not required; in such cases, however, the applicant grants to the Government a free license to practice the invention. (This subject is discussed in more detail in Chapter VIII.)

After the complete application is filed in the Patent Office, the Patent Office issues a receipt, which gives the filing date and serial number of the application. This receipt is usually issued within two or three weeks after the application has been filed and constitutes an official identification of the application and the invention disclosed therein.

After the application has been filed in the Patent Office, it is assigned to the Patent Office Examining Division having cognizance of the art to which the invention relates. In due course, an examiner in that division makes an initial action on the application. In order to do this, the examiner searches through the pertinent classes of issued patents and selects those patents that he believes anticipate, or most nearly anticipate, the claims of the application. The examiner may also refer to an unofficial digest of foreign patents, publications, text books, and other published material, since any of this material can be used to anticipate the claims of the application. After collecting his reference material, the examiner writes a letter to the attorney (or to the applicant if there is no attorney), in which he applies the reference material to the claims of the application; rejects any claims that, in his opinion, "read on" or are anticipated by the reference material; or allows claims that in his opinion are not anticipated. In making a rejection, the examiner is at liberty to combine various items of the reference material to produce an anticipation of the invention abstractly defined in the claims. He then sets forth his reasons for believing that the claims do not define anything patentably new over what is shown in the reference material. The reference material is clearly cited in the office action so that the attorney can obtain copies for study in preparing a reply to the examiner's action. Within six months from the receipt of the examiner's action, the attorney (or the applicant) prepares a letter, called an amendment, in which he points out wherein he disagrees with the examiner's conclusions that the claims are anticipated or in which he modifies the claims and points out wherein the modified claims define new and patentable subject matter that is not disclosed in the reference material. This exchange of correspondence continues until all of the claims have been allowed or until an issue is reached between the attorney and the examiner and the examiner prepares and forwards a Final Rejection. The Final Rejection concludes the prosecution of the application before the primary examiner of the examining division in the Patent Office. The attorney must then decide whether (1) to accept whatever claims may have been allowed in the apilication up to that time and have the patent issue on that basis; (2) to abandon the application if no claims have been allowed; or (3) to appeal to the Patent Office Board of Appeals for a reconsideration at a higher level. If the attorney (or applicant) appeals to the Board of Appeals and is dissatisfied with the decision of the board, he may then appeal to the federal courts.

In appealing to the federal courts, the attorney has two courses open to him: appeal to the United States Court of Customs and Patent Appeals, in which case he must accept the decision of that court as final, since no appeal lies from such a decision, or he may appeal to the United States District Cour for the District of Columbia, in which case an appellate columbia see all the way to the Supreme Court would be open to him.

In some cases, two or more different inventors file applications on substantially the same invention within a short period of time. An interference may be declared between any copending applications or between an application and a patent. An interference between an application and a patent will be declared only if the inventor in the application can prove that the dates of conception and reduction to practice of his invention are earlier than the filing date of the application on which the patent was granted. After an interference has been declared by the examining division, the matter is referred to the Patent Office Board of Interference Examiners for a determination as to which of the several inventors is actually the first inventor of the disputed subject matter. An appeal from a decision of the Board of Interference Examiners can be taken to the courts through either of the two courses indicated in the preceding paragraph. The technicalities of interference prosecution are extremely complex and are believed to be beyond the scope of this paper.

In a case where a person knows of the pendency of a patent application and also knows that the subject matter of the invention disclosed in the application was in public use more than one year before the filing of the application, such person may petition the Commissioner of Patents for a hearing and may then present evidence of the alleged public use. If the decision as to the public use is positive, it will not prevent the issue of the patent by the Patent Office as a disclosure, but the patent may be issued with annotations limiting or invalidating the claims.

### CHAPTER V

### HOW ARE RIGHTS IN PATENTS TRANSFERRED?

Patent rights are legally considered to be in the category of personal property, and such rights may be transferred by contract in the same manner as other personal property. Such contracts are usually drawn in the general form of a lease or a sale of the patent rights. A lease of patent rights is usually accomplished by an instrument known as a License Agreement; the license may be either exclusive or nonexclusive. When the owner of patent rights, the licensor, grants an exclusive license, the licensee then acquires all rights in the patent except the title, in accordance with the terms of the License Agreement. When the license is nonexclusive, the licensor may license others in addition to the licensee of the first nonexclusive License Agreement. In either case, the rights granted by the License Agreement may be limited as to time of duration, area in which they are effective, sections of industry in which they can or cannot be used; or as to certain organizations, such as the Government, against which the license is not effective. Compensation for the granting of the license may be made in various ways; for example, by the payment of a fixed price; the payment of royalties on a fixed or a sliding-scale basis; the granting of cross licenses under patents owned by the licensee; or an agreement to purchase material or supplies from the licensor. A royalty-bearing License Agreement usually includes a minimum royalty provision under which the license rights granted by the agreement will revert to the licensor in the event the minimum royalty agreed upon is not paid.

An assignment usually conveys the entire right, title, and interest in the patent from the assignor to the assignee. Payment for an assignment may be made in any of the ways in which payment for other personal property is made. Although the payment is usually a fixed sum paid by the assignee to the assignor, it may be extended over a period of months or years; it may be paid in the same manner as royalties under a License Agreement; or something other than money may be transferred to the assignor for his patent rights. In some cases, a patent owner has been given a lucrative position in a manufacturing company in exchange for the assignment of his patent rights to the company. Patent rights may also be hypothecated as collateral or other kind of security.

Patent rights may also be transferred by exchange of cross-license agreements, by assignment to a holding company without direct compensation, or as the result of purchase agreements or other contracts that are not primarily for the acquisition of patent rights. For example, Government contractors are required to grant to the Government free and irrevocable license rights under patents on all inventions either first conceived or first reduced to practice in the performance of

Government research and development contracts. The Atomic Energy Commission and National Aeronautical and Space Administration require their contractors to assign such patents or inventions to the Government unless the requirement is waived.

