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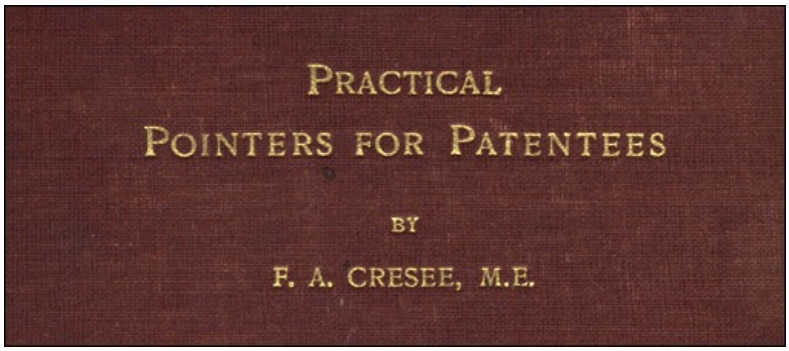

No. 712,316.

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Whereas John Henry Doe & William Paul Roe

of Paris, France

HAS PRESENTED TO THE **Commissioner of Patents** A PETITION PRAYING FOR THE GRANT OF LETTERS PATENT FOR AN ALLEGED NEW AND USEFUL IMPROVEMENT IN

Electric Accumulators,

A DESCRIPTION OF WHICH INVENTION IS CONTAINED IN THE SPECIFICATION OF WHICH A COPY IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND HAS COMPLIED WITH THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED, AND

Whereas UPON DUE EXAMINATION MADE THE SAID CLAIMANT WAS ADJUDGED TO BE JUSTLY ENTITLED TO A PATENT UNDER THE LAW.

NOW THEREFORE THESE **Letters Patent** ARE TO GRANT UNTO THE SAID

John Henry Doe & William Paul Roe, their HEIRS OR ASSIGNS FOR THE TERM OF SEVENTEEN YEARS FROM THE twenty eighth DAY OF October ONE THOUSAND NINE HUNDRED AND two

THE EXCLUSIVE RIGHT TO MAKE, USE AND VEND THE SAID INVENTION THROUGHOUT THE UNITED STATES AND THE TERRITORIES THEREOF.

PATENT OFFICE UNITED STATES OF AMERICA

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington twenty eighth day of October year of our Lord one thousand nine hundred and two and of the independence of the United States of America the one hundred and twenty seventh

F. I. Allen
Commissioner of Patents

A GOOD PATENT, PROPERLY HANDLED,
IS A STEPPING STONE
TO SUCCESS AND FORTUNE.

PRACTICAL

POINTERS *for* PATENTEES

CONTAINING VALUABLE INFORMATION
AND ADVICE ON THE SALE
OF PATENTS

AN ELUCIDATION OF THE BEST METHODS
EMPLOYED BY THE MOST SUCCESSFUL
INVENTORS IN HANDLING THEIR INVENTIONS

By

F. A. CRESEE, M.E.

Revised and Corrected, with New Forms and Tables of Population
of the United States in Accordance with the 1910 Census

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PREFACE

The original conception and working out of an invention is usually a labor of love on the part of the inventor: having perfected his invention in every detail, he finds able and skilled counsel waiting to prepare and prosecute his application for patent before the Patent Office Examiner. When the patent is allowed or issued, the patentee's real work begins—that of turning the patent into money. This is the business end of the inventor's work, which is generally to his interest financially to undertake himself, or to have under his immediate supervision.

The object of this little work, based upon the experience and observation of the author and other successful inventors, is to give the patentee such information and advice as will enable him to proceed more intelligently, on the most successful and economical basis, to realize from his invention.

The American Government issues annually over thirty-five thousand patents, a large number of which are offered for sale by their respective patentees, who in many cases have no definite lines to pursue in negotiating their patents; many realizing little or nothing from their inventions through careless or bad management, while others, through incompetency, drift into the hands of unscrupulous patent-selling agents only to be swindled.

The numerous inquiries from patentees seeking practical, reliable, and up-to-date information as to the best and most successful methods of realizing from the product of their ingenuity, has led the author, after due deliberation, to prepare and present this work to the American inventor, with a view of supplying a long-felt want, with the hope that it will save them many expensive experiments in handling their patents, and advance them on the road to success.

It has been the endeavor of the writer to cover briefly every subject that is usually encountered by patentees in disposing of their patents, not only in the matter of selling, but also in the equally important and perplexing questions of arriving at the value of patents, legal forms, statistics, etc., etc.

Realizing that the work may be deficient in many respects, the hope that it will prove instructive, and the belief that it contains many practical pointers for patentees is still entertained by

THE AUTHOR.

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CHAPTER I

DEMAND FOR INVENTIONS OF MERIT

That there is a demand for inventions of merit which can be readily disposed of at a reasonable profit to the inventor, there can be no doubt. There perhaps never was a time in the history of our country when the demand for meritorious inventions was so great as the present. The conveniences of mankind, in all his varied vocations and callings, require continual changes and improvements in the apparatuses and implements used in order to save time, labor, and expense, and to keep pace with the never-ceasing progress of civilization.

At no time in the past has there been so deep an interest manifested by the public generally in the inventions of our bright-minded men and women, and at no time has capital been more readily interested and ready to invest in any practical improvement which can offer a fair chance of monopoly under the patent laws.

Business men, capitalists, and manufacturers are ever on the alert for new and desirable inventions, which will supersede in utility those which are already on the market. By purchasing such inventions, they secure novelties which will not only enable them to avoid the keen competition and to a great extent monopolize the trade in their own respective lines of business, but also to make sales more easily, and thus make their business more profitable.

Monopoly in Patents.

Every well-informed person knows that a monopoly is the desideratum of business men. The monopoly or protection of an industry afforded by the patent laws is, perhaps, the one monopoly that directly benefits the world. Were it not for the protection and monopoly offered inventors by governments, for a certain number of years, to disclose their inventions, inventors would simply keep them secret, or if used at all, would do so only in such a manner as would prevent the world at large from learning of or utilizing them, thus debarring the public as a whole from their benefits. This monopoly in patents has had much to do with the material progress of the world during the century just ended.

Anyone having a monopoly of a good trade article is assured of a fortune. If capitalists and manufacturers can secure the control of any new invention of merit for their sole use and purposes, which can be manufactured and sold more cheaply than those now on the market, and which will perform its work in a quicker and better manner than the devices now in use, they will be only too willing to pay patentees handsomely for patents covering such inventions.

There are numerous staple articles of commerce whose manufacture is open to all, and which every mercantile house in the country is handling at a profit, notwithstanding the great number engaged in their manufacture and sale in every section of the country. Now, if there can be supplied some better or cheaper article in any line of industry, the firm or person who secures the monopoly of its manufacture and sale, simply controls the market, and human endurance and energy are the only limits to the degree of profits such a firm or person can secure from the manufacture and sale of such an article, if adequately protected by a valid patent.

Industrial Progress Based on the Patent System.

In an official report the Commissioner of Patents clearly sets forth that from six to seven eighths of the entire manufacturing capital of the United States is either directly or indirectly based upon patents. This vast amount of money, upward of six thousand millions of dollars, continually employing great armies of people, in industries based upon patents of every class, supplies the country with improved articles of every description. It has been well said that, "Patents and trade go hand in hand."

The largest and most opulent manufacturers in the country will be found to be the heaviest owners of patents, developers of inventions, and patrons of the Patent Office. While all inventions are not telegraphs, telephones, sewing-machines, or electric lights; nor can all business houses be Westinghouses, Hoes, McCormicks, Bells, or Edisons, yet all over this country, and others as well, there are springing up a great number of moderately large growing firms who, ever on the alert for success, devise or secure control of some valuable patent, by which they can successfully invade and control to a certain extent particular lines of industry.

Nearly every leading factory in the world owes its commencement and success to the prestige and protection afforded by the possession of a good and valid patent.

CHAPTER II

INCOME FROM INVENTIONS

It has been aptly said that the products of all the gold, silver, and diamond mines in the world would not equal in value the annual income of American inventors. It has been carefully estimated that there are at least fifty patents in the United States which yield over $1,000,000 annually, some 300 that yield over one-half million, from 500 to 800 which bring from $250,000 to $500,000, and between 15,000 and 20,000 that bring over $100,000 annuities. Besides these, there are thousands upon thousands of patents which yield yearly more profit to their fortunate possessors than could be accumulated in a lifetime by a wage-earner.

Independence through Successful Invention.

There are thousands of patents sold outright every year by the patentees of the United States for thousands of dollars; and, to the already long list of successful inventors, each year adds many more, who have become independent through the proper handling of the product of their ingenuity. Indeed there can hardly be conceived a quicker way for the average person to attain independence and wealth than by inventing something of real worth and merit that can be quickly turned into money. The inventive field is large, and each invention opens up a new field for improvements, and it is the "improver," without question, that reaps the greatest benefit from any invention. Owing to the ever forward progress of civilization, there is no limit to the possible improvements in the sciences, arts, and manufactures.

Unprofitable Patents.

It must, however, be borne in mind that all patents are not remunerative, neither are all gold mines productive of fortunes, and one may lose money in patents as well as in any other business. There are thousands of patents, many having merit no doubt, which have never been sufficiently brought before the public to test their merits, effect their sale, or manufacture; this in many instances is owing to incompetency, or bad management on the part of the patentee or his agents. There are thousands of other patents that do not prove remunerative because they do not supply a real want, while still others are such slight improvements upon existing inventions that they necessitate such narrow claims, which render the patent of little or no value. One has only to look over the weekly issue of patents to see many of the last class.

As before stated, while there are many thousands of patents that do not pay—and many no doubt cause their owners disaster, as is the case in any other business or investment; on the other hand, the far greater proportion of patents granted are productive of handsome profits, if properly managed.

Money in Patents.

That the majority of patents taken out prove lucrative is evident from the fact that upward of seventy thousand applications for patents and designs are filed each year in the United States Patent Office, and approximately eight hundred are granted and issued each week. Probably about one-fifth of these patentees obtain their patents with a definite view of manufacturing their inventions, and the remainder obtain theirs with a view of realizing from the sale of the rights to manufacture.

It may be said, as a general thing, there is more money in small inventions than in larger ones, from the fact that they can be easily manufactured anywhere with but little outlay of capital; they usually fill a general need, and the profit derived from their manufacture is large, besides the patent is more readily disposed of; while with larger inventions it requires more money and ability in handling the patent, and the invention must be unusually promising to justify the erection of a plant costing thousands of dollars for its manufacture. However, when large and complicated inventions do pay, they usually pay well.

Business Capacity of the Inventor.

It must be remembered that the actual cash value of a patent is not in the patent itself, but in the sale or use of the monopoly it affords, and the amount realized from any invention frequently depends upon the business capacity of the inventor or his agents. Owing to his business ability, one person may make a fortune out of an unpromising improvement, while another, through bad or careless management, will realize little or nothing from a brilliant invention.

Speaking along this line in an official report the chief examiner of the Patent Office says: "A patent, if it is worth anything, when properly managed, is worth and can easily be sold for from $1,000 to $50,000. These remarks only apply to patents of ordinary or minor value. They do not include such as the telegraph, the planing machine, and the rubber

patents, which are worth millions each. A few cases of the first kind will better illustrate my meaning:

"A man obtained a patent for a slight improvement in straw cutters, took a model of his invention through the Western States, and after a tour of eight months returned with $40,000 in cash or its equivalent.

"Another inventor in about fifteen months made sales that brought him $60,000, his invention being a machine to thrash and clean grain. A third obtained a patent for a printing ink, and refused $50,000, and finally sold it for about $60,000.

"These are ordinary cases of minor inventions embracing no very considerable inventive powers and of which hundreds go out from the Patent Office every year. Experience shows that the most profitable patents are those which contain very little real invention, and are to a superficial observer of little value."

Under the writer's personal observation has come many instances where inventors have secured patents on improvements which to a casual observer would appear insignificant, yet through shrewd management they have been made to yield princely incomes. Among these one case worthy of note is that of a young man in Pennsylvania who secured a patent on a toy game which any person could have thought of, but few would have considered worth protecting by letters patent. He was offered $1,000 for the patent by one manufacturer at the outset which he refused, and afterward he placed it on royalty with quite a number of large manufacturers throughout the country. He receives but one cent on each one manufactured, yet his income averages over $12,000 a year. Another borrowed part of the money with which to obtain a patent on a railway tie plate, which was bought by a corporation for $25,000, after having manufactured it for two years on royalty. And many others, who have realized from one to five thousand dollars on such slight improvements on which few would have thought worth applying for a patent.

Patentees who would realize any considerable amount from their patents must not sit down and expect the other fellow to make money out of their inventions for them.

Inventions as a Poor Man's Opportunity to Advance.

Invention is sometimes called the "genius of the poor," and it is a singular fact that there are a greater number of inventions made by men and women of limited means than by those whose wealth, education, and other advantages would seem to have especially fitted them for success in a field dominated so completely by "brains." This may be explained in a measure by the fact that people of moderate means are brought into closer contact with the arts and manufactures, and are thus the first to discover and improve their defects.

A self-made millionaire, recently speaking to the writer about patents, said: "I know of no business or vocation requiring so small amount of capital, and yielding such immense profits as that of invention. Certainly no person of inventive genius can employ his time and ingenuity to better or more profitable advantage than to invent something that is really needed. Many poor men, through the art of invention, have risen from poverty to reputation, fame, and honor, and taken high places among noted men of all times.

Our moneyed kings may have enriched themselves by stock jobbing, but this precarious procedure requires large capital, and the few enormous fortunes accumulated are merely the monuments marking the graves of thousands of foolhardy unfortunates caught in the vortex of speculation."

CHAPTER III

SECURING CAPITAL

It is a curious but well demonstrated fact that people who have inventive genius often lack the means to carry out their ideas. An inventor who has ample means can secure his patent and proceed to turn it into money without the necessity of being compelled to solicit financial aid from anyone. This, unfortunately, is not generally the case with inventors; indeed, many are often barely able to stand the expense incident to taking out the patent. Patentees laboring under this disadvantage are frequently tempted to part with a small interest in their patents for the sake of securing sufficient funds to carry on the promotion of their inventions and sale of the patent; and in doing this the inexperienced patentee is apt to make the fatal mistake of assigning to another an undivided interest in his invention.

Danger in an Undivided Interest.

Such an assignment may appear well enough on the face of it, and many patentees have been misled, supposing that under the assignment the proceeds from the patent should be divided *pro rata*, according to the several interests. This, however, is not the case in such assignments, and joint-ownership of a patent, or interest therein, does not of itself, without an express agreement to that effect, make the parties partners. They are merely tenants in common, each having the right to separately make, use, or sell the invention so assigned without liability to account to their co-owners for any part of the profits derived from the invention through their own efforts.

In an assignment of an undivided interest, the assignee is afforded an opportunity of manufacturing, using, and selling to others to be used the article covered by the patent; also, to grant territorial grants, such rights being unlimited by the terms of the assignment, and it is actually of little consequence how small an interest is thus conveyed, the assignee can proceed with the patent in much the same way as if he were the sole owner; therefore, whenever it is intended that the relation of co-partnership shall exist between the patentee and the assignee of an undivided interest, and that the profits arising from the invention shall be equitable, for their joint benefit, there must be an express agreement between them to that effect, otherwise the assignee will have a decided advantage over the inventor, if he is inclined to be dishonorable, and there are numerous cases on record where patentees have virtually lost their patents by such assignments. Patentees should especially guard against strangers who offer to purchase an undivided interest in their patents.

A Better Plan.

A better procedure to secure means necessary for the development, introduction, and sale of an invention is to borrow the money from a friend contingent on the sale of the patent, sell a State or county right, or enter into a contract with a party willing to furnish the means for a certain proportion of the proceeds derived from the invention. Generally speaking, it will not be hard to find a party willing to advance sufficient means to promote an invention which is protected by a patent for a certain percentage of the net receipts arising from its manufacture, sale, or territorial grants, and the patentee will probably find a person among his own acquaintances who will not only be glad to furnish the means necessary, but also be of value to the patentee in realizing from his invention. In any case, whatever is agreed upon should be put in the form of a contract, or an agreement, couched in such terms as will leave no doubt as to the understanding between the parties. The following form secures both parties, and will be suggestive of others:

Form of Agreement.

Whereas I, Richard Doe, of Philadelphia, County of Philadelphia, and State of Pennsylvania, have invented certain new and useful improvements in Telegraph Keys, for which I have obtained Letters Patent of the United States, bearing date January 1, 1901, and number 000,000, and whereas John Roe, of Camden, County of Camden, and State of New Jersey, is desirous of obtaining an interest in the net profits arising from the sale or working of the said invention covered by the said Letters Patent.

Now, therefore, this indenture witnesseth, that for and in consideration of one dollar by each of the parties hereto paid to the other, the receipt of which is hereby acknowledged, it is stipulated and agreed as follows:

First, That the said John Roe shall pay all moneys necessary to the construction of a

suitable model to represent the said invention; that he shall pay all necessary expense in advertising and bringing said invention before interested parties (and such other clauses as may be deemed necessary and agreed upon, such as the expense of constructing a working model, or carrying out a process, etc.); that he shall make diligent effort to promote the said invention, its manufacture, and sale.

Second, That the said Richard Doe, sole owner of said invention and Letters Patent, in consideration of the payment of the moneys above mentioned, agrees to pay the said John Roe twenty-five per cent. (or other amount agreed upon) of all the net receipts in any manner arising from the sale or working of the said Letters Patent, during the term for which said patent is granted.

Witness our hands and seals this tenth day of January, A.D. 1901.

RICHARD DOE,
JOHN ROE.

In the presence of:
JOHN SMITH,
THOS. JONES.

Perfecting Inventions. Should an inventor defer the filing of his application until his invention is fully developed as regards the detail construction and arrangement of the parts? The best opinion seems to be in favor of the prompt filing of the application. The final form of the details can best be determined by the manufacturer and expert machinists and designers, who appreciate the matter of economical manufacture, which is quite as essential as the efficiency of the device or machine. Clearly, therefore, the inventor cannot decide as to all the details; why then should he delay his application?

The safest course for an inventor is to file his application for a patent as soon as his invention is complete in its principal features, so as to conform to the requirement of the Patent Law that an invention be sufficiently complete to be theoretically operative. The mechanical details are rarely of great importance as far as the patentable features of the invention are concerned. Still, it is well to give the attorney full particulars of whatever details the inventor has in mind.

Exhibit of the Invention. Under the security thus afforded for the main features involved in his idea, the inventor can proceed more deliberately in perfecting and improving his invention, and can then file an additional application if necessary, to secure special protection on particular improvements or the improved invention as a whole. The early filing of an application may turn out to be important in securing to the inventor his right of priority. When the inventor comes to exhibit his invention, with the idea of bringing it to the attention of the public in general, there is no question that he should then have his invention in the best form he can, and in as attractive shape as possible.

To Avoid being "Squeezed." The patentee who proposes to realize from his invention should never let it be known that he is in want; of course, in some cases he cannot help himself, but he should endeavor to obtain the necessary assistance from his acquaintances, and under no circumstances let those with whom he is trying to deal get an insight into his financial condition, as capitalists and others will very often take the advantage of an inventor when known to be in straitened circumstances, and the patentee probably would not realize as much from his patent as he otherwise could. Therefore, it is advisable in all cases for the patentee to manifest no impatience, remain silent as to his financial condition, and strive to impress those with whom he is dealing that he is in no condition to be "squeezed."

Value of Record of Invention. Inventors, while working on a complicated machine, should not overlook the value and importance of keeping a record of the progress of the development, illustrating it with sketches, signing and dating them with each new addition, and, when practical, having it witnessed by one or more persons. This plan is preferred by many inventors to filing a caveat. Such a record will be found very valuable in case of an infringement, as it enables the inventor to ascertain the various steps of his invention, and is a sort of evidence that cannot be impeached. Such a record of a complicated invention, when the inventor has put much time and study upon the subject in perfecting it, will also be found valuable in effecting sales, and in fixing the price of the patent.

Prejudice against Patents. It cannot be denied that at the present time there seems to be in many sections of the country a strong prejudice against patents, which sometimes makes it difficult to get people sufficiently interested to take hold of any patent; especially is this true when the patentee endeavors to sell his patent piecemeal; that is, by county, township, shop, or farm rights. No matter how important or valuable the invention may be, there seems to be a disposition on the part of the public to look upon such rights as a fraud, and to be very cautious how they invest in them.

The public is not wholly to blame for this, as in recent years there has been a class of men who have canvassed the country with patent rights, not caring what representations they made so long as they were able to effect a sale; consequently, many people have been lured into purchasing patent rights for a small territory which in many instances were worthless or not as represented, causing them to be more or less skeptical of all patents, as well as to bring this manner of selling patents generally into ill repute. With manufacturers and capitalists, this prejudice does not exist to any great extent, as with them the patent rests solely upon its own merits.