### CHAPTER VI

### HOW ARE PATENTS USED IN INDUSTRY?

In the broadest sense, the use of patents may be said to be either defensive or aggressive. A number of manufacturing companies, particularly the larger companies, own or control large numbers of patents but rarely if ever bring suit for patent infringement. A past president of the General Electric Company is said to have remarked, "If anyone can prove that he can manufacture our products better and cheaper than we can, and sell them more effectively, we will buy him out. The only need we have for patent protection is to prevent outsiders from obtaining patents on our own or similar inventions and suing us for infringement."

The principal defensive use of patents is their serving as references or anticipations so that others cannot obtain patents on the same or closely similar inventions. This use of patents minimizes the effects of competition and relies on the theory that the patent owner can manufacture and sell against competition in volume and at prices that will enable him to recover his development costs without the exercise of his patent rights. However, only a few companies are in this fortunate situation; most companies have to use their patents aggressively, even punitively, in order to maintain their commercial positions.

One of the principal uses of patents in industry is to protect the investment required to develop a new product or to improve materially an old product. If a manufacturer has sufficient patent protection on his product, he can quiet competition to the extent that a competitor cannot arbitrarily imitate and commercialize the product without incurring development costs. By enforcing his patent rights, the developer of the product can maintain his market and his price structure at a level that will enable him at least to recover his development costs within a reasonable time. If a competitor does infringe the patents by copying or imitating the product, the owner of the patents can have the competitor enjoined from further manufacture and sale of the patented product and can make him account and pay for any profits earned by the infringing operation.

A further aggressive use of patents is the licensing of others, usually in some territory in which the licensee would not be in direct competition with the patent owner. Many manufacturing companies are deriving a considerable portion of their income from royalties paid to them under patent licensing agreements. A few companies obtain the greater part of their income in this way.

In order to have a patent program which covers their commercial products as completely as possible, manufacturers not only obtain patents on the worthwhile inventions of their employees but also frequently enter into

license or assignment agreements withoutside inventors to obtain additional protection. Sometimes a manufacturer will acquire rights under an outside patent in order to begin manufacture of the subject matter covered by the patent; it is usually in these cases that the outside or individual inventor is able to realize a return on his patent activities. In order to have a patent of any material value, an outside or independent inventor should have a fairly basic patent. That is, he should have broad protection on a new article of manufacture or composition of matter or on a new arrangement or combination. If his patent is only a narrow improvement patent that is not too difficult to avoid or "design around", it is not likely that any manufacturer will be interested in paying any substantial amount for rights under it. A few typical inventions of independent inventors that have been sold to manufacturers are: a mechanism for automatically raising and lowering the tops of convertible automobiles, a mechanism for automatically tying wire strands around bales of hay or straw, an electrically actuated tin can opener, an electronic tube heated by alternating current, and the "sealed-beam" automobile headlight.

While a United States patent will protect an invention only within the territorial limits of the United States and its possessions, such a patent can be used by a manufacturer to prohibit the importation of infringing items from foreign countries. Also, many United States manufacturers today carry a large docket of foreign patents to protect their overseas operations.

In order to render an infringer liable for damages, the infringer must be "put on notice" as to the patent rights. This may be done by letter but is usually accomplished by placing a notice on the article of manufacture itself.

### CHAPTER VII

### WHAT IS PATENT INFRINGEMENT?

As we stated earlier, it is the claims of a patent, and the claims only, that define the scope of protection provided by the patent. Metaphorically, the claims define the exact field covered by the patent, those areas outside of the limits stated in the claims being either in the public domain or under the protection of other patents. Under the system of dominant and subservient patents, the same field may be covered in one way or another by more than one patent. It is assumed in this discussion of infringement, however, that the owner of the infringed patent is not immediately concerned with himself infringing any patents that may be dominant to his own.

The basic test of infringement is a technical reading of the claims of the patent against the supposedly infringing structure, composition of matter, or process. The first criterion of the test is to determine that every element or component of structure, every material, and every process step set forth in any claim of the patent are present in the infringing structure, composition, or process. As the result of this analysis, it may be found that one or more of the patent claims appears to be infringed while other claims are not infringed because they contain a component, material, or process step that is not present in the infringing subject matter.

Deciding whether or not a claim is infringed is commonly referred to as determining whether the claim "reads on" the offending structure, composition of matter, or process. If a claim includes one or more elements, components, materials, or process steps that are not included in the offending structure, composition, or process, the claim does not "read on" the supposedly infringing subject matter and the claim is therefore not infringed. However, other claims of the patent may "read on" the subject matter and, therefore, be infringed.

As has been previously stated, the claims are drawn in general, abstract language and hence, in the analytical application of the claims to the offending subject matter, the terms of the claims must be properly interpreted. One rule is that the claims must be interpreted in the light of the specification and drawings of the patent of which they are a part. The claim language is also interpreted on the basis of the commonly raccepted or dictionary definitions of the terms used and on the basis of proper definitions of the elements, components, ingredients, or steps of the offending structure, composition, or process. Regardless of these problems of interpretation, the infringement of a patent claim is held to be a matter of fact, and on this theory a determination of infringement by a trial court is usually not upset by appellate courts unless the decision of the trial court can be proved to be clearly erroneous.

Infringement of a patent is regarded by the courts as analogous to a trespass on private property. As a matter of fact, infringement actions in early English common law were brought by means of writs referred to as "trespass on the case". By statutory provision, actions are brought in this country in the federal courts as "actions in equity", since the request for relief nearly always includes a request for an injunction against continued infringement and other relief, including an accounting of profits and assessment of damages.

The usual defenses to an action for infringement are: the allegedly infringing structure, composition, or process does not actually infringe any of the claims of the patent; the patent is invalid and was erroneously issued by the Patent Office; and, the action being in equity, the plaintiff is disabled because of some illegal or inequitable action on his part to maintain the suit in equity.

A factor frequently thrown into an infringement defense in recent times is that the plaintiff patent owner has used his patents in violation of the anti-trust laws. Another defense is that the plaintiff patent owner has used the patents to obtain advantages not included in the patent rights; for example, forcing a licensee under the patent to purchase unpatentable material from the patent owner as a condition for granting a license. A fairly recent statute provides that anyone (person or legal entity) threatened with a patent infringement suit may immediately file a petition in the proper federal court for a declaratory judgment as to the infringement and validity of the patent in question.

### CHAPTER VIII

### WHAT ARE THE PATENT RIGHTS OF GOVERNMENT EMPLOYEES?

It is the policy of the Government, and particularly the policy of the Department of Defense, to encourage Government employees to make inventions and to submit their inventive ideas for processing in order to obtain patents. Until 1950, there was only incidental uniformity in the attitudes of the different Government departments and agencies as to the treatment of the rights of Government employees in regard to their inventions. In 1947, the President instructed the Attorney General to make a complete study of this situation. On the basis of the Attorney General's report, the President issued Executive Order 10096, dated January 23, 1950. This order applied to all Government departments and agencies and set forth the general rules for the determination of the rights of Government employee inventors in regard to their inventions. The most important results of this order were to establish the Government Patents Board, the purpose of which was to investigate the circumstances in each case where a patent was filed by the Government on an invention of a Government employee, and to make a decision as to the patent rights of the employee. Although the rules set forth in the Executive Order appear to be biased in favor of the Government's obtaining all of the rights in such patents, the determinations of the successive chairmen of the Government Patents Board have allowed ownership of the commercial rights to the patents to remain with the inventors whenever feasible. The decisions of the chairmen of the Government Patents Board have actually made the Government's attitude toward the rights of Government employees in their inventions more liberal that the attitude of most manufacturing concerns toward the patent rights of their employees.

Executive Order 10096 has been implemented in the Army by Army Regulation 825-20.

This AR contains the following statement regarding the filing of no-fee applications on the inventions of Government employees:

- "7. Title to patents in inventions made by employees of Department of the Army. a. The Government may require assignment of title to inventions made by employees of the Department of the Army, and to any patents that may be issued on such inventions if any of the following conditions are present:
  - "(1) If the invention was made during working hours; or
- "(2) If the invention was made 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

# The Government Patents Board has now been abolished and its work is accomplished by the Assistant Secretary of Commerce 22 for Science and Technology.

"(3) If the invention bears a direct relation to or was made in consequence of the official duties of the inventor."

Part b under this paragraph explains how the preceding conditions are to be interpreted and limited in determining the disposition of patent rights between the inventor and the Government. When the Government files and prosecutes the patent application on a no-fee basis and does not take an assignment, the Government has a free, nonexclusive, and irrevocable license in the invention or any patent issuing thereon.

Except for the license automatically granted for the no-fee filing and prosecution of the application, as explained earlier, the inventor has a limited amount of freedom of choice as to the disposition of his patent rights. He may request that the rights be determined by the Government Patents Board, or he may voluntarily assign the title to the invention to the Government.

In addition to the general policy permitting the inventor to retain the title and the commercial rights to his invention, the Army has provided other rewards to encourage Army employees a make the additional effort required to disclose their inventive ideas properly. Army Regulation 672-301 in Change 2, dated March 3, 1958, provides that civilian employees will be elegible for an initial award of \$50 upon the filing of an application for patent and an additional award of \$100 when a patent covering the invention issues. It is also customary in the Army to make a formal presentation of these awards and to place a letter of commendation in the 201 file of the employee receiving the award. Up to the present time, military personnel are not eligible for the cash awards but do receive credit for their efforts in the form of appropriate honors, medals, and commendations.

In order to carry out the provisions of the regulation, it is necessary for an inventor to sign an Interim License Agreement to authorize the preparation of the aplication; to complete and execute a Questionnaire for Determination of Inventor's Rights for submission to the chairman of the Government Patents Board; and, subsequently, to execute a permanent license agreement or an assignment depending upon the decision of the chairman of the Government Patents Board.

### CHAPTER IX

### WHAT ACTION SHOULD AN EMPLOYEE TAKE TO INSURE

### PATENT PROTECTION OF HIS INVENTION?

Army Regulation 70-12 covers in considerable detail the distribution and maintenance of Army Research and Development Laboratory Notebooks; this AR is extensively quoted since it furnishes the answer to a part of the title question:

- "1. Purpose and application. These regulations govern the use of Army Research and Development Laboratory Notebooks. The Commanding Officer of each Army Research and Development Laboratory will insure that every research investigation is properly recorded in a research and development laboratory notebook. While it is intended that maximum command flexibility be maintained at the laboratory level, it is considered necessary to prescribe certain minimum requirements.
- "2. Objectives. The objectives of this regulation are to-
- "a. Record engineering and scientific data obtained in various research projects being carried on in Army installations.
  - "b. Preserve such data as a technical reference source.
- "c. Provide legal evidence of the data\* and completeness of conception of inventions. This evidence is valuable in interference actions in the U. S. Patent Office to determine who is the first inventor, and in patent infringement suits brought against the Government.

\* \* \* \* \* \* \* \* \* \* \*

- "4. Maintenance. In order to fulfill the objectives of paragraph 2, laboratory notebooks will be maintained in accordance with recognized laboratory practice, and the following procedures will be followed so far as practicable:
- "a. Entries should be made daily or weekly, and should be brief, concise, but yet include all pertinent facts. Where completeness or extensive remarks are required, reports or memorandums may be utilized for such purposes. The notebook entry may make references to such reports or memorandums.
- "b. All entries, except graphs and sketches, will be made in ink. No erasures will be made, but mistakes and changes will be indicated by crossing out. The crossing out will be initialed.

\*so in original; should read date.

- "c. Each sheet will be signed and dated by the person entering the data and each sheet containing potentially patentable material, including any supplementary reports or memorandums, will, in addition, be signed by two witnesses who understand the entry. More than one entry may be made per sheet, provided such entry is dated and signed.
- "d. Original pages will not be removed from an Army Research and Development Laboratory Nocebook. Carbon copies, if desired, may be made on interleaved second sheets, which may be removed from the notebook.
- "e. Entries which possibly contain patentable subject matter will be processed in accordance with paragraph 10, AR 825-20."

### Paragraph 10 of AR 825-20 states:

"10. Procedure. - a. Direct submission by inventor. - For the purpose of obtaining patents, all persons in the military service and civilian employees of the Department of the Army may submit their unpatented inventions direct to the head of the agency or component of the Department of the Army to which the invention relates. If that agency or component does not maintain a patent section, the head of the agency or component will transmit the unpatented invention to "he Judge Advocate General, if further action is deemed necessary."