Newspaper Notoriety. Many inventors overlook the importance of interesting newspaper men in their inventions. This is a matter of great consequence to the inventor in exploiting his invention, and should be given some attention. Newspapers desire items of interest of every description, and readers are usually interested in brief accounts of any new invention possessing novelty or merit; so that when the inventor once gets his invention into the newspapers it is generally copied by other papers, with the result that the invention gets a large amount of free advertising and publicity. These items frequently attract the attention of capitalists, manufacturers, and others, and at once put the invention in a favorable position before the public as could be done possibly in no other way—certainly in no cheaper way.

Many of the trade journals and other periodicals are also open to receive technical descriptions of inventions of merit concerning industrial improvements. Such articles should be written in good form, containing not over five hundred or a thousand words, and if admitted to this class of publications will be of the utmost value and importance in creating favorable public opinion, and in advancing the inventor's interests.

With hardly an exception, if an invention strikes editors favorably and is adjudged to be of sufficient interest to form an article of news in newspapers, or of sufficient merit to warrant a description in the trade papers, it is pretty certain to prove a success and bring the inventor large returns.

If the invention is of such a character as to strike newspaper men unfavorably, the inventor can resort to the advertisement columns; using the large daily papers, or such publications which in some way relate to the industry to which the patent appertains, and such as have the largest circulation among the class of people it is desired to reach. See about advertising on page 46.

CHAPTER IV

HOW TO ARRIVE AT THE VALUE OF A PATENT

Most inventors are not concerned so much about the fame or honor their inventions will bring them, or how much their inventions will advance civilization, or build up a nation, or administer to the conveniences and pleasures of mankind generally, as they are about how much it will net them in dollars and cents; but the patentee should not lose sight of the fact that the profits are in the exact proportion to the actual usefulness of the invention, and its general adaptability. It is immaterial whether the inventor himself intends to deal with the public, or to deal with a man or set of men who are afterward to deal with the public, the conditions are the same, and the profits must ultimately come from the sale of the manufactured article.

Pecuniary Value.

It may seem superfluous to say that mere Letters Patent aside from an invention is of no value, though many inventors are under the erroneous impression that if an invention possesses patentability, it must also necessarily have pecuniary value. To be of any pecuniary value whatever, the invention must cover something for which there is a demand, or for which there can be a demand created, for it cannot be disputed, that if an invention will not bring in money by manufacturing it, it is, in a financial sense, worthless; and the patent thereon is therefore worth some seventy or eighty dollars less than nothing.

Commercial Value.

An invention, to have commercial value, as previously stated, must cover something for which there is a demand, or for which there can be a demand created. It may be an entirely new device, or it may be an improvement upon an existing invention, but in any event it must contain a certain degree of utility. In rare cases inventors are able to hit upon an invention in an entirely new field; for these a demand has to be created. For improvements, however, as a general thing, the demand already exists; then the important question arises in determining the commercial value of the patent. "Does the invention in question possess sufficient merit to successfully compete with existing devices of the same class?" In order to do this, it must be of a simpler or cheaper construction, so that it can be manufactured and put on the market at a lower figure; or, it must yield better results, work quicker and at less expense, or economize power, labor, or time. A patented improvement upon an article that can be sold more cheaply, or one which will yield better results than those now selling well on the market, has a decided commercial value and can easily be disposed of at a good price. If the inventor be fortunate enough to combine both of these features in his invention, the value is doubled and success certain.

Basis for Estimation.

Perhaps one of the hardest questions that confronts the patentee is how to arrive at a just valuation of his patent, and to know just exactly what he should receive for it. This is a very important question, and one which should be looked into before undertaking negotiations. Patentees should not, of course, undervalue their patents, or accept the first small offer made for fear of not receiving another; at the same time, they should not fall into the common error of asking a price that cannot be obtained, which too frequently precludes all chances of a sale. Many business men would rather lose the patent than waste their time constantly dickering about an unreasonable price.

Inventors should be reasonable in their demands, and consider that the purchaser must have a fair share of the profits. He cannot expect to realize all there is in the patent himself. Indeed, patentees usually find that men willing to establish a business on the basis of their untried patents will require the greater bulk of the profits to be derived from it.

General Rules for Valuation.

It is evident that only the most general rules for valuation can be given, as each invention must be studied and valued strictly upon its own merits. Undoubtedly, the best and most practical method of ascertaining the value of any invention which is susceptible of being manufactured on a small scale is to have a limited quantity of the articles manufactured—say five hundred or a thousand—and try the experiment of introducing them in a small territory; that is, in a certain county, city, or town, taking great precaution in selecting a person who is capable of carrying forward the business in a business-like manner. This method demonstrates conclusively whether or not the invention will meet with success, and with these figures at hand the patentee will be prepared to prove, to the satisfaction of interested parties, just what the patent is really worth.

This method of procedure not only enables the patentee to get a just valuation of his patent, but also puts it in a more favorable position to be sold; since the commercial value is known and established, it no longer remains an experiment. Interested parties can take their calculations from these figures, and the patentee can exact a price in proportion to the success of the trial experiment.

In order to thus demonstrate the value of a patent, the patentee must possess and advance the necessary means to carry it forward, though, if the experiment prove at all successful, the profits derived from the articles sold will in nearly all cases more than offset the expense incurred. This is a very popular course with inventors, especially in handling small inventions, known as novelty or specialty patents.

If the patentee have not the means to successfully demonstrate the value of his patent by actual trial, as above outlined, then the next best course would be to inquire among reliable manufacturers and ascertain the lowest price for which the invention can be manufactured in large quantities, and the highest price at which it will retail; and then, by carefully studying the market, the patentee should be able to estimate the amount of competition, cost of selling, probable number of sales, interest on the investment, etc., and on these figures base the price he should receive for the patent, being careful to allow the purchaser a liberally fair profit.

While there are at present about ninety-five million inhabitants in the United States, it is scarcely probable that any invention has yet or ever will be made that will reach half this number of people. With an article of the most general adaptability, including both sexes, the inventor can hardly hope to reach more than a fourth of the entire population, though, of course, the invention may be subject to regular consumption, so that the people reached would naturally purchase the article again a number of times during the course of a year.

The statistics in the last chapter are given with the view of assisting patentees in determining what proportion of the population will likely want their inventions, and to enable them to estimate prices. In estimating the price to ask for a patent, patentees should not conceive and hang their hopes upon fabulous prices and immediate wealth, which too often dooms ambitious inventors to bitter disappointment; they should rather endeavor to look at their inventions from the purchaser's stand-point, and try to see it in the light in which others view it. It may be well to remember that the million mark of patents issued in the United States, including re-issues and designs, was passed in 1911, and it is quite probable that any one inventor may not have the only good thing in the line of patents.

How Rating for Royalty Is Figured.

Many patents are more profitable by being placed upon royalty than by any other means, and quite often the patent can be placed this way when it is not possible to sell outright at a satisfactory price. In determining what royalty the patentee should receive, he should carefully estimate, in connection with the probable number of sales, what profit the manufacturer can probably make on each, or a number of the articles containing the patented improvements, and should require about twenty-five per cent. of the profits as royalty. Another method used by some inventors is to ascertain the price at which the article can be retailed, and figure the royalty at between one-twentieth and one-tenth of the retail price. Either of the above should give the approximate figure to ask for exclusive royalty contracts. For non-exclusive rights the patentee should ask about one-half of that for exclusive rights.

Stock in Stock Companies.

There is another class of patents that can be best realized from by organizing the proper kind of joint stock companies, and manufacturing the invention, the inventor taking a certain amount of the stock and assigning the patent to the company. The patentee should receive between one-fourth and one-half of the capital stock in consideration of his assigning his patent and rights to the company.

The inventor should see that a good portion of the stock is subscribed for and the amount actually paid into the treasury of the company before making the assignment. As a rule, inventors' stock is full paid and non-assessable.

Prices for Territorial Rights.

In calculating the prices for territorial rights, the application of the invention to that section must be taken into consideration, as well as the advancement in manufacturing, etc. If the invention belongs to that class of inventions which may be generally adapted in all States alike, such as domestic articles and articles of wearing apparel, then the population will form a very satisfactory basis for valuation.

There are other inventions, however, that apply almost wholly to a certain section of the country, while still others apply more to one section than to another; thus, for instance, mechanical contrivances of the higher order, such as writing machines, mathematical instruments, etc., the North and East are the most valuable; for mining and agricultural implements, etc., the West; while such as the cotton-gin, seeders, and presses apply almost wholly to the South. States and counties having large cities and large towns are also usually more valuable than other States and counties of same population.

Valuation Tables. The following tables are given as a general estimate of the relative value of the different States and divisions in the majority of cases; however, these tables are only arbitrary at best, and cannot be applied to all classes of inventions satisfactorily, though they may serve to materially aid the patentee in determining what price to put upon each State in his own case. Having determined the value of the patent as a whole, the aggregate of the State prices should be about two-thirds more, as there are always some States that cannot be sold separately, while others may have to be sold at a discount.

TABLES FOR ESTIMATING PRICES OF STATE RIGHTS

States and Territories.	Price as a Whole.				
	$1,000	$5,000	$10,000	$15,000	$20,000
Maine	35	175	350	500	700
New Hampshire	30	150	300	450	600
Vermont	30	150	300	450	600
Massachusetts	50	225	500	750	1,000
Rhode Island	20	100	200	300	400
Connecticut	35	175	350	500	700
New York	65	300	650	950	1,200
Pennsylvania	65	300	650	950	1,200
New Jersey	40	200	400	600	800
N. Atlantic Division.	$370	$1,775	$3,700	$5,450	$7,200

TABLES FOR ESTIMATING PRICES OF STATE RIGHTS—*Continued*

States and Territories.	Price as a Whole.				
	$1,000	$5,000	$10,000	$15,000	$20,000
Delaware	20	100	200	300	400
Maryland	40	200	400	600	800
District of Columbia	15	75	150	200	300
Virginia	35	200	400	600	800
West Virginia	35	175	300	500	700
North Carolina	35	150	300	450	600
South Carolina	35	150	350	500	700
Georgia	40	200	400	600	800
Florida	15	75	150	200	300
S. Atlantic Division.	$270	$1,325	$2,700	$3,950	$5,400
Ohio	60	300	600	900	1,100
Indiana	55	275	550	800	1,000
Illinois	65	300	650	950	1,200
Michigan	45	200	350	600	800

Wisconsin	40	150	275	400	500
Minnesota	45	200	350	600	800
Iowa	40	175	350	500	700
Missouri	45	225	450	650	900
North Dakota	25	75	150	200	300
South Dakota	30	100	200	300	400
Nebraska	30	150	300	450	600
Kansas	40	175	300	500	700
N. Central Division.	$485	$2,325	$4,525	$6,850	$9,000

TABLES FOR ESTIMATING PRICES OF STATE RIGHTS—*Continued*

States and Territories.	Price as a Whole.				
	$1,000	$5,000	$10,000	$15,000	$20,000
Kentucky	40	200	375	600	700
Tennessee	30	175	350	500	700
Alabama	30	150	300	450	600
Mississippi	30	150	300	450	600
Louisiana	35	175	300	500	700
Texas	35	175	300	500	700
Oklahoma	20	100	200	300	400
Arkansas	20	75	150	200	300
S. Central Division.	$230	$1,200	$2,275	$3,500	$4,700
Montana	15	100	175	250	300
Colorado	40	175	350	350	700
New Mexico	15	50	100	150	200
Arizona	15	50	100	150	200
Utah	15	50	100	150	200
Idaho	10	50	75	100	200
Washington	15	50	100	150	200
Oregon	20	75	125	200	300
California	50	250	450	700	900
Western Division.	$235	$975	$1,800	$2,750	$3,700
Grand Total.	$1,600	$7,600	$15,000	$22,500	$30,000

CHAPTER V

HOW TO CONDUCT THE SALE OF PATENTS

While the inventor may put much hard study upon his invention and make many costly experiments, this part of his work is usually a pleasure; and in securing the patent he invariably has able counsel in his attorney with no anxiety on his part; but with the commercial proceeding of selling his patent, which involves the greatest prudence and care in managing, it is different, and here is where the inventor's real work begins if he expects to reap the benefit of his invention.

Patent-selling Agencies.

For the benefit of unexperienced patentees it is deemed expedient to give a word of warning here regarding the host of so-called patent-selling agencies, which under various imposing titles, coupled with an apparently honest and straightforward method of business, tempt each patentee, upon the issue of his patent, to place the same in their hands and authorize them to negotiate the sale thereof. Their propositions are very attractive and temptingly prepared; their offers appear to be "gilt edge"; their circulars are high-sounding and rose-colored; their contracts are formal looking, and drawn up in an impressive way, highly advantageous to the patentee; but it will be noted in all cases that they will require the patentee to pay down a certain sum under some pretence,—such as to cover the cost of advertising the patent, to have circulars printed, to secure copies of the patent for distribution, to have a cut made illustrating the invention, or for membership fee, and so on, it matters not what, so long as it is an advance fee. Many will also agree to sell both the United States and Canadian patents, if the patentee will file the Canadian application through them; it is evident, however, that this is only a scheme to get the patentee to take out the Canadian patent through them—they having no facilities for disposing of either of the patents.

The writer is not prepared to say that there are no honestly conducted patent-selling agencies, but from long experience and observation, has never known where a patentee was ever materially benefited by placing his interests in the hands of these concerns, and has yet to learn of them ever making a sale solely through their own efforts. Very few of these concerns have any facilities whatever for selling patents; all of their time being taken up in mailing their weekly circulars to inventors immediately upon the publication of the *Official Gazette*, and working inventors up to the remitting point which usually ends the matter so far as they are concerned, unless they believe they can get another fee out of the patentee.

There may be exceptions, but patentees should fully satisfy themselves as to the integrity of these firms before placing business in their hands, as the Assistant Commissioner of Patents in his report in the Webberburn case, 81 O. G., 191 K, clearly pointed out that the methods of these concerns were such as to sell the patentees rather than their patents.

The Patentee the Best Selling Agent.

That the patentee himself is the best selling agent there can be no doubt, for he is familiar with the construction and operation of his invention in every detail, and knows its merits and superior points far better than anyone else, besides manufacturers and others wishing to purchase patents invariably desire to deal with the patentee himself. Business men, it may be said as a rule, do not think very much of an invention which the inventor has abandoned to others to negotiate, moreover the personal push of the inventor is, in nearly all cases, essential to the successful termination of a sale.

Subtract the personal energy and presence of the inventor from the successful inventions of the past and of to-day, and the chances are that they would not have succeeded as they did. It is not only a question of material interest, but also of enthusiasm and confidence, and each patentee, having but one patent or a set of patents to push, can lend thereto that individual attention which insures good work and success.

In Case the Patentee Cannot Undertake the Selling.

However, if from any reason the patentee is unable to handle his own invention and must engage the services of an agent or salesman, he should select one from among his own acquaintances, in whom he has confidence. He should if possible get a person who has had experience in the line of the invention, as such a person would likely understand it and the trade better than others. It is not really necessary that he should have had experience in selling patents; if he is a good talker, knows how to approach business men, and thoroughly understands the invention, he will probably make money for the inventor and himself. The patentee should have him submit all offers of value for his consideration, and should not give the agent

power to sign or collect. The patentee should name a reasonable price for the patent, allowing the agent a liberal commission upon the price, and encouraging the agent by allowing him a certain percentage of all he may be able to get over and above the price named. This will encourage the agent to work for the highest price obtainable. The inventor should make every effort to be able to personally attend to the details of selling, and keep the business under his personal supervision.

Methods of Selling Patents.

There are a number of plausible methods to which the patentee may resort in disposing of his patent without the aid of questionable selling agents, and it is the purpose of the following pages and succeeding chapter to set forth such methods as have in the past proved beneficial to patentees; those along which success have been achieved, and such as are employed by the most successful inventors of the present time in handling their patents.

It is true that no definite method or system can be given that will apply to all patents alike, as the method in each case will depend more or less upon the character of the invention, and to the particular art to which it belongs; however, from the following pages the patentee should be able to judge what particular methods will best apply to his individual case, and proceed along these lines.

There are many patents issued which the patentees thereof can as successfully dispose of from the smallest hamlet in the United States as from New York, Chicago, or any of our larger cities, while, of course, there are others which only those directly connected with the largest and wealthiest corporations can hope to dispose of successfully. The main thing is not to become discouraged or give up until one succeeds in making a sale.

About Advertising.

To make the merits and importance of an invention publicly known is, in many cases, one of the best ways of bringing about the introduction and sale of a patent. If the inventor has a patent on an invention that manufacturers or others want, and can make its merits and superior qualities known to them, negotiations will soon follow. There is no way for patentees to place themselves in communication with prospective investors quite equal to an advertisement in the proper medium. Here it may be well to state that patentees who decide to advertise their patents for sale or otherwise should place their advertisements in publications of known standing, such as the leading daily newspapers. A brief, well-worded advertisement in the "Business Opportunities" column of these papers bring quick and good results, though, perhaps a better class of inquiries may be obtained by advertising in the trade journals of the class to which the invention relates, and while the trade journals may not bring about as many inquiries as the dailies, those that answer will be more apt to be interested and talk business. Either of the above are good mediums, but in advertising patents for sale patentees should carefully avoid those publications that are published at uncertain intervals, and usually for the express purpose of circulating among inventors for various purposes. They do not reach the class of people that invest in patents. Inventors should know the class of people that would be likely to become interested in their inventions, and advertise in such mediums as have the largest circulation among that class.

How to Write an Advertisement.

In the construction of an advertisement there is often too much waste by using too much verbiage, too many unnecessary words or sentences, sometimes too much display. Prudence in the arrangement, and care in editing an advertisement, will save much expense. The size of an advertisement of this class has really little to do with its pulling qualities.

The statements should be assuming, and at the same time truthful, as any deception in an advertisement is sure to work an injury. There should not be more claimed in the advertisement than sounds reasonable, even though it be stating facts; if an advertisement sounds unreasonable it will not have the desired result. Inventors sometimes become so enthusiastic over their inventions that they exaggerate unintentionally. A good rule is for the inventor to read over the advertisement, and ask himself, "If this statement was read by me, would I believe it; would it convince me?" etc.

Putting one's self in the purchaser's place is always one of the best factors in writing good advertisements. The inventor should put himself in the place of the purchaser of the patent, and reason what would induce him to investigate its merits; what would likely cause him to take it up, and so on; he should think and write fully along these general lines, incorporate these reasons into an advertisement; then boil it down by cutting out the unnecessary words and sentences; prune, remodel, and rewrite until he has a brief

advertisement, clear, concise, and to the point.

Correspondence as a Means of Bringing Patents before Interested Parties.

While to advertise, as suggested in the foregoing pages, would require a very moderate outlay, and be, perhaps, the better course to pursue: however, in connection with it, or if the patentee does not feel that he can afford the expense of advertising, a very good plan is for him to secure copies of a number of the trade journals of the class to which his invention relates, and carefully look over the advertisements therein, and select a list of such manufacturers as would seem likely to be induced to purchase the patent in question, or manufacture the article on royalty. In this manner the patentee will probably get the best up-to-date list obtainable, and it may be set down as a fact, with very few exceptions, that if manufacturers and dealers who make and handle just such articles as the patent calls for cannot be interested, it is very hard to interest others not engaged in such line, except when the invention is large, and requires a great deal of capital to work the same.

How to Correspond with Manufacturers.

To each of the parties of the list thus selected, or to a number of them, the inventor should write a well-composed and convincing letter setting forth the invention in its best light, and stating just why it would be to the interest of the parties solicited to investigate the same. Some time should be spent on this letter before attempting to write it, and the writer should weigh well in his own mind what would be best to say, and the proper way of expressing it. He should be as brief as possible, consistent with legibility. The statements should be assuming, yet in every respect true. He should state in brief terms just what the invention is, what it will do, the points and advantages it has, and at the same time endeavoring to get the parties interested so that they will inquire into the invention, rather than attempt to come to terms in the first letter.

The letter should be brief and pointed, and plainly written upon business-size paper; and if the inventor has a typewriter, or access to one, he should use it. If he has printed circulars he should send one with his first letter, which will enable him to make the letter briefer and more business-like.

In correspondence it is well not to name a price until the parties are interested, and first endeavor to get them to make an offer. The patentee should be patient and should not expect to jump right into a bargain at once. If the invention is a meritorious one there will be more than one of the manufacturers to whom the patentee may write, who will become interested, and when such a state exists, the patentee can begin to be more exacting as to his demands since competition has been created between the manufacturers.