Personnel of the U. S. Army Transportation Research Command will submit disclosures of their inventions to the command patent attorney.

Since maintenance of the laboratory notebooks is required by regulations, at least some reference to each invention should be made in the notebooks. However, the patent attorney will accept other media, such as freehand sketches with verbal explanations, prints of working drawings in appropriate cases, models, and photographs.

If the following suggestions are adopted, the processing of inventive suggestions of Government personnel can be expedited:

Select material in accordance with the prescribed criteria, and set forth the pertinent facts and opinions substantiating patentable novelty including a mention of the nearest previous development.

Delay submission of the material until a step is reached at which the design appears to be sufficiently developed for use, except for minor changes. However, this delay should not be extended sufficiently to give an outsider, such as a contractor, an opportunity to file an earlier application on the invention.

Obtain some authoritative information or opinion as to the probable use of the invention by the Government.

### CHAPTER X

### SHOULD THE GOVERNMENT OBTAIN PATENT RIGHTS?

Two completely divergent schools of thought exist on the advisability of the Government's obtaining patent rights. One school believes that the Government should acquire ownership of all inventions of its employees and contractors; and the other, that the Government should own no patent rights whatsoever. The Atomic Energy Commission and National Aeronautical and Space Agency Acts are illustrative of the idea that the Government should acquire ownership of the patent rights of its employees and contractors. The majority of the patent bar of the country advocates the second theory. The Department of Defense takes an intermediate position between these extreme positions.

The proponents of the Government ownership theory contend that the Government, having paid for the mental effort of Government or contractor personnel through the payment of salaries or contract reimbursement, is entitled to all of the products of that effort during the period for which payment is made. The proponents of the theory that the Government should not acquire patents contend that acquisition of patent rights from contractors and employees would completely stifle the inspirational or extraordinary effort required to achieve breakthroughs that would amount to patentable inventions and that the Government would receive only ordinary or routine effort that would fail to fulfill the objectives for which the effort was authorized. The proponents of the theory that the Government should not own any patent rights further contend that since the only purpose of Government ownership of patent rights is purely defensive, this purpose can be accomplished by publications, other than patents, of the subject matter on which patents might be obtained.

If the Government does not exercise its right to obtain patents and rights under patents, then outsiders will obtain patents on the subject matter and the Government could be liable for patent infringement suits. Publication of the subject matter does not provide adequate protection, since a patent application can be filed on the subject matter at any time within one year from the date of the publication; a publication cannot be used as a basis for setting up an interference proceeding to determine the first inventor. It would therefore be entirely practicable for outsiders to obtain patents on Government-financed inventions, even though the Government published, or caused to be published, the subject matter of the inventions in ordinary publication media.

Neither extreme position is desirable; the intermediate position followed by the Department of Defense produces the best results. By assuming this intermediate position, the Government receives all of the defensive protection: itemeeds Transcriptions

produced at Government expense; at the same time, enough incentive is offered to Government employees and Government contractors to encourage their putting forth the extraordinary effort required to make valuable inventions.

Under this middle-of-the-road policy, however, it is important that the Government obtain all of the patent rights to which it is entitled so that it will not be subjected to the expense of settling claims or paying damages on patent infringement suits that would not have been brought if the Government's rights had been properly secured. Claims for patent infringement pending in the Court of Claims amount to hundreds of millions of dollars. Alarm though this amount would be greatly reduced by the action of the court in disallowing some of the claims and minimizing others, nevertheless Government employees have an important responsibility for insuring that the Government obtains all of the patent rights to which it is legally entitled.

### CHAPTER XI

# WHAT ARE THE RESPONSIBILITIES OF GOVERNMENT EMPLOYEES

#### IN OBTAINING PATENT RIGHTS FOR THE GOVERNMENT?

Part I of Section IX of the Armed Services Procurement Regulation (ASPR) deals specifically with the various situations relating to rights in patents and inventions existing between the Government and Government contractors. The ASPR sets forth a Patent Rights clause that is incorporated into every research and development contract and that provides for the Government's having a free and irrevocable license for Government purposes under every subject invention on which the contractor files an application for patent. A subject invention is one that was first conceived, or first actually reduced to practice by being embodied in a physical structure or composition, during the performance of the contract. The clause provides that the contractor must report all such inventions to the contracting officer. On those inventions on which he files patent applications, he must provide reasonably complete disclosures, and must sign documents confirmatory of the granting of the license to the Government. On those subject inventions on which the contractor elects not to file applications (or elects not to continue the prosecution of an application that he has filed), the clause provides that, at the election of the Government, he must assign the entire right, title, and interest in such inventions to the Government and must cooperate in all necessary ways with the Government in the filing of applications for patent by the Government. In these latter cases, the contractor is required to provide the Government with invention disclosures that shall be adequate for the preparation of patent applications by the Government.

The Patent Rights clause provides for the withholding of contract funds in a limited amount to insure compliance with the requirements of the clause pertaining to subject inventions. It also requires the prime contractor to obtain from his subcontractors similar patent rights agreements for the benefit of the Government, but it does not authorize the prime contractor to withhold any funds from the subcontractors to insure compliance with the Patent Rights clause.

Since the Government is legally entitled to patent license rights under all inventions conceived or first reduced to practice in the performance of research and development contracts, Government personnel dealing with such contracts should be alert at all times in order to detect such inventions and should keep the cognizant patent personnel fully advised. Although the Patent Rights clause of the contract requires the contractor to furnish both interim and final subject invention reports, contractors are not always aware of the occurrence of inventions. Many contractors do not have adequate systems for discovering and reporting such inventions. This applies to large as well as small contractors. It is therefore an important responsibility of the Government employee, such as the project engineer, to detect and report any developments under the contract that he believes may involve patentable inventions.

It frequently happens that inventions made under research and development contracts are the result of the joint efforts of Government employees and contractor employees working on the contract. The patent application on these joint inventions could be filed either by the Government for the Government employee and the other joint inventors or by the contractor for the contractor employee and the Government personnel. In either case, it is possible that the Government employee would be required to assign his undivided interest in the application, and any patent issuing thereon, to the Government under the provisions of Executive Order 10096 and AR 825-20 and that the contractor employee would be required to assign his undivided interest to his employer. In other instances, the Government may require only a free license from its employee. In any such case, the complete set of facts should be brought to the attention of the cognizant patent personnel for appropriate action. If the Government has an assignment or license from its own employee who is one of the joint inventors, this is all of the protection that the Government really requires, and a license or assignment from the contractor is, in effect, merely accumulative.

### CHAPTER XII

## WHAT ARE A GOVERNMENT CONTRACTOR'S RIGHTS IN HIS INVENTION?

At the time a research and development contract is awarded, the contractor may have a number of patents and patent applications that are directed to the same subject matter as the subject matter of the contract. The inventions covered by these patents or applications are referred to as "background inventions" as distinguished from the subject or foreground inventions of Chapter XI. The Government acquires no rights by virtue of the research and develorment contract under any of these background inventions that have already been reduced to practice by the contractor If the Government does require rights under any such patents, separate negotiations may be conducted with the contractor to reach an agreement. The regulations require that these negotiations be entirely separate from the contract negotiations although the result, if reached prior to execution of the contract, may be stated ther in. The real problem area in this situation is constituted by those cases in which there is doubt concerning whether or not the background invention was actually reduced to practice prior to the work under the contract. If it is clear that the invention was not reduced to practice, then the Government automatically obtains license rights under the invention, since it is then a "Subject Invention" as defined in ASPR. However, when the contractor claims a prior reduction to practice, a complete legal investigation may be necessary to determine whether the Government is or is not entitled to license rights. The subject "reduction to practice" is extemely technical and complicated, and problems pertaining thereto should be handled only by personnel cognizant of patent law.

In some instances, a contractor may request the contracting officer to exclude certain of the contractor's previous inventions from the licensing requirements of the Patent Rights clause of the contract even though such inventions have not previously been actually reduced to practice or the reduction to practice is doubtful. The Armed Services Procurement Regulation: lists four special circumstances under which the contracting officer may exclude such inventions by a deviation from the Patent Rights Clause of the contract.

ASPR 9-107.2 provides that such inventions may be excluded if:

- "(i) the contractor has expended sums in developing the invention (\* \* \*) which are relatively large in comparison with the amount of the proposed contract \* \* \*;
- "(ii) the practicability of such an invention has been established as by engineering design;

"(iii) the invention covers a basic material and it is not the purpose of the contract to develop such material; or

"(iv) the invention is useful only for military purposes and the contractor does not have facilities for furnishing the item to the Government in production quantities."

If the contracting officer assents to the contractor's request, the patents or patent applications disclosing the inventions to be excluded must be listed in the schedule of the contract. No invention shall be so listed unless it can be definitely identified by an issued patent or by a patent application that has been filed in the Patent Office.

No patent rights are ordinarily obtained with the purchase of commercial items by procurement or supply contracts. If it is later determined that patent rights are required by the Government for the standardization or reprocurement of such items, it is necessary to conduct separate negotiations for the purchase of such rights. A supply or procurement contract for items that have been previously sold or offered for sale to the public does, however, contain a patent indemnification clause; therein the contractor agrees to indemnify the Government for any expenditures caused the Government because of the infringement by the contractor of a valid, outstanding patent. Thus, in the procurement of items that are commercially available, the burden of avoiding patent infringement is on the seller, or contractor, and not on the Government.

In some cases, however (as in research and development contracts or where the Government believes it already has license rights under a patent), the Government may, by inserting an Authorization and Consent clause in the contract, authorize the contractor to infringe a particular patent, or particular patents, in the performance of the contract at the risk of the Government. In still other cases, both the Authorization and Consent clause and the Patent Infringement Indemnity clause may be inserted in the same contract; thereby, the contractor would reimburse the Government for any damages the Government was required to pay as a result of an action against the Government in the Court of Claims. Whenever the Authorization and Consent clause is included, the only recourse of a patent owner is an action against the Government in the Court of Claims for recovery of his entire compensation. He cannot sue for an injunction against the Government contractor.

When the Government requires rights under existing patents or applications to facilitate the competitive procurement of an item and to avoid sole source procurement, the need can be satisfied if the patent owner has licensed, or agrees to license, other manufacturers capable of producing the item; this method of avoiding sole source procurement by licensing potential competitors, rather than granting licenses to the Government, is preferred by the Department of Defense.

### CHAPTER XIII

## WHAT PROCEDURE IS FOLLOWED IN HANDLING

### PATENT APPLICATIONS FOR CLASSIFIED INVENTIONS?

The Patent Office has set up a complete set of regulations for dealing with patent applications, the publication of which would be undesirable from the standpoint of national defense. These regulations are established under the authority of Sections 6 and 188, Title 35, United States Code, and of Part 5, Title 37, of the Code of Federal Regulations. When a Patent Office examiner discovers an application containing subject matter, the disclosure of which might be detrimental to the national security, the appropriate defense agency is notified, and the application is made available to that agency for examination or inspection. The inspection must be made at the Patent Office, and the persons making the inspection are required to sign an acknowledgment that information obtained from the inspection will be used for no other purpose than in the administration of the security regulations.

If an application is found to contain subject matter, the disclosure of which would be detrimental to the national security, the Patent Office issues a secrecy order directed to the applicant, his successors, any and all assignees, and their legal representatives, notifying the persons to whom the order is directed to maintain the subject matter in strict secrecy until the secrecy order is withdrawn. While an application is under secrecy order, its prosecution in the Patent Office continues; however, any action (such as an appeal from a final rejection, the declaration of an interference, or the allowance of the application) which would require disclosure outside of the Patent Office is held in abeyance as long as the secrecy order remains in force. Thus, no patent can issue on an application that is under a secrecy order.

The law provides for compensating an applicant whose patent is delayed because his application was placed under a secrecy order, such compensation to be first tendered administratively by the defense agency that caused the secrecy order to be placed on the application. If the applicant is not satisfied with the administrative offer, he has a right to appeal. No foreign applications corresponding to a United States application may be filed as long as the United States application is under a secrecy order.