Circulars.

A few dollars invested in circulars will frequently be found of great value to the patentee if he intends to negotiate the sale of his patent mainly by advertising and correspondence, as they will save a great deal of writing and explaining as well as appear more business-like and attractive, and may be the means of more readily effecting a sale.

Illustrations.

If the patentee can afford the additional expense of an illustration, it will greatly increase the appearance of the circular, and make it more readily understood and interesting. The cut should be neat and set forth the invention in its best light. It would be better to entrust the procuring of the cut to the printer, for he will know just what is wanted and can secure the same at a better price. A sufficient number of well printed circulars, with illustration, can be obtained of any printer for a few dollars.

About Getting up Circulars.

The circulars should be attractive, convincing, and logical; nicely arranged, and neatly printed upon good paper. A mistake is often made in sending out trashy-looking circulars, poorly printed upon cheap paper; they repel rather than attract, and do not have the desired effect.

The circular should have good head-lines so as to attract the attention of its recipient at a glance, and his interest should be held by having the uses and advantages of the invention well written.

Many of the pointers suggested in advertising and letter-writing will equally apply to the writing and getting up of the circulars, and need not be treated further here, except that the patentee should dwell especially upon the merits of the invention, its uses, and advantages over like articles. This should be done in the most interesting manner possible, describing it so that its value will be fully understood.

Uses of Printed Copies. It will be well for the patentee to order some printed copies of his patent, as manufacturers and others usually ask for them if interested, in order that they may examine the patent, or have an expert to examine it, to ascertain its validity, novelty, and what protection is really afforded by the patent. It cannot be denied that in either case the invention will suffer a cold-blooded rigid examination, and must stand or fall solely upon its merits. If, however, the invention is adjudged to have real merit and properly protected by the Letters Patent, business negotiations will likely begin, and the patentee will perhaps speedily make a satisfactory deal.

First Impressions All-Important. Some inventors use printed copies of their patents instead of circulars, but, while they fully set forth the invention in a technical way, it cannot be said that in all cases it is advisable to send copies of the patent until called for. Many parties who become interested in patents are not familiar with mechanical drawings and technical specifications, and very often do not get a very favorable impression from a copy of the patent; and it is very important that the first impressions should be favorably created, for upon this much will depend. If parties become sufficiently interested to fully investigate an invention, they are very apt to form a favorable opinion of it.

Value of Models. There is no way of so easily creating a favorable impression and gaining the interest in an invention as by a neat and perfect working model of the invention. Man never loses the child-love for toys, and a perfect miniature machine of any description will attract more attention than one of full size. With a model the inventor has the full and immediate attention of his prospective purchasers at once. If the patentee, or his agent, intends visiting manufacturers, or to sell the patent by territorial rights, he will find a model of his invention almost indispensable.

Inventors should be very careful about sending models to unknown parties, and should mark the number of the patent and their name and address upon the model. It should invariably be understood in advance who is to pay the transportation charges, before sending a model with any charges to collect.

While models are very helpful in setting forth an invention and making sales, high prices exclude many inventors from their use. Model-makers usually charge fifty cents per hour for each man working upon the model, and market price for the material used; from these figures the inventor may make a rough estimate of what a model of his invention will cost.

Working Drawings. Working drawings are different from those forming a part of the patent in that they are more detailed, giving the size of each piece and the material of which it is constructed. While working drawings are not quite as expensive as models, they do not show the invention to the advantage that models do, and are of little value to those who do not understand them. On the other hand, working drawings have the advantage of being easily sent through the mails, and can be duplicated at small cost. Manufacturers prefer working drawings to models in quoting prices on manufacturing the invention in quantities.

CHAPTER VI

HOW TO CONDUCT THE SALE OF PATENTS—*Continued*

In conducting the sale of patents, the greatest difficulty is most frequently experienced in getting manufacturers or others sufficiently interested to look into the merits and possibilities of the invention. If the inventor can get the parties to actually consent in their own minds to the proposition of taking up the invention, the question of terms and conditions can soon be arranged. Until the parties solicited can see beyond a doubt that there is large profits in it for them, the price of the patent is out of the question; therefore, the first step is to demonstrate its merits and commercial value, and get the parties thoroughly interested.

Patentees should not labor under the impression that because a patent is offered at a very low price that it will be quickly snapped up as a bargain; as before stated, if a patent will not bring in money by manufacturing and selling the article, it is worthless; and its real value is in exact proportion to the amount of profits that can be made from its manufacture.

Should the patentee find that his patent has no commercial value, it is almost useless to spend more time and money in trying to realize anything from it; he had better start again, and endeavor to invent something that has value and can be sold.

Value of Personal Influence. Inventors should use the full extent of their personal influence to spread particulars of their inventions as far as possible, for this indirect work is often a leading factor in creating a favorable impression that frequently results in the adaption of an invention.

However unacquainted he may be in a business way, every patentee can, more or less, in his immediate neighborhood, consult with merchants, friends, and others in the line of his invention, who can post him upon the right parties to submit the patent to, and the best way to see them about it, and perhaps go with him to visit such as might be interested in the invention.

Personal Solicitation Advisable. In nearly every case it is more satisfactory for the patentee to call on the manufacturers or interested parties personally whenever it is possible for him to do so. This brings about a more satisfactory understanding between them. Many inventors, however, prefer opening up communication by correspondence, and after the parties manifest a willingness or desire to look into the invention more closely, then arrange to visit them personally.

Having determined upon a visit, the patentee should endeavor to get a friend known by the parties to go with him to make their acquaintance. If the friend cannot go with the patentee, he will probably give him a note of introduction. It may happen that his friend does not know the parties whom the patentee wishes to see, in that event he may know of someone who does, to whom he can introduce the patentee and who in turn may either go with him or arrange to make him known to the parties solicited. An introduction, of course, is not absolutely necessary, but it invariably has a good effect and is generally worth the effort.

The patentee should be prepared to make a straightforward, business-like presentation of his invention by means of a suitable model or drawings; carefully explaining its merits and advantages, showing as clearly as possible just what the value of the invention is and what can be made out of it, and giving tangible reasons why it would be to the interest of the parties solicited to invest in the patent. If the patentee is dealing with a manufacturer it is well to point out not only the possible advantage he may have by securing the control of the patent, but also the possible loss that his business may suffer by allowing one of his competitors to obtain its control. Many businesses have been hopelessly crippled by an enterprising firm securing control of a good patent and introducing a like article that can be sold cheaper, or one that will do its work in a better and more satisfactory manner.

Selling Outright. Many inventors prefer to sell their patents outright; that is, in consideration of a specified sum of money the patentee assigns his entire interest in the patent, in the same manner that a person would sell a piece of real estate. This is a very good method and one of the quickest ways for the patentee to turn his invention into money, though it must be remembered that to sell a patent outright is usually for a very much smaller sum than could be realized if handled by other methods.

The day for obtaining enormous sums or fortunes from the sale of a patent outright is past; at present to realize any considerable amount, the patentee generally has to share in the risks as well as the profits, unless the invention is very highly developed, and even then he cannot expect to get as much out of an outright assignment as he could by sharing in the success of the invention commercially. If, however, the patentee is content to take the utmost cash his patent will bring him outright, he is assured of a principal or lump sum, free from any chances of the article not selling well when placed upon the market.

Before signing and delivering the assignment, the patentee will, of course, see that he has the consideration, or its equivalent, for which the assignment is made. If the transaction is made through correspondence he should send the assignment duly executed to the purchaser through the bank or express C. O. D. for the amount.

Assigning an Undivided Interest.

In a preceding chapter, the dangers and disadvantages of an undivided interest are set forth, and it cannot be considered a wise course under any consideration to part with any undivided interest in the proprietorship of the patent, unless unusually well paid, or there exists an agreement of copartnership between the patentee and the assignee. By such an assignment, no matter how small, the patentee loses control of his patent.

Dividing a Patent into Different Classes of Rights.

Many patents, from the nature of the invention, can be subdivided into different classes of rights, and each class sold or granted separately as the patentee may choose. Thus, the patentee of a tire, or other appliances for a bicycle, could license one party to make the same for bicycles and another for automobiles. In like manner a car-coupler could be divided between those who build railway equipments and those who build street-cars, and so on.

Goodyear, the inventor of the process of vulcanizing rubber, divided his patent up into many different rights, licensing one company for manufacturing rubber combs, licensing another for hose pipes, another for shoes, another for clothing, and a number of other different rights, for which each company or partner paid a tariff. Lyall, inventor of the continuous loom, also divided his patent into many different rights; one company weaving carpets, another corsets, another bags, another sheeting, etc.

In every case where the invention covers articles not in the same line of manufacture, the patentee should not fail to divide the rights into different classes, granting each party only such rights as they may be interested in. In this way the patentee can quite often double or treble the receipts from his invention.

The patentee may, if he desires, have his machines built and require the purchasers to pay him a regular annual rental on each machine, or a tariff upon the goods produced, in addition to the price of the machine. Companies are sometimes organized to manufacture an invention, and employ travelling men to place the article on annual rental instead of selling.

Selling by Territorial Rights.

Another method is to sell State and county rights. This consists of a license whereby the patentee, in consideration of a certain sum of money paid him, grants unto another person or persons the exclusive right to make and sell the invention, and to authorize others to make and sell the same, within a specified territory, during the life of the patent. This plan of disposing of a patent has often been highly profitable, but it must be said that these territorial sales have been conducted in such a manner in the past, as to bring the whole system of selling patent rights into disrepute, and in recent years patentees have found some difficulty in making sales in this way, unless the device is of unusual great novelty and attraction to householders or the general public.

Occasionally, however, there are patents issued for meritorious inventions that are susceptible of this mode of procedure, and which can be disposed of to the greatest advantage by territorial grants. Such inventions as household novelties possessing great merit and utility have been most successfully placed upon this plan, but it must be remembered that the value of the system rests upon its capabilities of effecting sales of the manufactured article to a vast proportion of the people.

In selling territorial rights it is a mistake to begin with the small places with the idea of working the business up and effecting larger sales on the basis of the smaller ones; it is better to shove the sales, as much as possible in the start, and after the more valuable portion of the territory is disposed of, proceed with the balance until it ceases to be

profitable.

Experience teaches that it is usually advisable to accept any reasonable offer made for a small right, even if it does not come up to the patentee's estimate of its value, as he has plenty of other territory left, and may lose much time and money in finding another in the same territory willing to pay more; besides, the purchaser of such a right may, by his energy and good judgment, advertise the invention in such a way as to greatly benefit the patentee in making further sales.

Some patentees employ good and reliable special agents to travel and dispose of the patent rights; others advertise for and appoint State agents to sell their respective county rights. In either case these agents expect to make money by the operation, and require a liberal proportion of the proceeds for their remuneration; generally speaking, they will require about one-third the selling price, unless the patentee can show that the rights will sell readily, in which case the rating can be made lower.

Granting Licenses. The patentee may also sell licenses under his patent; that is, in consideration of a certain sum, the patentee licenses a manufacturer to make the invention at his own place of business; it being a personal privilege and is not transferable unless its terms so state.

Unless there are a great many manufacturers in the line of industry to which the patent relates, and unless the invention has real merit so that it will be readily adapted by the manufacturers, the patentee cannot hope to realize any considerable amount from selling shop-rights alone. As a general thing, patents for mechanical inventions can be disposed of to better advantage by other means, or by selling shop-rights in connection with other methods; for example, if the patentee was selling his patent by territorial grants, he might grant shop-rights in such territory as he has not sold; or if he is placing the patent upon non-exclusive royalty contracts, he could grant shop-rights in such portions of the territory as he does not contemplate using otherwise.

Some inventions, such as methods or processes, as a general rule, have to ultimately be sold by licenses. Such patents can be employed most profitably by selling licenses, county and State rights; thus, in the case of a method of constructing fences, the patentee could sell State and county rights to parties, who in turn could grant farm rights, etc.

Placing upon Royalty. The license and royalty plan is perhaps the best and most popular method with inventors for realizing from their inventions. This, in effect, involves a contract between the patentee and the manufacturer, by which the latter in consideration of a license to manufacture the article covered by the patent, agrees to pay the patentee a certain specified sum as royalty for each article manufactured or sold bearing the patented improvement.

Placing a patent on royalty is ordinarily taking chances, but if the patentee has full confidence in his article selling well, he should by all means take royalty in preference to selling the patent in its entirety. Many valuable patents are sold by their owners for from $1,000 to $10,000, which yield the purchasers, when the article is on the market and selling well, as much as $25,000 annually in profits. This calls to the author's mind a patent for which at the outset was doubtfully offered $3,000, but before the negotiations terminated, the patentee succeeded in placing it upon an exclusive royalty basis. The royalties paid to the patentee during the first four years amounted to over $50,000, and the manufacturers subsequently made an offer of $100,000, for the patent.

In making royalty contracts with parties, the patentee should investigate the standing, rating, and capabilities of the manufacturer, and, above all, should be certain that the parties have the right motive in view, and that the contract is so drawn that it will fully protect his own interests. Many patentees have been caught by manufacturers offering large royalties for the sole purpose of gaining possession of the patent, that they might pigeon-hole it, in order to keep the article out of the market, so that the sale of some similar article in which they are interested would not be interfered with by the introduction of a similar or better article, such as the patent anticipates.

There are others who propose and make royalty contracts with patentees with no other object than that of making the special tools, patterns, dies, etc., for which they charge the patentee an extortionate price.

The best and safest way for the patentee to guard against having his patent tied up is to

bind the parties to do certain things in the way of pushing the sales, making the necessary tools at their own expense, and commencing its manufacture within a reasonable time, paying an advance royalty, or annexing some such condition to the agreement by which they will be the loser should they fail to push the inventor's interests.

Unless it cannot be otherwise arranged, the patentee should not transfer his rights merely in consideration of receiving a certain sum on each article sold, as however sterling the character of the manufacturer, there would be no certainty of the sales being pushed. The patentee should endeavor to get the manufacturer to guarantee that the royalties shall amount to at least a certain pre-stipulated sum each year, or within a period of time, and that such sum shall absolutely be paid to him by the manufacturer, irrespective of sales. This insures that the manufacturer will be obliged to push the sales of the article, and do it justice, since if he neglects his duty purposely, or from lack of energy, he is out of pocket, and the patentee is sure of a certain income, with the addition of a possible fortune that unprecedented sales may yield him. However, manufacturers are not always willing to agree to this condition, unless the guaranteed amount is exceedingly reasonable; they will usually simply agree to do their best, and if the sales do not reach a certain figure each year, the patentee shall have the option of cancelling the agreement, and receiving back the patent free and clear.

Royalty licenses can either be exclusive or non-exclusive; that is, with an exclusive contract the manufacturer has the exclusive right to manufacture the article, excluding all others; non-exclusive is simply a shop-right, in consideration of which the manufacturer agrees to pay the patentee or owner of the patent a stipulated price or percentage upon each article made or sold. The license can also be exclusive in a certain section, county, State, or a number of States, as may be agreed upon.

Any number of conditions that may be agreed upon may be annexed to and form a part of the contract, and such an agreement should be drawn up in compliance with the terms and conditions agreed upon by a competent attorney, or one skilled in matters of this kind.

Manufacturing and Forming Companies.

If the patentee has a really good invention, often he cannot do better than to retain the patent and work it himself, in case he has the ability to do so. If he cannot conduct the manufacturing alone, he may be able to secure a partner with just sufficient funds, and equal common sense and business acumen, to add the necessary elements to the firm to achieve success.

In some cases, if the patentee does not wish to retain the whole patent for his own use, an excellent plan is to commence the manufacture of the invention in a suitable locality, and after the business is so far under way as to show progress and profit, then sell out the business with license under the patent. To illustrate: a gentleman in Illinois, having obtained a patent on a farming implement, succeeded in interesting a party in his own neighborhood to join with him in its manufacture, which soon proved successful and remunerative, and in a short time he was able to sell out his interest in the business to his partner, with license under the patent, after which the patentee started its manufacture in a number of places elsewhere, and, at the same time, granting licenses and selling territory in still other sections, where he was unable to work the invention. In this way he made a fair fortune from his invention, realizing about as much from each business established as he could have probably obtained for the entire patent if sold outright at first.

In this manner the patentee, with a valuable patent on an article of general usefulness, could go on and establish its manufacture in any number of places, and sell out with license under the patent. If the first experiment is successful, it is an easy matter to carry the method out in other places, and the business can be readily disposed of anywhere, if it can be shown to be on a paying basis.

To Organize Stock Companies

In recent years many inventors have been quite successful in organizing stock companies on the basis of their patents. This is considered one of the best ways for handling patents for large and promising inventions, and it is a method that any patentee, with ordinary business ability, should be able to carry out successfully, providing his invention is of sufficient merit and importance to form a suitable basis for a successful stock company.

Many stock companies are incorporated under the laws of New Jersey, but it is believed the State of West Virginia is also very favorable to corporations. The entire expense for incorporating a company under the laws of the latter State should not exceed $150. The

company can be incorporated for any amount; large or small, one hundred dollars or five millions, cost and fees being the same. The incorporators need not be residents of the State. No annual statements required. The meetings of the directors can be held at any place, and need not be held in the State where the charter is granted.

Before applying for a charter for a corporation or stock company, the patentee should mention his plan to some of his friends and get five persons who will promise to subscribe for one or more shares of the stock and act as incorporators of the company.

Next he should secure the services of a reliable attorney, familiar with corporation laws, to prepare the necessary articles of incorporation and legal papers. The attorney will advise the patentee how to proceed properly in organizing his company, and as to the securing of the stock certificates, subscription blanks, seal, etc. These, including the attorney's fee, should not cost the patentee more than $50.

It is well to have some stationery printed with the proposed name of the company and business displayed thereon; and also a prospectus published, setting forth the invention and the plans of the company for introducing it, etc.

Quite often the patentee can find enough idle capital in his immediate neighborhood to float a good portion of the stock. Capital is more easily secured by the formation of a stock company than by any other means, as people can subscribe for small or large amounts, and they often prove good investments.

In soliciting subscriptions for stock, it is desirable to get as many prominent and influential men to buy one or more shares at first to head the list—their names will be a great aid in making further sales. Ordinarily the promoter only collects ten per cent, of the amount subscribed, the balance being subject to the call of the board of directors.

After it is ascertained that the shares or stock are being rapidly subscribed for and selling fully up to expectation, the patentee can have the incorporators sign the charter application and have the attorney file it with the proper State authorities. This will cost the patentee about $100 more, for State tax, attorney fees, etc.

When sufficient stock has been subscribed for, a meeting of the stockholders should be called to elect directors, and to transact such other business as may be deemed necessary in regard to locating and building the plant and getting the company in shape.

The patentee should receive about one-half the capital stock in consideration of his transferring his rights and franchises to the corporation, the remainder of the stock is sold for the benefit of the company to create a working capital. The patentee may sell a portion of his stock, if he desires, but should also retain a good portion of it to show his own confidence in the business.

After the meeting of the stockholders, the direction of the business will probably be taken out of the hands of the inventor, and the control will lie in the board of directors of the company. As a rule it is better that the inventor does not take an active part in the management of the company's affairs, unless he is specially fitted for the position.

If the company is provided with ample capital, and if the business manager is a competent man, there is little chance of failure if the invention has real merit.

Trading as a Last Resort.

Patentees are sometimes offered securities or other property in trade for a patent. It is not deemed a wise course by most inventors to consider any proposition for a trade, especially in the early life of a patent. Only as a last resort, after failing to realize from a patent by any other means, is it advisable to trade a patent; and, before finally agreeing upon a trade, the patentee should have a reputable attorney to look fully into the value and title of the property offered. He should also insist upon receiving an abstract of title, or a title guarantee from a reliable title insurance company.

Unless known to himself, the patentee should never engage the services of an attorney or broker recommended by the parties offering the trade to look into the value and title of the property. Inventors should be on the lookout for a set of sharpers who make a business of offering worthless securities and property in exchange for patents.

CHAPTER VII

ABOUT CANADIAN PATENTS

The geographical nearness of Canada to the United States, and the intimate commercial relations existing between the two countries, render Canada, in one sense, a part of the industrial market of America; and owing to its liberal patent laws, which are based closely upon our own, inventors generally find it advantageous to protect their interests in this country, which can be done from time to time by a very small outlay, and thus giving the inventor the advantage of disposing of his patent or dropping it if not found remunerative, before expending the total cost of the patent.

The commercial and manufacturing interests of Canada are extensive, increasing yearly, and are closely knit with our own. If the invention is not protected in Canada, it is sometimes manufactured there and sent here without paying royalty to the inventor.

Copies of the "Rules and Forms of the Canadian Patent Office" and "The Patent Act" can be obtained upon application to the Hon. Commissioner of Patents, Ottawa, Canada. Section 8 of the Patent Act, revised May, 1898, provides:

"Any inventor who elects to obtain a patent for his invention in a foreign country before obtaining a patent for the same invention in Canada, may obtain a patent in Canada, if the same be applied for within one year from the date of the issue of the first foreign patent for such invention; and,

"If within three months after the date of the issue of a foreign patent, the inventor give notice to the Commissioner of his intention to apply for a patent in Canada for such invention, then no other person having commenced to manufacture the same device in Canada during such period of one year, shall be entitled to continue the manufacture of the same after the inventor has obtained a patent therefor in Canada, without the consent or allowance of the inventor."

The Patent Act as amended does not now require a Canadian patent to expire at the earliest date at which a foreign patent for the same invention expires.

Under the section just cited the patentee has three months, after the issue of his patent, within which to protect his interests in Canada. If within these three months he has not sufficiently demonstrated the commercial value of his home patent, and the advisability of taking out a Canadian patent, he is advised to give notice to the Commissioner of Patents, Ottawa, of his intention of doing so, which will fully protect his interests for one year, as under the above provision; and if the patentee fail to give this formal notice, he cannot obtain redress from any person who has commenced to manufacture his invention in Canada during the year.

There is also an advantage sometimes in giving this formal notice within three months and delaying the grant of the patent for one year, as the patentee is allowed to import the patented article into Canada during one year only, after the grant of the Canadian patent.

The construction or manufacturing of the invention in Canada must be commenced within two years from the date of the patent, and continuously carried on from that time, though the extension of this time may be secured upon timely application to the Commissioner, giving any good and proper reason. The time for importation is also sometimes extended upon proper application.

Canadian patents are granted originally for a term of eighteen years, the Government fee being $60 for the eighteen years, but at the election of the patentee this fee may be divided into three payments of $20 each, as follows: $20 at the time of the grant, $20 at the expiration of the sixth year, if the owner desires to keep the patent alive, if not he can allow the patent to become forfeited; and at the end of the twelfth year, if it is still desired to maintain the patent, the remaining fee of $20 may be paid. If the patentee in the meantime assigns his patent, the assignee will pay the required government fees at the end of the sixth and twelfth years, if it is desired to maintain its validity.

The Canadian patent covers and affords full protection in the following provinces:

PROVINCES.	Area Sq. Miles.	Population 1911
Alberta	253,000	372,919
British Columbia	390,000	362,768

Manitoba	72,870	454,691
New Brunswick	28,000	351,815
Nova Scotia	20,600	461,847
Ontario	222,000	2,519,902
Prince Edward Island	2,000	93,722
Quebec	347,000	2,000,697
Saskatchewan	250,000	453,508
Northwest Territories	1,922,750	10,000
Yukon	200,000	———
TOTAL	3,708,220	7,081,869

Selling Canadian Patents. In selling Canadian patents, the patentee will proceed in much the same way as in the United States, though he cannot expect, nor should he ask, more than about one-third as much for the Canadian patent as he receives, or expects, from the United States patent. Patents are not as readily sold in Canada as here, but if the inventor has a useful invention of merit, which is being manufactured profitably in the United States, he will have no trouble in disposing of his Canadian patent at a satisfactory price.

It is in nearly all cases advisable for the inventor to first put his invention upon the market in the United States before trying to realize from his Canadian interests, as it will be found difficult to interest Canadian capital in a patent that has not been first put into practice here; and if the patentee be able to dispose of his Canadian patent at all, it is usually for a very insignificant sum; whereas, on the other hand, if the patentee fully protects his interests there, and proceeds to put the invention upon the home market, he will not only be able to present his Canadian patent in a more favorable and forcible way by proving its commercial value, but he will undoubtedly get better offers, and realize full value for his Canadian interests, in exact proportion to the success of his invention in the United States.

POPULATION OF

CANADIAN CITIES

(*Compiled from the Census of 1911*)

Montreal	406,197	New Westminster	13,394
Toronto	376,240	Stratford	12,929
Winnipeg	135,440	Owen Sound	12,555
Vancouver	100,333	St. Catharines	12,460
Ottawa	86,340	Saskatoon	12,002
Hamilton	81,897	Verdun	11,622
Quebec	78,067	Moncton	11,319
London	46,177	Port Arthur	11,216
Halifax	46,081	Lachine	10,778
Calgary	43,736	Chatham	10,760
St. John	42,363	Galt	10,299
Victoria	31,620	Sault Ste. Marie	10,179
Regina	30,210	Sarnia	9,936
Edmonton	24,882	Belleville	9,850
Brantford	23,046	St. Hyacinthe	9,797
Kingston	18,815	Valleyfield	9,447
Maissonneuve	18,674	Brockville	9,372
Peterboro	18,312	Woodstock	9,321
Windsor	17,819	Niagara Falls	9,245
Sydney Town	17,617	Sorel	8,419
Hull	17,585	Nanaimo	8,305
Glace Bay	16,561	Lethbridge	8,048
Fort William	16,498	Vancouver, North	7,781
Sherbrooke	16,495	North Bay	7,718
Vancouver, South	16,021	St. Boniface	7,717
Berlin	15,192	Sydney Mines	7,464
Guelph	15,148	Levis	7,448
St. Thomas	14,050	Oshawa	7,433
Brandon	13,837	Collingwood	7,077
Moose Jaw	13,824	Fredericton	7,028

CHAPTER VIII

DECISIONS AND NOTES

The following digest will be found to contain much useful information for the patentee, it being a carefully selected list of decisions affecting assignments, territorial grants, licenses, State laws, etc.; including those rendered by the Supreme Court of the United States, the Circuit Court of Appeals, State Courts, and of various Commissioners of Patents, all of which decisions enunciate well-settled and controlling principles of Patent Law.

Assignments. Assignments of patents are not required to be under seal. The statutes simply provide that "every patent, or any interest therein shall be assignable in law by an instrument in writing." (*Gottfried* vs. *Miller, U. S. S. C. Decided Jan. 23, 1882.*)

A contract assigning a patent and all future improvements thereon is enforceable against assignees of such improvements who take notice of the contract. (*Westinghouse Air Brake Co.* vs. *Chicago Brake and Mfg. Co., 85 F. R., 786.*)

Each co-owner of a patent may use his right without the concurrence of the others and license at will. (*Washburn & Moen Co.* vs. *Chicago Wire Fence Co., 109 Ill., 71.*)

Owners of a patent are tenants in common, and each, as an incident of his ownership, has the right to use the patent or manufacture under it. But neither can be compelled by his co-owner to join in such use or work, or be liable for the losses which may occur, or to account for the profits which may arise from such use. (*De Witt* vs. *Elmira Nobles Mfg. Co., 12 N. Y. Spur., 301.*)

Joint owners of a patent, right are not copartners, and in the absence of any express contract each is at liberty to use his moiety as he may think fit, without any liability to or accounting to the other for profits or losses. (*Vose* vs. *Singer, 4 Allen (Mass.), 226; vide Pitt vs. Hall, 3 Blatch., 201.*)

Although an assignment of patent is not recorded within three months, it is binding on the assignor, and he cannot sell the patent again. (*Ex parte Waters, Com. Dec., 1899, p. 42.*)

A verbal license or interest in an invention has no effect as against a subsequent assignee without notice of such verbal license or interest. (*U. S. S. C., Gates Iron Works* vs. *Fraser et al., 1894, C. D., 304.*)

An assignment to assign future patents, in consideration of the assignee's paying the expense of taking them out, is broken by his refusal to pay for and take out a particular patent when requested, and a subsequent assignment to another conveys a perfect title. (*Buck* vs. *Timony, 78 Fed. Rep., 487.*)

Any assignment which does not convey to the assignee the entire and unqualified monopoly which the patentee holds in the territory specified, or an undivided interest in the entire *monopoly,* is a mere license. (*Sanford* vs. *Messer, 2 O. G., 470.*)

When a party does license, grant, and convey any invention which he may hereafter make, this gives only an equitable right to have an assignment made, and this right may be defeated by assignment of the patent to a purchaser for value without notice of this equity. (*Regan Vapor Engine Co.* vs. *Pacific Gas Engine Co. (Nineth Cir.), 7 U. S., App., 73.*)

Territorial Grants. A territorial grantee cannot be restrained from advertising and selling within his territory, even though the purchasers may take the patented article outside the vendor's territory. (*Hatch* vs. *Hall, 22 Fed. Rep., 483.*)

One who buys patented articles of manufacture from an assignee for a specified territory becomes possessed of an absolute property in such articles, unrestricted in time or place. (*U. S. S. C., Keller et al.* vs. *Standard Folding Bed Co., 71 O. G., 451.*)

The sale of a patented machine by one authorized to sell, conveys the whole ownership to the purchaser, who may sell it again to another. (*Morgan Envelope Co.* vs. *Albany Perforated Wrapping Paper Co., 152 U. S. 425.*)

Licenses. Every person who pays the patentee for a license to use his process becomes the owner of the product, and may sell it to whom he pleases, or apply it to any purpose, unless he binds himself by covenants to restrict his rights of making and vending

certain articles that may interfere with the special business of some other licensee. (*Met. Washing Machine Co.* vs. *Earl, 2 Fish., 203; 2 Wall., Jr., 230.*)

A license is not forfeitable for non-payment of royalties in the absence of express provisions to that effect. (*Wagner Typewriter Co.* vs. *Watkins, 84 Fed. Rep., 57; 1898.*)

A shop right is a personal license and is not assignable. (*Gibbs* vs. *Hoefner, 19 Fed. Rep., 323; 22 Blatch., 36.*)

A license to a person to use an invention only "at his own establishment" does not authorize a use at an establishment owned by him and others. (*Rubber Co.* vs. *Goodyear, 9 Wallace, 788.*)

A license is not transferable unless its terms so state. (*Olmer* vs. *Rumford Chemical Co., 109 U. S., 75.*)

A license merely to make and not to sell does not impair the patent owner's right to sue for infringement outside of the license; and the purchaser of the licensee's tools and materials would not carry the right to sell the product made thereon. (*American Graphophone Co.* vs. *Walcut, 87 Fed. Rep., 556; 1898.*)

A license to use a machine carries with it the right to repair the machine, and replace worn parts until the essential original parts of the machine have disappeared. (*Robinson on Patents, Sec. 827.*)

A lawful sale of a patented article by a patentee or grantee, within his own territory, carries with it the right to use such article throughout the whole United States. (*Adams* vs. *Burke, 5 O.G., 118*; *Hobbie* vs. *Smith. 27 Fed. Rep., 636.*)

When an applicant in certain instruments assigned his right, title, and interest in an invention, retaining for himself the exclusive right to employ the invention in the manufacture of a certain class of machines, Held, that such instruments do not convey the entire interest in the invention or any undivided part thereof, and they are construed to be nothing more than licenses. (*Ex parte Rosback, 89 O. G., 705. Decided Oct. 5, 1899.*)

An implied license to use a patented improvement without payment of any royalties during the continuance of employment of the inventor, and thereafter, on the same terms and royalties fixed for other parties, is shown where the inventor applies the patent to his employer's work without any agreement for compensation for its use further than a notice that he would require pay after his employment terminated. (*Keys* vs. *Eureka Consol. Min. Co., U. S. S. C., 158 U. S., 150.*)

A breach of a covenant in a license does not work a forfeiture of the license unless it is so expressly agreed. (*Consol. Middlings Purifier Co.* vs. *Wolf, 37 O. G., 567.*)

Patent Title.

A patent right, like any other personal property, is understood by Congress to vest in the executors and administrators of the patentee, if he dies without having assigned it. (*Shaw Relief Valve Co.* vs. *City of New Bedford, 19th Fed. Rep., 758.*)

A patent to a dead man at the time of its grant is not void for the want of a grantee, but vests in his heirs or assigns. (*U. S. S. C, De La Vergne Ref. Machine Co.* vs. *Featherstone, 1893, C. D., 181.*)

A court of equity may direct a sale of an inventor's interest in his patent to satisfy a judgment against him, and will require the patentee to assign as provided in Rev. Stat., Sec. 4898, and if he refuses, will appoint a trustee to make the assignment. (*Murray* vs. *Ager, 20 O. G., 1311.*)

A patent right cannot be seized and sold on execution. (*Carver* vs. *Peck, 131 Mass., 291.*)

A receiver cannot, under his general powers, convey the legal title to a patent (*Adams* vs. *Howard, 23 Blatch., 27*), but a court may compel an insolvent to assign his patent to a trustee or receiver. (*Pacific Bank* vs. *Robinson, 20 O. G., 1314*; *Murray* vs. *Ager, 20 O. G., 1311.*)

A patentee who assigns his patent cannot, when sued for infringement, contest the validity thereof. (*Griffith* vs. *Shaw, 89 Fed. Rep., 313.*)

RULES OF PRACTICE

The following from the "Rules of Practice in the United States Patent Office" may be perused with interest to the patentee; a copy of which, together with a copy of the "Patent Laws," will be mailed free to any person upon addressing the Hon. Commissioner of Patents, Washington, D. C., requesting the same; these being the only books or pamphlets published by the Office for gratuitous distribution.

Assignments. Every patent or any interest therein shall be assignable in law by an instrument in writing; and the patentee or his assigns or legal representatives may, in like manner, grant and convey an exclusive right under the patent to the whole or any specified part of the United States. Interests in patents may be vested in assignees, in grantees of exclusive sectional rights, in mortgagees, and in licensees.

Assignees. An assignee is a transferee of the whole interest of the original patent or of an undivided part of such whole interest, extending to every portion of the United States. The assignment must be written or printed and duly signed.

Grantees. A grantee acquires by the grant the exclusive right under the patent to make and use and to grant to others the right to make and use, the thing patented within and throughout some specified part of the United States, excluding the patentee therefrom. The grant must be written or printed and be duly signed.

Mortgages. A mortgage must be written or printed and duly signed.

Licensees. A licensee takes an interest less than or different from either of the others. A license may be oral, written, or printed, and if written or printed, must be duly signed.

Must be Recorded. An assignment, grant, or conveyance of a patent will be void as against any subsequent purchaser or mortgagee for a valuable consideration without notice unless recorded in the Patent Office within three months from the date thereof. If any such assignment, grant, or conveyance of any patent shall be acknowledged before any notary public of the several States or territories, or the District of Columbia, or any commissioner of the United States Circuit Court, or before any secretary of legation, or consular officer authorized to administer oaths or perform notarial acts under Section 1750 of the Revised Statutes, the certificate of such acknowledgment, under the hand and official seal of such notary or other officer, shall be *prima facie* evidence of the execution of such assignment, grant, or conveyance.

No instrument will be recorded which does not, in the judgment of the Commissioner, amount to an assignment, grant, mortgage, lien, encumbrance, or license, or which does not affect the title of the patent or invention to which it relates. Such instruments should identify the patent by date and number; or, if the invention is unpatented, the name of the inventor, the serial number, and date of the application should be stated.

Conditional Assignments. Assignments which are made conditional on the performance of certain stipulations, as the conditional payment of money, if recorded in the office are regarded as absolute assignments until cancelled with the written consent of both parties, or by the decree of a competent court. The office has no means for determining whether such conditions have been filled. (*Rev. Stat., Sec. 4898.*)

STATE LAWS ON SELLING PATENTS

In some States, laws have been passed by which attempts have been made to regulate or prevent the sale of patent rights within their borders, by imposing upon patentees or their agents certain State restrictions, such as requiring the filing of copies of patents, making and filing proofs, taking out licenses, procuring certificates, complying with forms, or prescribing the terms of a note to be given for a patent.

While it has never been squarely brought before the United States Supreme Court, with the result that much conflicting legislation has been enacted by the different States, it may be said, as a general proposition, that a State or municipality, through the medium of its Legislature or officials, has no constitutional right to make or enforce laws which in any way affect or control the transfer, sale, or other disposition of United States Letters Patent; or to interfere in any manner with the patentee going into the open market anywhere to sell his rights conferred by the patent.

It is a well-established principle of law that Congress has exclusive right and power to legislate on the subjects specially assigned to it by the Constitution, while power is delegated to the several States to legislate on those subjects not thus expressly placed within the control of Congress. It would seem clear that there can be no State interference with the rights which are incident to the grant of Letters Patent and expressly conferred thereby.

Ohio was the first State attempting to place restrictions upon the handling of patent rights, which, in 1868, passed an act requiring any person, before offering for sale a patent right in any county, to submit the patent to the Probate Judge of the county, and make affidavit before said judge that the patent was in force, and that the applicant had the right to sell, and also requiring that any written obligation taken on the sale of such right should bear on its face the words, "Given for a Patent Right."

The portion of the Ohio statute relating to the making and filing proofs was subsequently made the law in Illinois, Minnesota, Indiana, Nebraska, and Kansas, while the requirement that written obligations given for a patent right should bear such statement written upon its face was made the law in Vermont, Michigan, Pennsylvania, Wisconsin, New York, Connecticut, and Arkansas.

In view of the decisions rendered by the Supreme Court of the United States in the cases of *ex parte* Robinson, 2 Bissel, 309, and Webber *vs.* Virginia, 103 U. S., 347; 20 O. G., 136, some of the States repealed their statutes relating to the filing of proofs, while others did not—notably Indiana and Kansas, where the statute still remains in force.

While the Supreme Court in the above cases did not decide the constitutionality of the State statutes, it was clearly indicated that property in inventions existed by virtue of the laws of Congress, and that no State had any right to interfere with its enjoyment, or to annex conditions to the grant, and that the patentee had a right to go into the open market anywhere in the United States and sell his property. It also established the proposition that a State may require the taking out of a license for the sale of the manufactured article covered by the patent; and the patentee should keep in mind the distinction between selling patents, or patent privileges, and the selling of goods or manufactured articles, as all who sell goods, whether patented or not, must conform with the local and State laws relating to same.

The statute requiring the insertion in written obligations of the words, "Given for a Patent Right," has been declared unconstitutional by the higher State Courts in Illinois, Michigan, Minnesota, and Nebraska, and by the Circuit Courts in the southern district of Ohio, and in the district of Indiana; while its validity has been sustained by the courts of last resort in New York, Pennsylvania, Ohio, Indiana, and Kansas. Therefore, the validity of the State statutes on the point referred to may be regarded as finally established in the last-named States until brought before the Supreme Court of the United States.

CHAPTER IX

THE TRANSFER OF PATENT RIGHTS

It frequently occurs to the patentee that a knowledge of the legal requirements of the transfer of patent rights would save him much time and trouble. Patentees should carefully scrutinize all papers offered by the parties in whose favor they are drawn, and, if possible, he should have his attorney to examine them.

There are three classes of persons in whom the patentee can vest an interest of some kind. They are an assignee, a grantee of an exclusive sectional right, and a licensee.

Assignee, Grantee, and Licensee Defined.

"An *assignee* is one who has transferred to him in writing the whole interest in the original patent, or any undivided part of such whole interest in every portion of the United States. And no one, unless he has such an interest transferred to him, is an assignee.

"A *grantee* is one who has transferred in writing the exclusive right under the patent, to make and use, and to grant to others to make and use, the thing patented, within and throughout some specified part or portion of the United States. Such right must be an exclusive sectional right, excluding the patentee therefrom.

"A *licensee* is one who has transferred to him in writing, or orally, a less or different interest than either the interest in the whole patent, or an undivided part of such whole interest, or an exclusive sectional interest." (*Potter* vs. *Holland, 1 Fish, 327*.)

The Language of Law.

If a man were to give another an orange he would simply say, "I give you this orange"; but if the transaction be intrusted to a lawyer to draw up according to the requirements of law, says the *Observer*, he would most probably put it in the following language: "I hereby give, grant, and convey to you all my interest, right, title, and advantage of and in said orange, together with its rind, skin, juice, pulp, and pits, and all right and advantage therein with full power to bite, suck, cut, or otherwise eat the same or to give the same away, as fully and effectually as I, the said A. B., am now entitled to cut, bite, or otherwise eat the same, or give away the same with or without the rind, skin, juice, pulp, or pits; anything hereinbefore or hereafter or in any other deed or deeds, instruments of nature or kind whatsoever to the contrary in anywise notwithstanding."

It is always better and more satisfactory to have assignments, royalty contracts, agreements, etc., drawn up specially to accord with the facts, details, and covenants of each particular case; and there is no one probably better able to do this than the attorney who secured the patent. However, if in the case the parties to the transaction cannot well delay proceedings to have the papers prepared by an attorney, by adhering to the following forms in any such transactions, both the purchaser and seller may rest assured that their rights are protected.