### CHAPTER XIV

# WHAT ARE FOREIGN PATENTS?

Foreign patents are patents issued by countries foreign to the United States. The relatively few countries that grant patent rights that are in any way equivalent to rights obtained by United States patentees are Canada, Great Britian, France, Italy, Germany, Netherlands, Switzerland, Sweden, and Australia. In many of these countries, however, the rights granted are either indefinite or difficult to enforce, and the various taxes are so high that United States citizens do not normally take out patents. The countries of most interest to Americans are those countries in which there is the greatest American overseas industry, such as West Germany, Great Britian, France, and Italy. Efforts have been made to restore the Japanese patent system, and it is believed that some Japanese patents are now being issued to American citizens; however, this situation is still indefinite, and it is understood that the value of Japanese patents is not definitely known. A great many countries (such as Mexico, Cuba, and most of the South American countries) do not grant patents as we know them. While many of the Soviet bloc countries grant patents under certain conditions, the patents are considered worthless, since a foreigner cannot recover for their infringement in any communistic country. Since industry and commerce in Canada, Great Britian, and West Germany are basically similar to industry and commerce in the United States, these are the countries in which patents are normally taken out by United States citizens.

# CHAPTER XV

# WHAT IS A DESIGN PATENT?

A design patent application may be filed for any new, original, and ornamental design for an article of manufacture. The design for which patent protection is sought must be represented by a drawing made in conformity with Patent Office rules, and the application must contain a brief description and a single claim which calls for only the ornamental design as shown in the drawing. Design patents are granted for terms of  $3\frac{1}{2}$ , 7, or 14 years with a different fee for each period. The design patent covers only the appearance, taken as a whole, of an article of manufacture and does not protect any mechanical construction or any material or combination of materials. It covers only shape or pattern and gives no protection for color or texture. As design patents are so seldom involved in Government procurement, it is believed that a detailed liscussion of this subject matter would exceed the scope of this monograph.

#### CHAPTER XVI

## WHAT IS A TRADEMARK?

Fundamentally, a trademark is a mark or design that a manufacturer applies to his product when it is sold in interstate commerce to indicate the origin of the product. Use of a trademark is one way of taking advantage of the goodwill and advertising expenditures of the manufacturer.

There are at present at least two different classes of trademarks and also service marks which are used to indicate that a service was performed by a particular individual or organization.

The Government does not take out trademarks on any products that it develops and has no interest in trademarks other than that valid trademarks should not be infringed or weakened by unauthorized Government use. For example, there is a trademark condition known as "dilution of the trademark" in which an increasing public use of the trademark term tends to take that term into the field of public use and away from the particular manufacturer who originated it, occasionally to such an extent that the manufacturer wompletely loses his trademark rights. This occurred with the word "aspirin" and almost took place with the word "frigidaire".

In referring to a manufactured article, care should be taken to avoid the use of the registered trademark name of the article. If the name must be used, it should always be placed in quotations, or a footnote should indicate that this is a registered trademark. Since the Government does not manufacture and sell in the open market, it is doubtful that the Government could be held liable in any way for trademark infringement. It is the policy of the Government to respect the commercial rights of its suppliers, and a trademark is a commercial right that should not be misused.

### CHAPTER XVII

## WHAT IS A COPYRIGHT?

A copyright is not related to the United States Patent Office. is a registration issued by the Library of Congress to authors, composers, and artists to protect the rights of these persons in any original material they have contributed. The rights granted by copyright are similar to those granted by patents in that a person infringing a copyright by plagiarism of the copyrighted material may be sued for damages and, in appropriate cases, not only enjoined from continued plagiarism but required to compensate the copyright owner for any damage that has already occurred. Such damages are measured in sales to the public, either directly or indirectly. A person cannot publish an excerpt of a copyrighted book or other composition without the permission of the copyright owner, nor can he produce a motion picture that utilizes the language of a copyrighted work. The ideas expressed in a copyrighted work are not broadly protected under a copyright; only the manner of expression within a reasonable range of equivalency is protected. Therefore, a copyrighted work cannot be exactly or substantially quoted without subjecting the person using the material to the possibility of prosecution under the copyright law. Likewise, a picture, photograph, or sculpture may not be duplicated without the permission of the copyright owner, nor may a musical composition be substantially reproduced. Copyrights issue for a term of 28 years and, at the end of that period, may be renewed for another 28-year term by the original author or his heirs, but not by the assignee of the original copyright.

### CHAPTER XVIII

## WHAT IS TECHNICAL DATA?

The Armed Services Procurement Regulation defines technical data as "writings, sound recordings, pictorial reproductions, drawings or other graphic representations and works of any similar nature, whether or not copyrighted." The term does not include financial reports, cost analyses, and other information incidental to contract administration.

It is thought that, for some purposes, the above list should be expanded to include verbal descriptions or instructions and certain information that is committed to memory by particular individuals in order to avoid any written disclosure of the information.

The technical data of particular interest to Government personnel dealing with contracts is normally in the form of drawings and specifications, although such material as books, motion pictures, diagrams, and other pictorial representations are obtained under Government contracts and purchase orders.

Technical data, as defined above, may be divided into three main classes: copyrighted data, proprietary or restricted data, and general or unrestricted data.

### CHAPTER XIX

### WHAT IS COPYRIGHTED DATA AND HOW DOES

# IT AFFECT GOVERNMENT PERSONNEL?

Copyrightable material includes literary compositions, graphical material, musical compositions, and items of art. While the original purpose was to assure authors of the exclusive right to their writings for a limited time, the protection has now been extended to cover the other classes mentioned. The class of literary composition includes such items as scientific papers, treatises, pamphlets, manuals, and text books. The class of graphical material includes graphs, charts, and maps. The class of artistic material includes photographs and designs as well as pictures and sculptures. Motion pictures are also included under literary compositions, objects of art, or both.

Every copyrighted item must carry a copyright notice. This may be the copyright sign © printed on each page or sheet subject to copyright, or it may be a general notice at the beginning of a book or motion picture in this form:

# Copyright 19\*\*

## The A. B. Publishing Co.

Since only the original portion of a work is copyrightable, a copyright may be effective in whole or in part.