ASSIGNMENT OF ENTIRE INTEREST IN LETTERS PATENT

Whereas, I, Richard Doe, of Columbus, County of Franklin, State of Ohio, did obtain Letters Patent of the United States for an improvement in Typewriting Machines, which Letters Patent are numbered 000,000, and bear date January 1, 1901; and whereas I am now sole owner of said patent, and of all rights under the same; and whereas the Ohio Typewriter Company, a corporation, of Cincinnati, County of Hamilton, and State of Ohio, is desirous of acquiring an interest in the same:

Now, therefore, to all whom it may concern, be it known, that for and in consideration of the sum of five thousand dollars to me in hand paid by the aforesaid corporation, the receipt of which is hereby acknowledged, I, the said Richard Doe have sold, assigned, and transferred, and by these presents do sell, assign, and transfer unto the said Ohio Typewriter Company, its successors and assigns, the entire right, title and interest in and to said Letters Patent and the invention therein patented; the same to be held and enjoyed by the said corporation for its own use and behoof, and for the use and behoof of its successors and assigns, to the full end of the term for which said Letters Patent are or may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

In testimony whereof, I have hereto set my hand and affixed my seal, at Columbus, County and State aforesaid, this tenth day of January, A.D. 1901.

RICHARD DOE. (*Seal.*)

In the presence of
JOHN SMITH,
THOS. JONES.

STATE OF OHIO,
COUNTY OF FRANKLIN } *ss.:*

Subscribed and acknowledged before me this tenth day of January, A.D. 1901.

Seal.

JOHN RICE,
Notary Public.

If it is the intention of the assignor to convey to the assignee the right to recover for past infringement of the patent, a clause like the following should be added:

And for the same consideration, I do hereby sell, assign and transfer unto the aforesaid corporation, all claims and demands, both at law and in equity, which may have accrued to me by reason of the infringement of the aforesaid Letters Patent with the right to sue and recover therefor in its own name and for its own use and behoof.

ASSIGNMENT OF AN UNDIVIDED INTEREST

Whereas, I, Richard Doe, of Philadelphia, County of Philadelphia, State of Pennsylvania, did obtain Letters Patent of the United States for improvements in Locomotive Headlights, which Letters Patent are numbered 000,000, and bear the date of June 26, 1900; and whereas, John Roe, of Philadelphia, County of Philadelphia and State of Pennsylvania, is desirous of acquiring an interest in the same: *Now, therefore*, this indenture witnesseth, that for and in consideration of the sum of one thousand dollars to me in hand paid by said John Roe, the receipt of which is hereby acknowledged, I do hereby sell, assign, and transfer unto the said John Roe, his heirs and assigns, one undivided one-half interest in and to the aforesaid Letters Patent and the invention therein patented; the same to be held and enjoyed by the said John Roe, his heirs and assigns to the full end of the term for which said Letters Patent are or may be granted as fully and entirely as the same would have been held and enjoyed by me if this assignment and sale had not been made.

And I do hereby declare that I have not conveyed to any other party the rights and interest herein transferred to the said John Roe.

Witness my hand and seal this tenth day of January, A.D. 1901,

RICHARD DOE.

In the presence of
JOHN SMITH,
THOS. JONES.

STATE OF PENNA.,
COUNTY OF PHILADELPHIA } *ss.:*

Subscribed and sworn before me this tenth day of January, A.D. 1901.

Seal.

JOHN RICE,
Notary Public.

GRANT OF A TERRITORIAL INTEREST

Whereas, I, Richard Doe, of Dayton, County of Montgomery, State of Ohio, did obtain Letters Patent of the United States for improvements in Corn-Cultivators, which Letters Patent are numbered 000,000, and bear date the first day of January, 1901, and whereas, I am now the sole owner of said patent, and of all rights under the same in the below-recited territory; and whereas, John Roe, of Indianapolis, County of Marion, State of Indiana, is desirous of acquiring an interest in the same;

Now, therefore, to all whom it may concern, be it known, that for and in consideration of the sum of one thousand dollars to me in hand paid, by the said John Roe, the receipt of

which is hereby acknowledge, I, the said Richard Doe, have sold, assigned, and transferred, and by these presents do sell, assign and transfer unto the said John Roe, his heirs and assigns, the entire right, title and interest in and to said Letters Patent, and in and to the invention therein patented for the States of Indiana and Illinois, and in no other place or places; the same to be held and enjoyed by the said John Roe, his heirs and assigns, within and throughout the above specified territory, but not elsewhere, to the full end of the term for which said Letters Patent are or may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

In testimony whereof, I have hereunto set my hand and affixed my seal this tenth day of January, A.D. 1901, in the presence of the subscribing witnesses.

RICHARD DOE.

In the presence of
JOHN SMITH,
THOS. JONES.

STATE OF INDIANA,
COUNTY OF MARION } *ss.:*

On this tenth day of January, A.D. 1901, personally appeared before me Richard Doe, to me known and known to me to be the individual who executed the foregoing instrument, and who acknowledged to me that he executed the same for the purpose therein expressed.

Seal.

JOHN RICE,
Notary Public.

LICENSE:—SHOP-RIGHT

In consideration of the sum of two hundred dollars to me paid by The John Roe Company, a corporation of Pennsylvania, located in the city of Pittsburg, I do hereby license and empower said company to make and use at its foundry and machine shop in said Pittsburg, and in no other place or places, in connection with its own business only, or that of its successors and assigns, the improvements in Lathes, for which Letters Patent of the United States No. 000,000, were granted to me January 1, 1901, to the full end of the term for which said Letters Patent are granted.

Signed and delivered at Pittsburg, in the County of Allegheny, State of Pennsylvania, this tenth day of January, A. D. 1901.

RICHARD DOE.

TO JOHN ROE COMPANY,
Pittsburg, Pa.

LICENSE:—NON-EXCLUSIVE—WITH ROYALTY

This agreement, made this tenth day of January, 1901, between Richard Doe, of Wilmington, County of New Castle, State of Delaware, party of the first part, and the Metallic Railway Tie Company, of Chicago, in the County of Cook, and State of Illinois, party of the second part,

Witnesseth, that whereas Letters Patent of the United States, No. 000,000, for an improvement in Metallic Railroad-Ties, were granted to the party of the first part January 1, 1901; and whereas the party of the second part is desirous of manufacturing Metallic Railroad-Ties containing the said patented improvements:

Now, therefore, the parties hereto have agreed as follows:

I. The party of the first part hereby licenses and empowers the party of the second part to manufacture, subject to the conditions herein named, at their plant in Chicago, and in no other place or places, to the end of the term for which said Letters Patent were granted, Metallic Railroad-Ties containing the patented improvements, and to sell the same within the United States.

II. The party of the second part agrees to make full and true returns to the party of the first part, under oath, upon the first days of January and July in each year, of all Metallic

Railroad-Ties containing said patented improvements manufactured by them.

III. The party of the second part agrees to pay the party of the first part five dollars as a license fee upon each and every thousand Metallic Railroad-Ties manufactured by the party of the second part containing the patented improvements: provided, that if the said fee be paid upon the days provided herein for semi-annual returns, or within ten days thereafter, a discount of fifty per cent, shall be made from said fee for prompt payment.

IV. The party of the second part agrees to put forth their best efforts and use due diligence in the manufacture and sale of the Metallic Railroad-Ties containing the said patented improvements, and if the royalties do not amount to five hundred dollars semi-annually, the party of the first part may terminate this license by serving a written notice upon the party of the second part.

V. Upon the failure of the party of the second part to make returns or to make payment of license fees, as herein provided, for thirty days after the days herein named, the party of the first part may terminate this license by serving a written notice upon the party of the second part; but the party of the second part shall not thereby be discharged from any liability to the party of the first part for any license fees due at the time of the service of such notice.

In witness whereof, the parties above named have hereto set their hands the day and year first above written, at Chicago, County of Cook, and State of Illinois.

RICHARD DOE,
Metallic Railroad Tie Company,
Per John Roe, President.

LICENSE:—EXCLUSIVE—WITH ROYALTY

This agreement, made this tenth day of January, 1901, between Richard Doe, of Boston, State of Massachusetts, party of the first part, and the Roe Vending Machine Company, a corporate body under the laws of the State of New Jersey, located and doing business at the city of New York, in the State of New York, party of the second part,

Witnesseth, that whereas, Letters Patent of the United States, No. 000,000, were, on the first day of January, 1901, granted to the said party of the first part, for improvements in Coin-Controlled Machines, and whereas said party of the second part is desirous of manufacturing and selling said patented article: Now, therefore, the parties hereto have agreed as follows:

I. The party of the first part gives to the party of the second part the exclusive right to manufacture and sell the said patented improvements, to the end of the term of said patent, subject to the conditions hereinafter named.

II. The party of the second part agrees to make full and true returns, on the first days of January and July in each year, of all machines manufactured and sold by them containing the said patented improvements in the six calendar months next preceding the date of any such notice; and if the party of the first part shall not be satisfied in any respect with any such return, then shall the party of the first part have the right, either by himself or by his attorney, to examine any and all books of account of said party of the second part concerning any items, charges, memoranda, or information relating to the manufacture or sale of said patented Coin-Controlled Machines; and upon request made, said party of the second part shall produce all such books for said examination.

III. The party of the second part agrees to pay the party of the first part five dollars as a license fee upon every one of the said patented Coin-Controlled Machines manufactured by them, the whole of said license fee for each term of six months to be due and payable on the days hereinabove provided for semi-annual returns; provided, that if said fee be paid upon the days herein provided, or within fifteen days thereafter, a discount of fifty per cent, shall be made from said fee for prompt payment.

IV. The party of the second part agrees to pay the party of the first part at least two thousand dollars, less discount, as said license fee upon each of the semi-annual terms, even though they should not make enough of said patented machines to amount to that sum at the regular royalty of five dollars each.

V. The party of the second part shall cast, or otherwise permanently place, upon every such machine made under this license the word "Doe," and in close relation thereto the word "Patented," and the number and date of said patent.

VI. The party of the second part shall not, during the life of this license, make or sell any article which can compete in the market with said Coin-Controlled Machines.

VII. Upon the failure of the party of the second part to keep each and all of the conditions of this license and agreement, the party of the first part may, at his option, terminate this license, and such termination shall not release said party of the second part from any liability due at such time to the party of the first part.

In witness whereof, the above-named parties (the said Roe Vending Machine Company, by its president) have hereto set their hands the day and year first above written,

RICHARD DOE,
Roe Vending Machine Company,
By John Roe, President.

No general legal forms should be relied upon too implicitly as suiting particular cases, and an inventor, in order to fully protect his interests, should consult a reliable patent attorney, and have the forms properly prepared to suit his individual case.

Map of Continental USA

CHAPTER X

TABLES AND STATISTICS

OFFICIAL CENSUS

OF THE

UNITED STATES, BY COUNTIES, FOR 1910

(*From the Bulletin of the Director of the Census*)

ALABAMA.—Area, 51,998 square miles.

Autauga	20,038	Dallas	53,401	Marengo	39,923
Baldwin	18,178	Dekalb	28,261	Marion	17,495
Barbour	32,728			Marshall	28,553
Bibb	22,791	Elmore	28,245	Mobile	80,854
Blount	21,456	Escambia	18,889	Monroe	27,155
		Etowah	39,109		
Bullock	30,196	Fayette	16,248	Montgomery	82,178
Butler	29,030	Franklin	19,369	Morgan	33,781
Calhoun	39,115			Perry	31,222
Chambers	36,056	Geneva	26,230	Pickens	25,055
Cherokee	20,226	Greene	22,717	Pike	30,815
		Hale	27,883		
Chilton	23,187	Henry	20,943	Randolph	24,659
Choctaw	18,483	Houston	32,414	Russell	25,937
Clarke	30,987			St. Clair	20,715
Clay	21,006	Jackson	32,918	Shelby	26,949
Cleburne	13,385	Jefferson	226,476	Sumter	28,699
		Lamar	17,487		
Coffee	26,119	Lauderdale	30,936	Talladega	37,921
Colbert	24,802	Lawrence	21,984	Tallapoosa	31,034
Conecuh	21,433			Tuscaloosa	47,559
Coosa	16,634	Lee	32,867	Walker	37,013
Covington	32,124	Limestone	26,880	Washington	14,454
		Lowndes	31,894		
Crenshaw	23,313	Macon	26,049	Wilcox	33,810
Cullman	28,321	Madison	47,041	Winston	12,855
Dale	21,873				
TOTAL					2,138,093

ARIZONA.—Area, 113,956 square miles.

Apache	9,196	Maricopa	34,488	Santa Cruz	6,766
Cochise	34,591	Mohave	3,773	Yavapai	15,996
Coconino	8,130	Navajo	11,491	Yuma	7,733
Gila	16,780	Pima	22,818		
Graham	23,547	Pinal	9,045		
TOTAL					204,354

ARKANSAS.—Area, 53,335 square miles.

Arkansas	16,103	Garland	27,271	Newton	10,612
Ashley	25,268	Grant	9,425	Ouachita	21,774
Baxter	10,389	Greene	23,852	Perry	9,402
Benton	33,389	Hempstead	28,285	Phillips	33,535
Boone	14,318	Hot Spring	15,022	Pike	12,565
Bradley	14,518	Howard	16,898	Poinsett	12,791
Calhoun	9,894	Independence	24,776	Polk	17,216
Carroll	16,829	Izard	14,561	Pope	24,527
Chicot	21,987	Jackson	23,501	Prairie	13,853
Clark	23,686	Jefferson	52,734	Pulaski	86,751
Clay	23,690	Johnson	19,698	Randolph	18,987
Cleburne	11,903	Lafayette	13,741	St. Francis	22,548
Cleveland	13,481	Lawrence	20,001	Saline	16,057
Columbia	23,820	Lee	24,252	Scott	14,302
Conway	22,729	Lincoln	15,118	Searcy	14,825
Craighead	27,627	Little River	13,597	Sebastian	52,278
Crawford	23,942	Logan	26,350	Sevier	16,616
Crittenden	22,447	Lonoke	27,983	Sharp	11,688
Cross	14,042	Madison	16,056	Stone	8,946

Dallas	12,621	Marion	10,203	Union	30,723
Desha	15,274	Miller	19,555	Van Buren	13,509
Drew	21,960	Mississippi	30,468	Washington	33,889
Faulkner	23,708	Monroe	19,907	White	28,574
Franklin	20,638	Montgomery	12,455	Woodruff	20,049
Fulton	12,193	Nevada	19,344	Yell	26,323
TOTAL					1,574,449

CALIFORNIA.—Area, 158,297 square miles.

Alameda	246,131	Glenn	7,172	Marin	25,114
Alpine	309	Humboldt	33,857	Mariposa	3,956
Amador	9,086	Imperial	13,591	Mendocino	23,929
Butte	27,301	Inyo	6,974	Merced	15,148
Calaveras	9,171	Kern	37,715	Modoc	6,191
Colusa	7,732	Kings	16,230	Mono	2,042
Contra Costa	31,674	Lake	5,526	Monterey	24,146
Del Norte	2,417	Lassen	4,802	Napa	19,800
Eldorado	7,492	Los Angeles	504,131	Nevada	14,955
Fresno	75,657	Madera	8,368	Orange	34,436
Placer	18,237	San Mateo	26,585	Sutter	6,328
Plumas	5,259	Santa Barbara	27,738	Tehama	11,401
Riverside	34,696	Santa Clara	83,539	Trinity	3,301
Sacramento	67,806	Santa Cruz	26,140	Tulare	35,440
San Benito	8,041	Shasta	18,920	Tuolumne	9,979
San Bernadino	56,706	Sierra	4,098	Ventura	18,347
San Diego	61,665	Siskiyou	18,801	Yolo	13,926
San Francisco	416,912	Solano	27,539	Yuba	10,042
San Joaquin	50,731	Sonoma	48,394		
San Luis Obispo	19,383	Stanislaus	22,522		
TOTAL					2,377,549

COLORADO.—Area, 103,948 square miles.

Adams	8,892	Garfield	10,144	Morgan	9,577
Arapahoe	10,263	Gilpin	4,131	Otero	20,201
Archuleta	3,302	Grand	1,862	Ouray	3,514
Baca	2,516	Gunnison	5,897	Park	2,492
Bent	5,043	Hinsdale	646	Phillips	3,179
Boulder	30,330	Huerfano	13,320	Pitkin	4,566
Chaffee	7,622	Jackson	1,013	Prowers	9,520
Cheyenne	3,687	Jefferson	14,231	Pueblo	52,223
Clear Creek	5,001	Kiowa	2,899	Rio Blanco	2,332
Conejos	11,285	Kit Carson	7,483	Rio Grande	6,563
Costilla	5,498	La Plate	10,812	Routt	7,561
Custer	1,947	Lake	10,600	Saguache	4,160
Delta	13,688	Larimer	25,270	San Juan	3,063
Denver	213,381	Las Animas	33,643	San Miguel	4,700
Dolores	642	Lincoln	5,917	Sedgwick	3,061
Douglas	3,192	Logan	9,549	Summit	2,003
Eagle	2,985	Mesa	22,197	Teller	14,351
El Paso	43,321	Mineral	1,239	Washington	6,002
Elbert	5,331	Montezuma	5,029	Weld	39,177
Fremont	18,181	Montrose	10,291	Yuma	8,499
TOTAL					799,024

CONNECTICUT.—Area, 4,965 square miles.

rfield	245,322	Middlesex	45,637	New London	91,253
Hartford	250,182			Tolland	26,459
Litchfield	70,260	New Haven	337,282	Windham	48,361
TOTAL					1,114,756

DELAWARE.—Area, 2,370 square miles.

Kent	32,721	Newcastle	123,188	Sussex	46,413
TOTAL					202,322

DISTRICT OF COLUMBIA.—Area, 70 square miles.

The District	331,069

FLORIDA.—Area, 58,666 square miles.

Alachua	34,305	Hillsboro	78,374	Osceola	5,507
Baker	4,805	Holmes	11,557	Palm Beach	5,577
Bradford	14,090	Jackson	29,821	Pasco	7,502
Brevard	4,717	Jefferson	17,210		
Calhoun	7,465			Polk	24,148
		Lafayette	6,710	Putnam	13,096
Citrus	6,731	Lake	9,509	St. John	13,208
Clay	6,116	Lee	6,294	St. Lucie	4,075
Columbia	17,689	Leon	19,427	Santa Rosa	14,897
Dade	11,933	Levy	10,361		
De Soto	14,200			Sumter	6,696
		Liberty	4,700	Suwanee	18,603
Duval	75,163	Madison	16,919	Taylor	7,103
Escambia	36,549	Manatee	9,550	Volusia	16,510
Franklin	5,201	Marion	26,941	Wakulla	4,802
Gadsden	22,198	Monroe	21,563		
Hamilton	11,825			Walton	16,460
		Nassau	10,525	Washington	16,403
Hernando	4,997	Orange	19,107		
TOTAL					752,619

GEORGIA.—Area, 59,265 square miles.

Appling	12,318	Clayton	10,453	Forsyth	11,940
Baker	7,973	Clinch	8,424	Franklin	17,894
Baldwin	18,354	Cobb	28,397	Fulton	177,733
Banks	11,244	Coffee	21,953	Gilmer	9,237
Bartow	25,388	Colquitt	19,789	Glascock	4,669
Ben Hill	11,863	Columbia	12,328	Glynn	15,720
Berrien	22,772	Coweta	28,800	Gordon	15,861
Bibb	56,646	Crawford	8,310	Grady	18,457
Brooks	23,832	Crisp	16,423	Greene	18,512
Bryan	6,702	Dade	4,139	Gwinnett	28,824
Bulloch	26,464	Dawson	4,686	Habersham	10,134
Burke	27,268	Decatur	29,045	Hall	25,730
Butts	13,624	Dekalb	27,881	Hancock	19,189
Calhoun	11,334	Dodge	20,127	Haralson	13,514
Camden	7,690	Dooly	20,554	Harris	17,886
Campbell	10,874	Dougherty	16,035	Hart	16,216
Carroll	30,855	Douglas	8,953	Heard	11,189
Catoosa	7,184	Early	18,122	Henry	19,927
Charlton	4,722	Echols	3,309	Houston	23,609
Chatham	79,690	Effingham	9,971	Irwin	10,461
Chattahoochee	5,586	Elbert	24,125	Jackson	30,169
Chattooga	13,608	Emanuel	25,140	Jasper	16,552
Cherokee	16,661	Fannin	12,574	Jeff Davis	6,050
Clarke	23,273	Fayette	10,966	Jefferson	21,379
Clay	8,960	Floyd	36,736	Jenkins	11,520
Johnson	12,897	Paulding	14,124	Tift	11,487
Jones	13,103	Pickens	9,041	Toombs	11,206
Laurens	35,501	Pierce	10,749	Towns	3,932
Lee	11,679	Pike	19,495	Troup	26,228
Liberty	12,924	Polk	20,203	Turner	10,075
Lincoln	8,714	Pulaski	22,835	Twiggs	10,736
Lowndes	24,436	Putnam	13,876	Union	6,918
Lumpkin	5,444	Quitman	4,594	Upson	12,757
McDuffie	10,325	Rabun	5,562	Walker	18,692
McIntosh	6,442	Randolph	18,841	Walton	25,393
Macon	15,016	Richmond	58,886	Ware	22,957
Madison	16,851	Rockdale	8,916	Warren	11,860
Marion	9,147	Schley	5,213	Washington	28,174
Meriwether	25,180	Screven	20,202	Wayne	13,069
Miller	7,986	Spalding	19,741	Webster	6,151
Milton	7,239	Stephens	9,728	White	5,110
Mitchell	22,114	Stewart	13,437	Whitfield	15,934
Monroe	20,450	Sumter	29,092	Wilcox	13,486

Montgomery	19,638	Talbot	11,696	Wilkes	23,441
Morgan	19,717	Taliaferro	8,766	Wilkinson	10,078
Murray	9,763	Tattnall	18,569	Worth	19,147
Muscogee	36,227	Taylor	10,839		
Newton	18,449	Telfair	13,288		
Oconee	11,104	Terrell	22,003		
Oglethorpe	18,680	Thomas	29,071		
TOTAL					2,609,121

IDAHO.—Area, 84,313 square miles.

Ada	29,088	Cassia	7,197	Lemhi	4,786
Bannock	19,242	Custer	3,001	Lincoln	12,676
Bear Lake	7,729			Nez Perce	24,860
Bingham	23,306	Elmore	4,785	Oneida	15,170
Blaine	8,387	Fremont	24,606	Owyhee	4,044
		Idaho	12,384		
Boise	5,250	Kootenai	22,747	Shoshone	13,963
Bonner	13,588	Latah	18,818	Twin Falls	13,543
Canyon	25,323			Washington	11,101
TOTAL					325,594

ILLINOIS.—Area, 56,665 square miles.

Adams	64,588	Christian	34,594	Douglas	19,591
Alexander	22,741	Clark	23,517	Dupage	33,432
Bond	17,075	Clay	18,661	Edgar	27,336
Boone	15,481	Clinton	22,832	Edwards	10,049
Brown	10,397	Coles	34,517	Effingham	20,055
Bureau	43,975	Cook	2,405,233	Fayette	28,075
Calhoun	8,610	Crawford	26,281	Ford	17,096
Carroll	18,035	Cumberland	14,281	Franklin	25,943
Cass	17,372	Dekalb	33,457	Fulton	49,549
Champaign	51,829	Dewitt	18,906	Gallatin	14,628
Greene	22,363	McHenry	32,509	Rock Island	70,404
Grundy	24,162	McLean	68,008	St. Clair	119,870
Hamilton	18,227	Macon	54,186	Saline	30,204
Hancock	30,638	Macoupin	50,685	Sangamon	91,024
Hardin	7,015	Madison [*]	89,847	Schuyler	14,852
Henderson	9,724	Marion	35,094	Scott	10,067
Henry	41,736	Marshall	15,679	Shelby	31,693
Iroquois	35,543	Mason	17,377	Stark	10,098
Jackson	35,143	Massac	14,200	Stephenson	36,821
Jasper	18,157	Menard	12,796	Tazewell	34,027
Jefferson	29,111	Mercer	19,723	Union	21,856
Jersey	13,954	Monroe	13,508	Vermilion	77,996
Jo Daviess	22,657	Montgomery	35,311	Wabash	14,913
Johnson	14,331	Morgan	34,420	Warren	23,313
Kane	91,862	Moultrie	14,630	Washington	18,759
Kankakee	40,752	Ogle	27,864	Wayne	25,697
Kendall	10,777	Peoria	100,255	White	23,052
Knox	46,159	Perry	22,088	Whiteside	34,507
Lake	55,058	Platt	16,376	Will	84,371
Lasalle	90,132	Pike	28,622	Williamson	45,098
Lawrence	22,661	Pope	11,215	Winnebago	63,153
Lee	27,750	Pulaski	15,650	Woodford	20,506
Livingston	40,465	Putnam	7,561		
Logan	30,216	Randolph	29,120		
McDonough	26,887	Richland	15,970		
TOTAL					5,638,591

INDIANA.—Area, 36,354 square miles.

Adams	21,840	Fayette	14,415	Johnson	20,394
Allen	93,386	Floyd	30,293	Knox	39,183
Bartholomew	24,813	Fountain	20,439	Kosciusko	27,936
Benton	12,688	Franklin	15,335	Lagrange	15,148
Blackford	15,820	Fulton	16,879	Lake	82,864
Boone	24,673	Gibson	30,137	Laporte	45,797

Brown	7,975	Grant	51,426	Lawrence	30,625
Carroll	17,970	Greene	36,873	Madison	65,224
Cass	36,368	Hamilton	27,026	Marion	263,661
Clark	30,260	Hancock	19,030	Marshall	24,175
Clay	32,535	Harrison	20,232	Martin	12,950
Clinton	26,674	Hendricks	20,840	Miami	29,350
Crawford	12,057	Henry	29,758	Monroe	23,426
Daviess	27,747	Howard	33,177	Montgomery	29,296
Dearborn	21,396	Huntington	28,982	Morgan	21,182
Decatur	18,793	Jackson	24,727	Newton	10,504
Dekalb	25,054	Jasper	13,044	Noble	24,009
Delaware	51,414	Jay	24,961	Ohio	4,329
Dubois	19,843	Jefferson	20,483	Orange	17,192
Elkhart	49,008	Jennings	14,203	Owen	14,053
Parke	22,214	Scott	8,323	Vermilion	18,865
Perry	18,078	Shelby	26,802	Vigo	87,930
Pike	19,684	Spencer	20,676	Wabash	26,926
Porter	20,540	Starke	10,567		
Posey	21,670			Warren	10,899
		Steuben	14,274	Warrick	21,911
Pulaski	13,312	Sullivan	32,439	Washington	17,445
Putnam	20,520	Switzerland	9,914	Wayne	43,757
Randolph	29,013	Tippecanoe	40,063	Wells	22,418
Ripley	19,452	Tipton	17,459		
Rush	19,349			White	17,602
		Union	6,260	Whitley	16,892
St. Joseph	84,312	Vanderburg	77,438		
TOTAL					2,700,876

IOWA.—Area, 56,147 square miles.

Adair	14,420	Franklin	14,780	Monroe	25,429
Adams	10,998			Montgomery	16,604
Allamakee	17,328	Fremont	15,623	Muscatine	29,505
Appanoose	28,701	Greene	16,023		
Audubon	12,671	Grundy	13,574	O'Brien	17,262
		Guthrie	17,374	Osceola	8,956
Benton	23,156	Hamilton	19,242	Page	24,002
Blackhawk	44,865			Palo Alto	13,845
Boone	27,626	Hancock	12,731	Plymouth	23,129
Bremer	15,843	Hardin	20,921		
Buchanan	19,748	Harrison	23,162	Pocahontas	14,808
		Henry	18,640	Polk	110,438
Buena Vista	15,981	Howard	12,920	Pottawattamie	55,832
Butler	17,119			Poweshiek	19,589
Calhoun	17,090	Humboldt	12,182	Ringgold	12,904
Carroll	20,117	Ida	11,296		
Cass	19,047	Iowa	18,409	Sac	16,555
		Jackson	21,258	Scott	60,000
Cedar	17,765	Jasper	27,034	Shelby	16,552
Cerro Gordo	25,011			Sioux	25,248
Cherokee	16,741	Jefferson	15,951	Story	24,083
Chickasaw	15,375	Johnson	25,914		
Clarke	10,736	Jones	19,050	Tama	22,156
		Keokuk	21,160	Taylor	16,312
Clay	12,766	Kossuth	21,971	Union	16,616
Clayton	25,576			Van Buren	15,020
Clinton	45,394	Lee	36,702	Wapello	37,743
Crawford	20,041	Linn	60,720		
Dallas	23,628	Louisa	12,855	Warren	18,194
		Lucas	13,462	Washington	19,925
Davis	13,315	Lyon	14,624	Wayne	16,184
Decatur	16,347			Webster	34,629
Delaware	17,688	Madison	15,621	Winnebago	11,914
Des Moines	36,145	Mahaska	29,860		
Dickinson	8,137	Marion	22,995	Winneshiek	21,729
		Marshall	30,279	Woodbury	67,616
Dubuque	57,450	Mills	15,811	Worth	9,950
Emmet	9,816			Wright	17,951
Fayette	27,919	Mitchell	13,435		
Floyd	17,119	Monona	16,633		
TOTAL					2,224,771

KANSAS.—Area, 82,158 square miles.

Allen	27,640	Greeley	1,335	Osborne	12,827
Anderson	13,829	Greenwood	16,060	Ottawa	11,811
Atchison	28,107	Hamilton	3,360	Pawnee	8,859
Barber	9,916	Harper	14,748	Phillips	14,150
Barton	17,876	Harvey	19,200	Pottawatomie	17,522
Bourbon	24,007	Haskell	993	Pratt	11,156
Brown	21,314	Hodgeman	2,930	Rawlins	6,380
Butler	23,059	Jackson	16,861	Reno	37,853
Chase	7,527	Jefferson	15,826	Republic	17,447
Chautauqua	11,429	Jewell	18,148	Rice	15,106
Cherokee	38,162	Johnson	18,288	Riley	15,783
Cheyenne	4,248	Kearny	3,206	Rooks	11,282
Clark	4,093	Kingman	13,386	Rush	7,826
Clay	15,251	Kiowa	6,174	Russell	10,800
Cloud	18,388	Labette	31,423	Saline	20,338
Coffey	15,205	Lane	2,603	Scott	3,047
Comanche	3,281	Leavenworth	41,207	Sedgwick	73,095
Cowley	31,790	Lincoln	10,142	Seward	4,091
Crawford	51,178	Linn	14,735	Shawnee	61,874
Decatur	8,976	Logan	4,240	Sheridan	5,651
Dickinson	24,361	Lyon	24,927	Sherman	4,549
Doniphan	14,422	McPherson	21,521	Smith	15,365
Douglas	24,724	Marion	22,415	Stafford	12,510
Edwards	7,033	Marshall	23,880	Stanton	1,034
Elk	10,128	Meade	5,055	Stevens	2,453
Ellis	12,170	Miami	20,030	Sumner	30,654
Ellsworth	10,444	Mitchell	14,089	Thomas	5,455
Finney	6,908	Montgomery	49,474	Trego	5,398
Ford	11,393	Morris	12,397	Wabaunsee	12,721
Franklin	20,884	Morton	1,333	Wallace	2,759
Geary	12,681	Nemaha	19,072	Washington	20,229
Gove	6,044	Neosho	23,754	Wichita	2,006
Graham	8,700	Ness	5,883	Wilson	19,810
Grant	1,087	Norton	11,614	Woodson	9,450
Gray	3,121	Osage	19,905	Wyandotte	100,068
TOTAL					1,690,949

KENTUCKY.—Area, 49,598 square miles.

Adair	16,503	Boyle	14,668	Carroll	8,110
Allen	14,882	Bracken	10,308	Carter	21,966
Anderson	10,146	Breathitt	17,540	Casey	15,479
Ballard	12,690	Breckinridge	21,034	Christian	38,845
Barren	25,293	Bullitt	9,487	Clark	17,987
Bath	13,988	Butler	15,805	Clay	17,789
Bell	28,447	Caldwell	14,063	Clinton	8,153
Boone	9,420	Calloway	19,867	Crittenden	13,296
Bourbon	17,462	Campbell	59,369	Cumberland	9,846
Boyd	23,444	Carlisle	9,048	Daviess	41,020
Edmonson	10,469	Knox	22,116	Ohio	27,642
Elliott	9,814	Larue	10,701	Oldham	7,248
Estill	12,273	Laurel	19,872	Owen	14,248
Fayette	47,715	Lawrence	20,067	Owsley	7,979
Fleming	16,066	Lee	9,531	Pendleton	11,985
Floyd	18,623	Leslie	8,976	Perry	11,255
Franklin	21,135	Letcher	10,623	Pike	31,679
Fulton	14,114	Lewis	16,887	Powell	6,268
Gallatin	4,697	Lincoln	17,897	Pulaski	35,986
Garrard	11,894	Livingston	10,627	Robertson	4,121
Grant	10,581	Logan	24,977	Rockcastle	14,473
Graves	33,539	Lyon	9,423	Rowan	9,438
Grayson	19,958	McCracken	35,064	Russell	10,861
Green	11,871	McLean	13,241	Scott	16,956
Greenup	18,475	Madison	26,951	Shelby	18,041
Hancock	8,512	Magoffin	13,654	Simpson	11,460
Hardin	22,696	Marion	16,330	Spencer	7,567
Harlan	10,566	Marshall	15,771	Taylor	11,961

Harrison	16,873	Martin	7,291	Todd	16,488
Hart	18,173	Mason	18,611	Trigg	14,539
Henderson	29,352	Meade	9,783	Trimble	6,512
Henry	13,716	Menifee	6,153	Union	19,886
Hickman	11,750	Mercer	14,063	Warren	30,579
Hopkins	34,291	Metcalfe	10,453	Washington	13,940
Jackson	10,734	Monroe	13,663	Wayne	17,518
Jefferson	262,920	Montgomery	12,868	Webster	20,974
Jessamine	12,613	Morgan	16,259	Whitley	31,982
Johnson	17,482	Muhlenberg	28,589	Wolfe	9,864
Kenton	70,355	Nelson	16,830	Woodford	12,571
Knott	10,791	Nicholas	10,601		
TOTAL					2,289,905

LOUISIANA.—Area, 48,506 square miles.

Acadia	31,847	East Carroll	11,637	Natchitoches	36,455
Ascension	23,887	East Feliciana	20,055	Orleans	339,075
Assumption	24,128	Franklin	11,989	Ouachita	25,830
Avoyelles	34,102	Grant	15,958	Plaquemines	12,524
Bienville	21,776	Iberia	31,262	Pointe Coupee	25,289
Bossier	21,738	Iberville	30,954	Rapides	44,545
Caddo	58,200	Jackson	13,818	Red River	11,402
Calcasieu	62,767	Jefferson	18,247	Richland	15,769
Caldwell	8,593	La Salle	9,402	Sabine	19,874
Cameron	4,288	Lafayette	28,733	St. Bernard	5,277
Catahoula	10,415	Lafourche	33,111	St. Charles	11,207
Claiborne	25,050	Lincoln	18,485	St. Helena	9,172
Concordia	14,278	Livingston	10,627	St. James	23,009
De Soto	27,689	Madison	10,676	St. John the Baptist	14,338
East Baton Rouge	34,580	Morehouse	18,786	St. Landry	66,661
St. Martin	23,070	Terrebonne	28,320	Webster	19,186
St. Mary	39,368	Union	20,451	West Baton Rouge	12,636
St. Tammany	18,917	Vermilion	26,390	West Carroll	6,249
Tangipahoa	29,160	Vernon	17,384	West Feliciana	13,449
Tensas	17,060	Washington	18,886	Winn	18,357
TOTAL					1,656,388

MAINE.—Area, 33,040 square miles.

Androscoggin	59,822	Kennebec	62,863	Piscataquis	19,887
Aroostook	74,664	Knox	28,981	Sagadahoc	18,574
Cumberland	112,014	Lincoln	18,216	Somerset	36,301
Franklin	19,119	Oxford	36,256	Waldo	23,383
Hancock	35,575	Penobscot	85,285	Washington	42,905
				York	68,526
TOTAL					742,371

MARYLAND.—Area, 12,327 square miles.

Allegany	62,411	Charles	16,386	Prince Georges	36,147
Anne Arundel	39,553	Dorchester	28,669	Queen Annes	16,839
Baltimore	122,399			St. Marys	17,030
Baltimore City	558,485	Frederick	52,673	Somerset	26,455
Calvert	10,325	Garrett	20,105		
		Hartford	27,965	Talbot	19,620
Caroline	19,216	Howard	16,106	Washington	48,671
Carroll	33,934	Kent	16,957	Wicomico	26,815
Cecil	23,759			Worcester	21,841
TOTAL					1,294,450

MASSACHUSETTS.—Area, 8,266 square miles.

Barnstable	27,542	Franklin	43,600	Norfolk	187,506
Berkshire	105,259	Hampden	231,369	Plymouth	144,337
Bristol	318,573	Hampshire	63,327	Suffolk	731,388
Dukes	4,504	Middlesex	669,915	Worcester	399,657
Essex	436,477	Nantucket	2,962		
TOTAL					3,366,416

MICHIGAN.—Area, 57,980 square miles.

Alcona	5,703	Berrien	53,622	Delta	30,108
Alger	7,675	Branch	25,605	Dickinson	20,524
Allegan	39,819	Calhoun	56,638	Eaton	30,499
Alpena	19,965	Cass	20,624	Emmet	18,561
Antrim	15,692	Charlevoix	19,157	Genesee	64,555
Arenac	9,640	Cheboygan	17,872	Gladwin	8,413
Baraga	6,127	Chippewa	24,472	Gogebic	23,333
				Grand	
Barry	22,633	Clare	9,240	Traverse	23,784
Bay	68,238	Clinton	23,129	Gratiot	28,820
Benzie	10,638	Crawford	3,934	Hillsdale	29,673
Houghton	88,098	Mackinac	9,249	Ontonagon	8,650
Huron	34,758	Macomb	32,606	Osceola	17,889
Ingham	53,310			Oscoda	2,027
Ionia	33,550	Manistee	26,688	Otsego	6,552
Iosco	9,753	Marquette	46,739	Ottawa	45,301
		Mason	21,832		
Iron	15,164	Mecosta	19,466	Presque Isle	11,249
Isabella	23,029	Menominee	25,648	Roscommon	2,274
Jackson	53,426			Saginaw	89,290
Kalamazoo	60,427	Midland	14,005	St. Clair	52,341
Kalkaska	8,097	Missaukee	10,606	St. Joseph	25,499
		Monroe	32,917		
Kent	159,145	Montcalm	32,069	Sanilac	33,930
Keweenaw	7,156	Montmorency	3,755	Schoolcraft	8,681
Lake	4,939			Shiawassee	33,246
Lapeer	26,033	Muskegon	40,577	Tuscola	34,913
Leelanau	10,608	Newaygo	19,220	Van Buren	33,185
		Oakland	49,576		
Lenawee	47,907	Oceana	18,379	Washtenaw	44,714
Livingston	17,736	Ogemaw	8,907	Wayne	531,590
Luce	4,004			Wexford	20,769
TOTAL					2,810,173

MINNESOTA.—Area, 84,628 square miles.

Aitkin	10,371	Isanti	12,615	Polk	36,001
Anoka	12,493			Pope	12,746
Becker	18,840	Itasca	17,208	Ramsey	223,675
Beltrami	19,337	Jackson	14,491		
Benton	11,615	Kanabec	6,461	Red Lake	15,940
		Kandiyohi	18,969	Redwood	18,425
Bigstone	9,367	Kittson	9,669	Renville	23,123
Blue Earth	29,337			Rice	25,911
Brown	20,134	Koochiching	6,431	Rock	10,222
Carlton	17,559	Lac qui Parle	15,435		
Carver	17,455	Lake	8,011	Roseau	11,338
		Le Sueur	18,609	St. Louis	163,274
Cass	11,620	Lincoln	9,874	Scott	14,888
Chippewa	13,458			Sheburne	8,136
Chisago	13,537	Lyon	15,722	Sibley	15,540
Clay	19,640	McLeod	18,691		
Clearwater	6,870	Mahnomen	3,249	Stearns	47,733
		Marshall	16,338	Steele	16,146
Cook	1,336	Martin	17,518	Stevens	8,293
Cottonwood	12,651			Swift	12,949
Crow Wing	16,861	Meeker	17,022	Todd	23,407
Dakota	25,171	Mille Lacs	10,705		
Dodge	12,094	Morrison	24,053	Traverse	8,049
		Mower	22,640	Wabasha	18,554
Douglas	17,669	Murray	11,755	Wadena	8,652
Faribault	19,949			Waseca	13,466
Fillmore	25,680	Nicollet	14,125	Washington	26,013
Freeborn	22,282	Nobles	15,210		
Goodhue	31,637	Norman	13,446	Watonwan	11,382
		Olmsted	22,497	Wilkin	9,063
Grant	9,114	Otter Tail	46,036	Winona	33,398
Hennepin	333,480			Wright	28,082
				Yellow	
Houston	14,297	Pine	15,878	Medicine	15,406
Hubbard	9,831	Pipestone	9,553		
TOTAL					2,075,708

MISSISSIPPI.—Area, 46,865 square miles.