Of the copyrightable items in which Government personnel would normally be interested, it would be advisable to assume that books (including text books), magazine articles, and existing motion pictures are always copyrighted; that charts, maps (unless produced by the Government), graphs, and photographs are usually copyrighted; and that pamphlets, manuals, advertisements, and business forms are frequently copyrighted. Directories, commercial lists, and statistical data are seldom copyrighted; and Government publications (including patents), Government contractor publications (unless specifically excepted), and court decisions are never copyrighted.

Uncopyrighted data may be reproduced without restriction; but when copyrighted data distributed, an agreement must be made with the copyright owner. If the proposed reproduction involves only a small portion of a copyrighted work, the copyright owner will usually give his consent to the reproduction provided a "credit line" fully identifying the source of the material is included in the reproduction. The purchase of a copyrighted work or item does not in itself give the purchaser any right to reproduce the work or item.

When the Government desires to obtain a license under a copyright for the purpose of reproducing the copyrighted material for sale or general distribution, a separate negotiation must be conducted in the same manner as negotiations for patent license rights.

The Government may require the contractor to indemnify the Government against all copyright infringements and invasions of the right of privacy in contracts for the production of such works as motion pictures and sound tracks; histories of the Government departments or their services or units; works pertaining to recruiting, morale, training, or career guidance; surveys of Government establishments; and works pertaining to the guidance and instruction of Government employees and officials.

The Government may permit a contractor to copyright a work produced for the Government and agree not to reproduce the work for sale or general distribution.

### CHAPTER XX

# WHAT IS "PROPRIETARY DATA"

### AND HOW IS IT DEALT WITH IN GOVERNMENT CONTRACTS?

The Armed Services Procurement Regulation defines proprietary data as follows:

"Proprietary data means data providing information concerning the details of a contractor's secrets of manufacture, such as may be contained in but not limited to his manufacturing methods or processes, treatment and chemical composition of materials, plant layout and tooling, to the extent that such information is not disclosed by inspection or analysis of the product itself and to the extent that the contractor has protected such information from unrestricted use by others."

This definition equates the "propriet ry data" of ASPR to the "trade secrets" of patent law. A trade sec is a collection of manufacturing data of an original nature that has not been published or been used by others; that cannot be learned by ordinary means, such as routine experimentation; and that is held secret or confidential by the owner. It is advantageous to have such information held secret rather than to have it patented for reasons such as the following: it may be kept indefinitely, whereas a patent would expire in 17 years; a patent would be too difficult to police; a patent may be barred by public use and sale; or the subject matter may be unpatentable. The law accords full protection to trade secrets as long as there is compliance with the legal requirements.

All data actually generated under a research and development contract, whether of a proprietary nature or not, must be delivered to the Government without restriction on its use, but it is the policy of the Department of Defense not to request or receive proprietary data under any other circumstances unless the Government has an essential need for such data. Thus, under a research and development contract, the contractor is not ordinarily required to supply proprietary data that was in his possession prior to the award of the contract or proprietary data of his component suppliers or subcontractors as long as he identifies the source and characteristics of such components in sufficient detail to enable the Government to procure the parts or suitable substitutes. In those cases where the Government has positive need for proprietary data other than that generated under a research and development contract, such data may be procured by separate negotiation in the same manner as license rights under patents and copyrights, but the data procured must be clearly identified in the contract.

The acquisition of proprietary data developed at private expense will be avoided, however, if a satisfactory alternative (such as the development of a suitable substitute or the use of performance specifications) can be found.

The theoretical situation regarding proprietary or trade secret data is thus very simple: the Government is entitled to all that is generated under research and development contracts, and in all other cases its acquisition should be avoided if possible. If acquisition is essential, the data may be purchased under a suitable contract. If such data is purchased, it may be purchased with or without restrictions regarding its use by the Government, depending upon the Governmental purpose for which it is obtained. If procured to establish multiple sources of supply, it should be obtained without restriction, but if procured for some special purpose (such as emergency manufacture or repair), it may be obtained with restrictions on its use.

While the theoretical situation is clear and simple, the practical situation is complicated by the refusal of contractors to accept the ASPR definition of "proprietary data" and their attempts to broaden arbitrarily the definition to include almost any kind of data, or information, related to Government contracts. While the ASPR definition of "technical data" shown in Chapter XVIII is very broad, actually the disputes as to the furnishing of data usually involve manufacturing or working drawings, detailed specifications, flow meets, stress and weight analyses, and parts lists.

The data required under research and development contracts is usually listed in considerable detail in each contract, and no great difficulty is experienced in obtaining the specified data once the contract is executed and awarded. The difficulty usually occurs during the preaward negociations, when the contractor will claim that all his previous experience and experimentation are proprietary and that since this '"know-how" will have to be incorporated into the detailed drawings, the proprietary data would be donated if not restricted. In the case of supply contracts, the contractor will claim as proprietary all information shown on his manufacturing drawings and will object to furnishing such drawings even though none of the information comes within the ASPR definition of "proprietary data".

Although no legislation controlling the acquisition of patent and data rights by the Department of Defense has been passed, the Armed Services Procurement Regulation implements the Armed Services Procurement Act and is promulgated under the authority of this statute. Thus the regulation has the effect of statutory law, and regardless of contractors' contentions, Government personnel dealing with contracts should adhere closely to the definition given in the regulation and either obtain data in accordance with the requirements of the regulation or avoid requesting data if the information is not required.

## CHAPTER XXI

### WHAT IS "OTHER DATA" AND HOW IS IT HANDLED IN GOVERNMENT CONTRACTS?

The Armed Services Procurement Regulation states:

"Other data means all data other than 'proprietary data' and includes:

- "(1) Operational data which provides information suitable among other things for instruction, operation, maintenance, evaluation or testing; and
- "(ii) Descriptive data which provides descriptive or design drawings or descriptive material in the nature of design specifications which, although not including any 'proprietary data', may nevertheless be adequate to permit manufacture by other competent firms."