Adams	25,265	Itawamba	14,526	Pearl River	10,593
Alcorn	18,159	Jackson	15,451	Perry	7,685
Amite	22,954	Jasper	18,498		
Attala	28,851			Pike	37,272
Benton	10,245	Jefferson	18,221	Pontotoc	19,688
		Jefferson Davis	12,860	Prentiss	16,931
Bolivar	48,905	Jones	29,885	Quitman	11,593
Calhoun	17,726	Kemper	20,348	Rankin	23,944
Carroll	23,139	Lafayette	21,883		
Chickasaw	22,846			Scott	16,723
Choctaw	14,357	Lamar	11,741	Sharkey	15,694
		Lauderdale	46,919	Simpson	17,201
Claiborne	17,403	Lawrence	13,080	Smith	16,603
Clarke	21,630	Leake	18,298	Sunflower	28,787
Clay	20,203	Lee	28,894		
Coahoma	34,217			Tallahatchie	29,078
Copiah	35,914	Leflore	36,290	Tate	19,714
		Lincoln	28,597	Tippah	14,631
Covington	16,909	Lowndes	30,703	Tishomingo	13,067
De Soto	23,130	Madison	33,505	Tunica	18,646
Forrest	20,722	Marion	15,599		
Franklin	15,193			Union	18,997
George	6,599	Marshall	26,796	Warren	37,488
		Monroe	35,178	Washington	48,933
Greene	6,050	Montgomery	17,706	Wayne	14,709
Grenada	15,727	Neshoba	17,980	Webster	14,853
Hancock	11,207	Newton	23,085		
Harrison	34,658			Wilkinson	18,075
Hinds	63,726	Noxubee	28,503	Winston	17,139
		Oktibbeha	19,676	Yalobusha	21,519
Holmes	39,088	Panola	31,274	Yazoo	46,672
Issaquena	10,560				
TOTAL					1,797,114

MISSOURI.—Area, 69,420 square miles.

		Cape			
Adair	22,700	Girardeau	27,621	Daviess	17,605
Andrew	15,282	Carroll	23,098	Dekalb	12,531
Atchison	13,604	Carter	5,504	Dent	13,245
Audrain	21,687	Cass	22,973	Douglas	16,664
Barry	23,869	Cedar	16,080	Dunklin	30,328
Barton	16,747	Chariton	23,503	Franklin	29,830
Bates	25,869	Christian	15,832	Gasconade	12,847
Benton	14,881	Clark	12,811	Gentry	16,820
Bollinger	14,576	Clay	20,302	Greene	63,831
Boone	30,533	Clinton	15,297	Grundy	16,744
Buchanan	93,020	Cole	21,957	Harrison	20,466
Butler	20,624	Cooper	20,311	Henry	27,242
Caldwell	14,605	Crawford	13,576	Hickory	8,741
Callaway	24,400	Dade	15,613	Holt	14,539
Camden	11,582	Dallas	13,181	Howard	15,653
Howell	21,065	Montgomery	15,604	St. Clair	16,412
Iron	8,563			St. Francois	35,738
Jackson	263,522	Morgan	12,863	St. Louis	82,417
Jasper	89,673	New Madrid	19,488		
Jefferson	27,878	Newton	27,136	St. Louis City	587,029
		Nodaway	28,833	Ste. Genevieve	10,607
Johnson	26,297	Oregon	14,681	Saline	29,448
Knox	12,403			Schuyler	9,062
Laclede	17,363	Osage	14,283	Scotland	11,869
Lafayette	30,154	Ozark	11,926		
Lawrence	26,583	Pemiscot	19,559	Scott	22,372
		Perry	14,898	Shannon	11,443
Lewis	15,514	Pettis	33,913	Shelby	14,864
Lincoln	17,033			Stoddard	27,807
Linn	25,253	Phelps	15,796	Stone	11,559
Livingston	19,453	Pike	22,556		
McDonald	13,539	Platte	14,429	Sullivan	18,598
		Polk	21,561	Taney	9,134
Macon	30,358	Pulaski	11,436	Texas	21,458
Madison	11,273			Vernon	28,827
Maries	10,088	Putnam	14,308	Warren	9,123
Marion	30,572	Ralls	12,913		
Mercer	13,355	Randolph	26,182	Washington	13,378

		Ray	21,451	Wayne	15,181
Miller	16,717	Reynolds	9,592	Webster	17,377
Mississippi	14,557			Worth	8,007
Moniteau	14,375	Ripley	13,099	Wright	18,315
Monroe	18,304	St. Charles	24,695		
TOTAL					3,293,338

MONTANA.—Area, 146,572 square miles.

Beaverhead	6,446	Gallatin	14,079	Powell	5,904
Broadwater	3,491	Granite	2,942	Ravalli	11,666
Carbon	13,962	Jefferson	5,601	Rosebud	7,985
		Lewis and			
Cascade	28,833	Clark	21,853	Sanders	3,713
Chouteau	17,191	Lincoln	3,638	Silver Bow	56,848
				Sweet Grass	4,029
Custer	14,123	Madison	7,229		
Dawson	12,725	Meagher	4,190	Teton	9,546
Deer Lodge	12,988	Missoula	23,596	Valley	13,630
Fergus	17,385	Park	10,731	Yellowstone	22,944
Flathead	18,785				
TOTAL					376,053

NEBRASKA.—Area, 77,520 square miles.

Adams	20,900	Butler	15,403	Dakota	6,564
Antelope	14,003	Cass	19,786	Dawes	8,254
Banner	1,444	Cedar	15,191	Dawson	15,961
Blaine	1,672	Chase	3,613	Deuel	1,786
Boone	13,145	Cherry	10,414	Dixon	11,477
Boxbutte	6,131	Cheyenne	4,551	Dodge	22,145
Boyd	8,826	Clay	15,729	Douglas	168,546
Brown	6,083	Colfax	11,610	Dundy	4,098
Buffalo	21,907	Cuming	13,782	Fillmore	14,674
Burt	12,726	Custer	25,668	Franklin	10,303
Frontier	8,572	Kimball	1,942	Richardson	17,448
Furnas	12,083	Knox	18,358	Rock	3,627
Gage	30,325	Lancaster	73,793	Saline	17,866
Garden	3,538	Lincoln	15,684		
Garfield	3,417			Sarpy	9,274
		Logan	1,521	Saunders	21,179
Gosper	4,933	Loup	2,188	Scotts Bluff	8,355
Grant	1,097	McPherson	2,470	Seward	15,895
Greeley	8,047	Madison	19,101	Sheridan	7,328
Hall	20,361	Merrick	10,379		
Hamilton	13,459			Sherman	8,278
		Morrill	4,584	Sioux	5,599
Harlan	9,578	Nance	8,926	Stanton	7,542
Hayes	3,011	Nemaha	13,095	Thayer	14,775
Hitchcock	5,415	Nuckolls	13,019	Thomas	1,191
Holt	15,545	Otoe	19,323		
Hooker	981			Thurston	8,704
		Pawnee	10,582	Valley	9,480
Howard	10,783	Perkins	2,570	Washington	12,738
Jefferson	16,852	Phelps	10,451	Wayne	10,397
Johnson	10,187	Pierce	10,122	Webster	12,008
Kearney	9,106	Platte	19,006		
Keith	3,692			Wheeler	2,292
		Polk	10,521	York	18,721
Keyapaha	3,452	Redwillow	11,056		
TOTAL					1,192,214

NEVADA.—Area, 110,690 square miles.

Churchill	2,811	Eureka	1,830	Nye	7,513
Clark	3,321	Humboldt	6,825	Ormsby	3,089
Douglas	1,895	Lander	1,786	Storey	3,045
Elko	8,133	Lincoln	3,489	Washoe	17,434
Esmeralda	9,695	Lyon	3,568	White Pine	7,441
TOTAL					81,875

NEW HAMPSHIRE.—Area, 9,341 square miles.

Belknap	21,309	Grafton	41,652	Rockingham	52,188
Carroll	16,316			Strafford	38,951

Cheshire	30,659	Hillsboro	126,072	Sullivan	19,337
Coos	30,753	Merrimack	53,335		
TOTAL					430,572

NEW JERSEY.—Area, 8,224 square miles.

Atlantic	71,894	Hudson	537,231	Passaic	215,902
Bergen	138,002	Hunterdon	33,569	Salem	26,999
Burlington	66,565			Somerset	38,820
Camden	142,029	Mercer	125,657	Sussex	26,781
Cape May	19,745	Middlesex	114,426	Union	140,197
		Monmouth	94,734		
Cumberland	55,153	Morris	74,704	Warren	43,187
Essex	512,886	Ocean	21,318		
Gloucester	37,368				
TOTAL					2,537,167

NEW MEXICO.—Area, 122,634 square miles.

Bernalillo	23,606	Luna	3,913	Sandoval	8,579
Chaves	16,850			Santa Fe	14,770
Colfax	16,460	McKinley	12,963		
Curry	11,443	Mora	12,611	Sierra	3,536
Dona Ana	12,893	Otero	7,069	Socorro	14,761
		Quay	14,912	Taos	12,008
Eddy	12,400	Rio Arriba	16,719	Torrance	10,119
Grant	14,813			Union	11,404
Guadalupe	10,927	Roosevelt	12,064		
Lincoln	7,822	San Juan	8,504	Valencia	13,320
		San Miguel	22,930		
TOTAL					327,396

NEW YORK.—Area, 49,204 square miles.

Albany	173,666	Herkimer	56,356	Rensselaer	122,276
Allegany	41,412	Jefferson	80,382	Richmond	85,969
Broome	78,809	Kings	1,634,351	Rockland	46,873
Cattaraugus	65,919	Lewis	24,849	St. Lawrence	89,005
Cayuga	67,106	Livingston	38,037	Saratoga	61,917
Chautauqua	105,126	Madison	39,289	Schenectady	88,235
Chemung	54,662	Monroe	283,212	Schoharie	23,355
Chenango	35,575	Montgomery	57,567	Schuyler	14,004
Clinton	48,230	Nassau	83,930	Seneca	26,972
Columbia	43,658	New York	2,762,522	Steuben	83,362
Cortland	29,249	Niagara	92,036	Suffolk	96,138
Delaware	45,575	Oneida	154,157	Sullivan	33,808
Dutchess	87,661	Onondaga	200,298	Tioga	25,624
Erie	528,985	Ontario	52,286	Tompkins	33,647
Essex	33,458	Orange	116,001	Ulster	91,769
Franklin	45,717	Orleans	32,000	Warren	32,223
Fulton	44,534	Oswego	71,664	Washington	47,778
Genesee	37,615	Otsego	47,216	Wayne	50,179
Greene	30,214	Putnam	14,665	Westchester	283,055
Hamilton	4,373	Queens	284,041	Wyoming	31,880
				Yates	18,642
TOTAL					9,113,614

NORTH CAROLINA.—Area, 52,426 square miles.

Alamance	28,712	Burke	21,408	Clay	3,909
Alexander	11,592	Cabarrus	26,240	Cleveland	29,494
Alleghany	7,745	Caldwell	20,579	Columbus	28,020
Anson	25,465	Camden	5,640	Craven	25,594
Ashe	19,074	Carteret	13,776	Cumberland	35,284
Beaufort	30,877	Caswell	14,858	Currituck	7,693
Bertie	23,039	Catawba	27,918	Dare	4,841
Bladen	18,006	Chatham	22,635	Davidson	29,404
Brunswick	14,432	Cherokee	14,136	Davie	13,394
Buncombe	49,798	Chowan	11,303	Duplin	25,442
Durham	35,276	Lincoln	17,132	Robeson	51,945
Edgecombe	32,010	McDowell	13,538	Rockingham	36,442

Forsyth	47,311	Macon	12,191	Rowan	37,521
Franklin	24,692			Rutherford	28,385
Gaston	37,063	Madison	20,132	Sampson	29,982
		Martin	17,797		
Gates	10,455	Mecklenburg	67,031	Scotland	15,363
Graham	4,749	Mitchell	17,245	Stanly	19,909
Granville	25,102	Montgomery	14,967	Stokes	20,151
Greene	13,083			Surry	29,705
Guilford	60,497	Moore	17,010	Swain	10,403
		Nash	33,727		
Halifax	37,646	New Hanover	32,037	Transylvania	7,191
Harnett	22,174	Northampton	22,323	Tyrrell	5,219
Haywood	21,020	Onslow	14,125	Union	33,277
Henderson	16,262			Vance	19,425
Hertford	15,436	Orange	15,064	Wake	63,229
		Pamlico	9,966		
Hyde	8,840	Pasquotank	16,693	Warren	20,266
Iredell	34,315	Pender	15,471	Washington	11,062
Jackson	12,998	Perquimans	11,054	Watauga	13,556
Johnston	41,401			Wayne	35,698
Jones	8,721	Person	17,356	Wilkes	30,282
		Pitt	36,340		
Lee	11,376	Polk	7,640	Wilson	28,269
Lenoir	22,769	Randolph	29,491	Yadkin	15,428
		Richmond	19,673	Yancey	12,072
TOTAL					2,206,287

NORTH DAKOTA.—Area, 70,837 square miles.

Adams	5,407	Griggs	6,274	Pierce	9,740
Barnes	18,066	Hettinger	6,557	Ramsey	15,199
Benson	12,681	Kidder	5,962	Ransom	10,345
Billings	10,186	Lamoure	10,724	Richland	19,659
Bottineau	17,295	Logan	6,168	Rolette	9,558
Bowman	4,668	McHenry	17,627	Sargent	9,202
Burleigh	13,087	McIntosh	7,251	Sheridan	8,103
Cass	33,935	McKenzie	5,720	Stark	12,504
Cavalier	15,659	McLean	14,578	Steele	7,616
Dickey	9,839	Mercer	4,665	Stutsman	18,189
Dunn	5,302	Mountrail	8,491	Towner	8,963
Eddy	4,800	Morton	25,289	Traill	12,545
Emmons	9,796	Nelson	10,140	Walsh	19,491
Foster	5,313	Oliver	3,577	Ward	42,185
Grand Forks	27,888	Pembina	14,749	Wells	11,814
				Williams	20,249
TOTAL					577,056

OHIO.—Area, 41,040 square miles.

Adams	24,755	Auglaize	31,246	Champaign	26,351
Allen	56,580	Belmont	76,856	Clark	66,435
Ashland	22,975	Brown	24,832	Clermont	29,551
Ashtabula	59,547	Butler	70,271	Clinton	23,680
Athens	47,798	Carroll	15,761	Columbiana	76,619
Coshocton	30,121	Jefferson	65,423	Pike	15,723
Crawford	34,036	Knox	30,181	Portage	30,307
Cuyahoga	637,425	Lake	22,927	Preble	23,834
Darke	42,933	Lawrence	39,488	Putnam	29,972
Defiance	24,498	Licking	55,590	Richland	47,667
Delaware	27,182	Logan	30,084	Ross	40,069
Erie	38,327	Lorain	76,037	Sandusky	35,171
Fairfield	39,201	Lucas	192,728	Scioto	48,463
Fayette	21,744	Madison	19,902	Seneca	42,421
Franklin	221,567	Mahoning	116,151	Shelby	24,663
Fulton	23,914	Marion	33,971	Stark	122,987
Gallia	25,745	Medina	23,598	Summit	108,253
Geauga	14,670	Meigs	25,594	Trumbull	52,766
Greene	29,733	Mercer	27,536	Tuscarawas	57,035
Guernsey	42,716	Miami	45,047	Union	21,871
Hamilton	460,732	Monroe	24,244	Van Wert	29,119
Hancock	37,860	Montgomery	163,763	Vinton	13,096

Hardin	30,407	Morgan	16,097	Warren	24,497
Harrison	19,076	Morrow	16,815	Washington	45,422
Henry	25,119	Muskingum	57,488	Wayne	38,058
Highland	28,711	Noble	18,601	Williams	25,198
Hocking	23,650	Ottawa	22,360	Wood	46,330
Holmes	17,909	Paulding	22,730	Wyandot	20,760
Huron	34,206	Perry	35,396		
Jackson	30,791	Pickaway	26,158		
TOTAL					4,767,121

OKLAHOMA.—Area, 70,057 square miles.

Adair	10,535	Dewey	14,132	Logan	31,740
Alfalfa	18,138	Ellis	15,375	Love	10,236
Atoka	13,808	Garfield	33,050	McClain	15,659
Beaver	13,631	Garvin	26,545	McCurtain	20,681
Beckham	19,699	Grady	30,309	McIntosh	20,961
Blaine	17,960	Grant	18,760	Major	15,248
Bryan	29,854	Greer	16,449	Marshall	11,619
Caddo	35,685	Harmon	11,328	Mayes	13,596
Canadian	23,501	Harper	8,189	Murray	12,744
Carter	25,358	Haskell	18,875	Muskogee	52,743
Cherokee	16,778	Hughes	24,040	Noble	14,945
Choctaw	21,862	Jackson	23,737	Nowata	14,223
Cimarron	4,553	Jefferson	17,430	Okfuskee	19,995
Cleveland	18,843	Johnston	16,734	Oklahoma	85,232
Coal	15,817	Kay	26,999	Okmulgee	21,115
Comanche	41,489	Kingfisher	18,825	Osage	20,101
Craig	17,404	Kiowa	27,526	Ottawa	15,713
Creek	26,223	Latimer	11,321	Pawnee	17,332
Custer	23,231	Le Flore	29,127	Payne	23,735
Delaware	11,469	Lincoln	34,779	Pittsburg	47,650
Pontotoc	24,331	Seminole	19,964	Tulsa	34,995
Pottawatomie	43,595	Sequoyah	25,005	Wagoner	22,086
Pushmataha	10,118	Stephens	22,252	Washington	17,484
Roger Mills	12,861	Texas	14,249	Washita	25,034
Rogers	17,736	Tillman	18,650	Woods	17,567
				Woodward	16,592
TOTAL					1,657,155

OREGON.—Area, 96,699 square miles.

Baker	18,076	Hood River	8,016	Multnomah	226,261
Benton	10,663	Jackson	25,756	Polk	13,469
Clackamas	29,931	Josephine	9,567		
Clatsop	16,106			Sherman	4,242
Columbia	10,580	Klamath	8,554	Tillamook	6,266
		Lake	4,658	Umatilla	20,309
Coos	17,959	Lane	33,783	Union	16,191
Crook	9,315	Lincoln	5,587	Wallowa	8,364
Curry	2,044	Linn	22,662		
Douglas	19,674			Wasco	16,336
Gilliam	3,701	Malheur	8,601	Washington	21,522
		Marion	39,780	Wheeler	2,484
Grant	5,607	Morrow	4,357	Yamhill	18,285
Harney	4,059				
TOTAL					672,765

PENNSYLVANIA.—Area, 45,126 square miles.

Adams	34,319	Erie	115,517	Northampton	127,667
Allegheny	1,018,463			Northumberland	111,420
Armstrong	67,880	Fayette	167,449	Perry	24,136
Beaver	78,353	Forest	9,435		
Bedford	38,879	Franklin	59,775	Philadelphia	1,549,008
		Fulton	9,703	Pike	8,033
Berks	183,222	Greene	28,882	Potter	29,729
Blair	108,858			Schuylkill	207,894
Bradford	54,526	Huntingdon	38,304	Snyder	16,800
Bucks	76,530	Indiana	66,210		
Butler	72,689	Jefferson	63,090	Somerset	67,717

		Juniata	15,013	Sullivan	11,293
Cambria	166,131	Lackawanna	259,570	Susquehanna	37,746
Cameron	7,644			Tioga	42,829
Carbon	52,846	Lancaster	167,029	Union	16,249
Center	43,424	Lawrence	70,032		
Chester	109,213	Lebanon	59,565	Venango	56,359
		Lehigh	118,832	Warren	39,573
Clarion	36,638	Luzerne	343,186	Washington	143,680
Clearfield	93,768			Wayne	29,236
Clinton	31,545	Lycoming	80,813	Westmoreland	231,304
Columbia	48,467	McKean	47,868		
Crawford	61,565	Mercer	77,699	Wyoming	15,509
		Mifflin	27,785	York	136,405
Cumberland	54,479	Monroe	22,941		
Dauphin	136,152				
Delaware	117,906	Montgomery	169,590		
Elk	35,871	Montour	14,868		
TOTAL					7,665,111

RHODE ISLAND.—Area, 1,248 square miles.

Bristol	17,602	Newport	39,335	Washington	24,942
Kent	36,378	Providence	424,417		
TOTAL					542,674

SOUTH CAROLINA.—Area, 30,989 square miles.