The ASPR specifically states that when data other than "proprietary data" is obtained, it shall be obtained without any limitation on its use by the Government. The fact that this class of data must be obtained without restriction regarding its use and that it is also usually adequate to enable manufacture by other competent firms is no doubt the root of the contractors' objections to delivering such data to the Government and their insistence that it is proprietary in nature.

There is no question but that the Government is clearly entitled to all of the data actually generated under research and development contracts, and few, if any, contractors raise any objection to this requirement, although it is sometimes difficult to induce them to prepare and deliver complete manufacturing or "as-built" drawings. This problem usually occurs in connection with contracts for large or complex equipment, such as ships, aircraft, marine port assemblies, and trains, either railway or offroad. In such cases the agency awarding and administering the contract should carefully consider the data requirements and limit such requirements to the actual needs of the Government. Obtaining large quantities of unneeded data not only wastes Government funds and wreates storage problems, but wastes engineering time, reduces the efficiency of contractors, and, in some cases, antagonizes them.

The main problem in obtaining bther data" under research and development contracts arises in connection with background material that the contractor incorporates into the contract performance, and this problem becomes particularly critical in cost-sharing contracts.

Since the product of the contract would have less value, and in some cases little or no value, unless adequate data for the reproduction of the equipment or the practicing of the method or process is obtained, the contract should specify a requirement for delivery of adequate data whether such data was developed under or prior to the contract. The data specified should be definitively listed in the contract, both as to content and format. The contractor's contentions (that his previously developed data is "proprietary" and should not be delivered without restriction as an incident to contract performance), should be fully settled in the preaward negotiations, and the ASPR definitions of "proprietary data" and "other data" should be strictly applied. The only legal way to modify these definitions is to obtain a deviation permission from higher authority or to have the ASPR committee or the Congress change the definitions. Upon the application of the ASPR definitions, no previously developed proprietary data should knowingly be used or included, unless freely donated, without the specific consent of the contracting officer. This is a requirement of the Army Procurement Procedure and, in case of his consent, it is the responsibility of the contracting officer to arrange for such use of the data as may be consistent with the purposes of the contract.

There are a number of cogent reasons for obtaining "other data" without restrictions. For example, a set of detailed or working drawings held by the Government in a confidential status not only would occupy valuable filing space but would serve as a detriment to the Government's utilizing a different contractor for obtaining duplicate or equivalent drawings without restriction. The contractor whose data had been received on a restricted basis would undoubtedly complain that the confidence had been violated, regardless of how the duplicate or equivalent drawings were obtained.

By direction of the Armed Services Procurement Regulation., no proprietary data will be requested in any formally advertised contract or other contract that is not subject to negotiation. "Other data" under contracts other than research and development contracts should be held to a minimum, consistent with the purposes of the contract. In nearly all supply contracts for standard commercial items, operational data, as quoted from the ASPR, is entirely adequate and is normally furnished by the supplier as a matter of ordinary business procedure.

If the contract has a special purpose (such as the acquisition of an item or piece of equipment for evaluation, testing, and selective standardization into the military supply system, regardless of whether the item or equipment is a standard commercial item or a development product), extensive and special data may be required. If the supplier or contractor is willing to furnish the requested data along with the material acquired for the cost of the contract, no difficult problem is presented. When the supplier, or contractor, objects or refuses to

furnish the requested data, several expedients are available for obtaining the necessary data or its equivalent. These include:

- 1. Purchasing the data, including any necessary proprietary data, by special negotiation or a specially negotiated contract.
- 2. Securing the ancessary information by inspection or by physical or chemical analysis of the product, and then preparing the necessary drawings and other material either "in-house" or by contract.
- 3. Contracting on the basis of performance specifications for the development of equivalent equipment, or an equivalent item, and for the required data.

As an alternative to the acquisition of data in one of these three ways, it may be preferable in some cases to resort to sole source procurement.

While sole pource procurement is generally objectionable because it is contrary to congressional policy, there are certain exceptions under which its use is considered unobjectionable. These exceptions include those cases where:

- 1. There is only one supplier capable of supplying the product, without extensive tooling and training
- 2. The product is produced by secret methods or processes and the cost of obtaining this secret information would be prohibitive.
- 3. The anticipated procurement is in such limited quantities or is required for such a short period that the establishment of alternative sources of supply would not be designable.
- 4. The product of a single source is necessary to insure the reliability of the item or equipment.
- 5. The item of equipment has parts which are interchangeable with spare parts already in the supply system.

In connection with the type of activity discussed in the last two paragraphs, megotiations for patent (or copyright) license rights may be postponed until procurement is initiated and its probable extent determined. If the procurement is to be from a sole source that owns or controls the patents involved, no action to settle patent or data rights is necessary.

Although the preceding discussion may give the impression that it considers only prime contractors, the fact should not be overlooked that problems in the acquisition of data arise with subcontractors

as well as with prime contractors. A suitable effort, usually through the prime contractor, should be made to obtain data from subcontractors when such data is accually required.

#### CHAPTER XXII

## WHEN MAY DATA BE ACQUIRED OR RECEIVED UNDER RESTRICTIONS?

No data generated in the performance of a research and development contract, whether or not of a proprietary or trade secret nature, can be received with any restriction concerning its use by the Government.

Proprietary data, unless generated in the performance of the contract, should not be incorporated as a necessary ingredient in the end product of the contract unless, the consent of the contracting officer has been obtained; and the acquisition of proprietary data, other than that generated in the performance of the contract, should always be avoided insofar as practical. When such proprietary data is acquired because it is necessary for the Government's purposes, it may be acquired with restrictions consistent with the purpose, or purposes, for which it was obtained.

All data other than proprietary data, when obtained under a contract of any character, must always be obtained without restriction as to its use by the Government. When all or any part of data furnished by a contractor is copyrighted, the contractor must provide release of all copyright claims against the Government to the extent that he can do so without making payments to others; and he must inform the contracting officer of any copyright infringement or invasion of the right of privacy.

All data, whether or not of a proprietary nature, submitted in connection with a proposal for a contract, may be received subject to the limitation that it ihail be used for the sole purpose of evaluating the proposal. If such data is, however, subsequently incorporated by the submitter in the product of a contract, the restriction is voided.