Abbeville	34,804	Dillon	22,615	Marion	20,596
Aiken	41,849	Dorchester	17,891	Marlboro	31,189
Anderson	69,568	Edgefield	28,281	Newberry	34,586
Bamberg	18,544	Fairfield	29,442	Oconee	27,337
Barnwell	34,209	Florence	35,671	Orangeburg	55,893
Beaufort	30,355	Georgetown	22,270	Pickens	25,422
Berkeley	23,487	Greenville	68,377	Richland	55,143
Calhoun	16,634	Greenwood	34,225	Saluda	20,943
Charleston	88,594	Hampton	25,126	Spartanburg	83,465
Cherokee	26,179	Horry	26,995	Sumter	38,472
Chester	29,425	Kershaw	27,094	Union	29,911
Chesterfield	26,301	Lancaster	26,650	Williamsburg	37,626
Clarendon	32,188	Laurens	41,550	York	47,718
Colleton	35,390	Lee	25,318		
Darlington	36,027	Lexington	32,040		
TOTAL					1,515,400

SOUTH DAKOTA.—Area, 77,615 square miles.

Armstrong	647	Fall River	7,763	Minnehaha	29,631
Aurora	6,143	Faulk	6,716		
Beadle	15,776	Grant	10,303	Moody	8,695
Bonhomme	11,061			Pennington	12,453
Brookings	14,178	Gregory	13,061	Perkins	11,348
		Hamlin	7,475	Potter	4,466
Brown	25,867	Hand	7,870	Roberts	14,897
Brule	6,451	Hanson	6,237		
Buffalo	1,589	Harding	4,228	Sanborn	6,607
Butte	4,993			Schnasse	292
Campbell	5,244	Hughes	6,271	Spink	15,981
		Hutchinson	12,319	Stanley	14,975
Charles Mix	14,899	Hyde	3,307	Sterling	252
Clark	10,901	Jerauld	5,120		
Clay	8,711	Kingsbury	12,560	Sully	2,462
Codington	14,092			Tripp	8,323
Corson	2,929	Lake	10,711	Turner	13,840
		Lawrence	19,694	Union	10,676
Custer	4,458	Lincoln	12,712	Walworth	6,488
Davison	11,625	Lyman	10,848		
Day	14,372	McCook	9,589	Yankton	13,135
Deuel	7,768			Pine Ridge Indian	
Dewey	1,145	McPherson	6,791	Reservation	6,607
		Marshall	8,021	Rosebud Indian	
Douglas	6,400	Meade	12,640	Reservation	3,960
Edmunds	7,654	Miner	7,661		
TOTAL					583,888

TENNESSEE.—Area, 42,022 square miles.

Anderson	17,717	Hancock	10,778	Morgan	11,458
Bedford	22,667	Hardeman	23,011	Obion	29,946
Benton	12,452			Overton	15,854
Bledsoe	6,329	Hardin	17,521	Perry	8,815
Blount	20,809	Hawkins	23,587	Pickett	5,087
		Haywood	25,910		
Bradley	16,336	Henderson	17,030	Polk	14,116
Campbell	27,387	Henry	25,434	Putnam	20,023
Cannon	10,825			Rhea	15,410
Carroll	23,971	Hickman	16,527	Roane	22,860
Carter	19,838	Houston	6,224	Robertson	25,466
		Humphreys	13,908		
Cheatham	10,540	Jackson	15,036	Rutherford	33,199
Chester	9,090	James	5,210	Scott	12,947
Claiborne	23,504			Sequatchie	4,202
Clay	9,009	Jefferson	17,755	Sevier	22,296
Cocke	19,399	Johnson	13,191	Shelby	191,439
		Knox	94,187		
Coffee	15,625	Lake	8,704	Smith	18,548
Crockett	16,076	Lauderdale	21,105	Stewart	14,860
Cumberland	9,327			Sullivan	28,120
Davidson	149,478	Lawrence	17,569	Sumner	25,621
Decatur	10,093	Lewis	6,033	Tipton	29,459
		Lincoln	25,908		
Dekalb	15,434	Loudon	13,612	Trousdale	5,874
Dickson	19,955	McMinn	21,046	Unicoi	7,201
Dyer	27,721			Union	11,414
Fayette	30,257	McNairy	16,356	Van Buren	2,784
Fentress	7,446	Macon	14,559	Warren	16,534
		Madison	39,357		
Franklin	20,491	Marion	18,820	Washington	28,968
Gibson	41,630	Marshall	16,872	Wayne	12,062
Giles	32,629			Weakley	31,929
Grainger	13,888	Maury	40,456	White	5,420
Greene	31,083	Meigs	6,131	Williamson	24,213
		Monroe	20,716		
Grundy	8,322	Montgomery	33,672	Wilson	25,394
Hamblen	13,650	Moore	4,800		
Hamilton	89,267				
TOTAL					2,184,739

TEXAS.—Area, 265,896 square miles.

Anderson	29,650	Bastrop	25,344	Brazos	18,919
Andrews	975	Baylor	8,411	Brewster	5,220
Angelina	17,705	Bee	12,090	Briscoe	2,162
Aransas	2,106	Bell	49,186	Brown	22,935
Archer	6,525	Bexar	119,676	Burleson	18,687
Armstrong	2,682	Blanco	4,311	Burnet	10,755
Atascosa	10,004	Borden	1,386	Caldwell	24,237
Austin	17,699	Bosque	19,013	Calhoun	3,635
Bailey	312	Bowie	4,827	Callahan	12,973
Bandera	4,921	Brazoria	13,299	Cameron	27,158
Camp	9,551	Gaines	1,255	Knox	9,625
Carson	2,127	Galveston	44,479	La Salle	4,747
Cass	27,587	Garza	1,995	Lamar	46,544
Castro	1,850	Gillespie	9,447	Lamb	540
Chambers	4,234	Glasscock	1,143	Lampasas	9,532
Cherokee	29,038	Goliad	9,909	Lavaca	26,418
Childress	9,538	Gonzales	28,055	Lee	13,132
Clay	17,043	Gray	3,405	Leon	16,583
Cochran	65	Grayson	65,996	Liberty	10,686
Coke	6,412	Gregg	14,140	Limestone	34,621
Coleman	22,618	Grimes	21,205	Lipscomb	2,634
Collin	49,021	Guadalupe	24,913	Live Oak	3,442
Collingsworth	5,224	Hale	7,566	Llano	6,520
Colorado	18,897	Hall	8,279	Loving	249
Comal	8,434	Hamilton	15,315	Lubbock	3,624
Comanche	27,186	Hansford	935	Lynn	1,713
Concho	6,654	Hardeman	11,213	McCulloch	13,405
Cooke	26,603	Hardin	12,947	McLennan	73,250

Coryell	21,703	Harris	115,693	McMullen	1,091
Cottle	4,396	Harrison	37,243	Madison	10,318
Crane	331	Hartley	1,298	Marion	10,472
Crockett	1,296	Haskell	16,249	Martin	1,549
Crosby	1,765	Hays	15,518	Mason	5,683
Dallam	4,001	Hemphill	3,170	Matagorda	13,594
Dallas	135,748	Henderson	20,131	Maverick	5,151
Dawson	2,320	Hidalgo	13,728	Medina	13,415
De Witt	23,501	Hill	46,760	Menard	2,707
Deaf Smith	3,942	Hockley	137	Midland	3,464
Delta	14,566	Hood	10,008	Milam	36,780
Denton	31,258	Hopkins	31,038	Mills	9,694
Dickens	3,092	Houston	29,564	Mitchell	8,956
Dimmit	3,460	Howard	8,881	Montague	25,123
Donley	5,284	Hunt	48,116	Montgomery	15,679
Duval	8,964	Hutchinson	892	Moore	561
Eastland	23,421	Irion	1,283	Morris	10,439
Ector	1,178	Jack	11,817	Motley	2,396
Edwards	3,768	Jackson	6,471	Nacogdoches	27,406
El Paso	52,599	Jasper	14,000	Navarro	47,070
Ellis	53,629	Jeff Davis	1,678	Newton	10,850
Erath	32,095	Jefferson	38,182	Nolan	11,999
Falls	35,649	Johnson	34,460	Nueces	21,955
Fannin	44,801	Jones	24,299	Ochiltree	1,602
Fayette	29,796	Karnes	14,942	Oldham	812
Fisher	12,596	Kaufman	35,323	Orange	9,528
Floyd	4,638	Kendall	4,517	Palo Pinto	19,506
Foard	5,726	Kent	2,655	Panola	20,424
Fort Bend	18,168	Kerr	5,505	Parker	26,331
Franklin	9,331	Kimble	3,261	Parmer	1,555
Freestone	20,557	King	810	Pecos	2,071
Frio	8,895	Kinney	3,401	Polk	17,459
Potter	12,424	Sherman	1,376	Val Verde	8,613
Presidio	5,218	Smith	41,746		
Rains	6,787	Somervell	3,931	Van Zandt	25,651
Randall	3,312			Victoria	14,990
Reagan	392	Starr	13,151	Walker	16,061
		Stephens	7,980	Waller	12,138
Red River	28,564	Sterling	1,493	Ward	2,389
Reeves	4,392	Stonewall	5,320		
Refugio	2,814	Sutton	1,569	Washington	25,561
Roberts	950			Webb	22,503
Robertson	27,454	Swisher	4,012	Wharton	21,123
		Tarrant	108,572	Wheeler	5,258
Rockwall	8,072	Taylor	26,293	Wichita	16,094
Runnels	20,858	Terrell	1,430		
Rusk	26,946	Terry	1,474	Wilbarger	12,000
Sabine	8,582			Williamson	42,228
San Augustine	11,264	Throckmorton	4,563	Wilson	17,066
		Titus	16,422	Winkler	442
San Jacinto	9,542	Tom Green	17,882	Wise	26,450
San Patricio	7,307	Travis	55,620		
San Saba	11,245	Trinity	12,768	Wood	23,417
Schleicher	1,893			Yoakum	602
Scurry	10,924	Tyler	10,250	Young	13,657
		Upshur	19,960	Zapata	3,809
Shackelford	4,201	Upton	501	Zavalla	1,889
Shelby	26,423	Uvalde	11,233		
TOTAL					3,896,542

UTAH.—Area, 84,990 square miles.

Beaver	4,717	Kane	1,652	Tooele	7,924
Boxelder	13,894	Millard	6,118	Uinta	7,050
Cache	23,062	Morgan	2,467	Utah	37,942
Carbon	8,624	Piute	1,734	Wasatch	8,920
Davis	10,191	Rich	1,883	Washington	5,123
Emery	6,750	Salt Lake	131,426	Wayne	1,749
Garfield	3,660	San Juan	2,377	Weber	35,179
Grand	1,595	Sanpete	16,704		

Iron	3,933	Sevier	9,775		
Juab	10,702	Summit	8,200		
TOTAL					373,351

VERMONT.—Area, 9,564 square miles.

Addison	20,010	Franklin	29,866	Rutland	48,139
Bennington	21,378	Grand Isle	3,761	Washington	41,702
Caledonia	26,031	Lamoille	12,585	Windham	26,932
Chittenden	42,447	Orange	18,703	Windsor	33,681
Essex	7,384	Orleans	23,337		
TOTAL					355,956

VIRGINIA.—Area, 42,627 square miles.

Accomac	36,650	Amherst	18,932	Bland	5,154
Albemarle	29,871	Appomattox	8,904	Botetourt	17,727
Alexandria	10,231	Augusta	32,445	Brunswick	19,244
Alleghany	14,173	Bath	6,538	Buchanan	12,334
Amelia	8,720	Bedford	29,549	Buckingham	15,204
Campbell	23,043	Highland	5,317	Prince Edward	14,266
Caroline	16,596	Isle of Wight	14,929	Prince George	7,848
Carroll	21,116	James City	3,624		
Charles City	5,253	King and Queen	9,576	Prince William	12,026
Charlotte	15,785	King George	6,378	Princess Anne	11,526
				Pulaski	17,246
Chesterfield	21,299	King William	8,547	Rappahannock	8,044
Clarke	7,468	Lancaster	9,752	Richmond	7,415
Craig	4,711	Lee	23,840		
Culpeper	13,472	Loudoun	21,167	Roanoke	19,623
Cumberland	9,195	Louisa	16,578	Rockbridge	21,171
				Rockingham	34,903
Dickenson	9,199	Lunenburg	12,780	Russell	23,474
Dinwiddie	15,442	Madison	10,055	Scott	23,814
Elizabeth City	21,225	Mathews	8,922		
Essex	9,105	Mecklenburg	28,956	Shenandoah	20,942
Fairfax	20,536	Middlesex	8,852	Smyth	20,326
				Southampton	26,302
Fauquier	22,526	Montgomery	17,268	Spotsylvania	9,935
Floyd	14,092	Nansemond	26,886	Stafford	8,070
Fluvanna	8,323	Nelson	16,821		
Franklin	26,480	New Kent	4,682	Surry	9,715
Frederick	12,787	Norfolk	52,744	Sussex	13,664
				Tazewell	24,946
Giles	11,623	Northampton	16,672	Warren	8,589
Gloucester	12,477	Northumberland	10,777	Warwick	6,041
Goochland	9,237	Nottoway	13,462		
Grayson	19,856	Orange	13,486	Washington	32,830
Greene	6,937	Page	14,147	Westmoreland	9,313
				Wise	34,162
Greenesville	11,890	Patrick	17,195	Wythe	20,372
Halifax	40,044	Pittsylvania	50,709	York	7,757
Hanover	17,200	Powhatan	6,099		
Henrico	23,437				
Henry	18,459				
TOTAL					2,061,612

WASHINGTON.—Area, 69,127 square miles.

Adams	10,920	Grant	8,698	Pierce	120,812
Asotin	5,831	Island	4,704	San Juan	3,603
Benton	7,937			Skagit	29,241
Chehalis	35,590	Jefferson	8,337	Skamania	2,887
Chelan	15,104	King	284,638	Snohomish	59,209
		Kitsap	17,647		
Clallam	6,755	Kittitas	18,561	Spokane	139,404
Clarke	26,115	Klickitat	10,180	Stevens	25,297
Columbia	7,042			Thurston	17,581
Cowlitz	12,561	Lewis	32,127	Wahkiakum	3,285
Douglas	9,227	Lincoln	17,539	Walla Walla	31,931
		Mason	5,156		
Ferry	4,800	Okanogan	12,887	Whatcom	49,511
Franklin	5,153	Pacific	12,532	Whitman	33,280
Garfield	4,199			Yakima	41,709
TOTAL					1,141,990

WEST VIRGINIA.—Area, 24,170 square miles.

Barbour	15,858	Kanawha	81,457	Pocahontas	14,740
Berkeley	21,999			Preston	26,341
Boone	10,331	Lewis	18,281	Putnam	18,587
Braxton	23,023	Lincoln	20,491		
Brooke	11,098	Logan	14,476	Raleigh	25,633
		McDowell	47,856	Randolph	26,028
Cabell	46,685	Marion	42,794	Ritchie	17,875
Calhoun	11,258			Roane	21,543
Clay	10,233	Marshall	32,388	Summers	18,420
Doddridge	12,672	Mason	23,019		
Fayette	51,903	Mercer	38,371	Taylor	16,554
		Mineral	16,674	Tucker	18,675
Gilmer	11,379	Mingo	19,431	Tyler	16,211
Grant	7,838			Upshur	16,629
Greenbrier	24,833	Monongalia	24,334	Wayne	24,081
Hampshire	11,694	Monroe	13,055		
Hancock	10,465	Morgan	7,848	Webster	9,680
		Nicholas	17,699	Wetzel	23,855
Hardy	9,163	Ohio	57,572	Wirt	9,047
Harrison	48,381			Wood	38,001
Jackson	20,956	Pendleton	9,349	Wyoming	10,392
Jefferson	15,889	Pleasants	8,074		
TOTAL					1,221,119

WISCONSIN.—Area, 56,066 square miles.

Adams	8,604	Iowa	22,497	Polk	21,367
Ashland	21,965			Portage	30,945
Barron	29,114	Iron	8,306	Price	13,795
Bayfield	15,987	Jackson	17,075		
Brown	54,098	Jefferson	34,306	Racine	57,424
		Juneau	19,569	Richland	18,809
Buffalo	16,006	Kenosha	32,929	Rock	55,538
Burnett	9,026			Rusk	11,160
Calumet	16,701	Kewaunee	16,784	St. Croix	25,910
Chippewa	32,103	La Crosse	43,996		
Clark	30,074	Lafayette	20,075	Sauk	32,869
		Langlade	17,062	Sawyer	6,227
Columbia	31,129	Lincoln	19,064	Shawano	31,884
Crawford	16,288			Sheboygan	54,888
Dane	77,435	Manitowoc	44,978	Taylor	13,641
Dodge	47,436	Marathon	55,054		
Door	18,711	Marinette	33,812	Trempealeau	22,928
		Marquette	10,741	Vernon	28,116
Douglas	47,422	Milwaukee	433,187	Vilas	6,019
Dunn	25,260			Walworth	29,614
Eau Claire	32,721	Monroe	28,881	Washburn	8,196
Florence	3,381	Oconto	25,657		
Fond du Lac	51,610	Oneida	11,433	Washington	23,784
		Outagamie	49,102	Waukesha	37,100
Forest	6,782	Ozaukee	17,123	Waupaca	32,782
Grant	39,007			Waushara	18,886
Green	21,641	Pepin	7,577	Winnebago	62,116
Green Lake	15,491	Pierce	22,079		
				Wood	30,583
TOTAL					2,333,860

WYOMING.—Area, 97,914 square miles.

Albany	11,574	Fremont	11,822	Sheridan	16,324
Bighorn	8,886	Johnson	3,453	Sweetwater	11,575
Carbon	11,282	Laramie	26,127	Uinta	16,982
Converse	6,294	Natrona	4,766	Weston	4,960
				National Park	
Crook	6,492	Park	4,909	Reservation	519
TOTAL					145,935

POPULATION OF CITIES

OF THE

UNITED STATES

Census of 1910

Cities of over 100,000 population

Albany, N. Y.	100,253	Minneapolis, Minn.	301,408
Atlanta, Ga.	154,839	Nashville, Tenn.	110,364
Baltimore, Md.	558,485	Newark, N. J.	347,469
Birmingham, Ala.	132,685	New Haven, Conn.	133,605
Boston, Mass.	670,585	New Orleans, La.	339,075
Bridgeport, Conn.	102,054	New York, N. Y.	4,766,883
Buffalo, N. Y.	423,715	Oakland, Cal.	150,174
Cambridge, Mass.	104,839	Omaha, Neb.	124,096
Chicago, Ill.	2,185,283	Paterson, N. J.	125,600
Cincinnati, Ohio	364,463	Philadelphia, Pa.	1,549,008
Cleveland, Ohio	560,663	Pittsburgh, Pa.	533,905
Columbus, Ohio	181,548	Portland, Ore.	207,214
Dayton, Ohio	116,577	Providence, R. I.	224,326
Denver, Colo.	213,381	Richmond, Va.	127,628
Detroit, Mich.	465,766	Rochester, N. Y.	218,149
Fall River, Mass.	119,295	St. Louis, Mo.	687,029
Grand Rapids, Mich.	112,571	St. Paul, Minn.	214,744
Indianapolis, Ind.	233,650	San Francisco, Cal.	416,912
Jersey City, N. J.	267,779	Scranton, Pa.	129,867
Kansas City, Mo.	248,381	Seattle, Wash.	237,194
Los Angeles, Cal.	319,198	Spokane, Wash.	104,402
Louisville, Ky.	223,928	Syracuse, N. Y.	137,249
Lowell, Mass.	106,294	Toledo, Ohio	168,497
Memphis, Tenn.	131,105	Washington, D. C.	331,069
Milwaukee, Wis.	373,857	Worcester, Mass.	145,986

Cities of from 25,000 to 100,000 population

Akron, Ohio	69,067	Auburn, N. Y.	34,668
Allentown, Pa.	51,913	Augusta, Ga.	41,040
Altoona, Pa.	52,127	Aurora, Ill.	29,807
Amsterdam, N. Y.	31,267	Austin, Tex.	29,860
Atlantic City, N. J.	46,150	Battle Creek, Mich.	25,267
Bay City, Mich.	45,166	Hoboken, N. J.	70,324
Bayonne, N. J.	55,545	Holyoke, Mass.	57,730
Berkeley, Cal.	40,434	Houston, Tex.	78,800
Binghamton, N. Y.	48,443	Huntington, W. Va.	31,161
Bloomington, Ill.	25,768	Jackson, Mich.	31,433
Brockton, Mass.	56,878	Jacksonville, Fla.	57,699
Brookline, Mass.	27,792	Jamestown, N. Y.	31,297
Butte, Mont.	39,165	Johnstown, Pa.	55,482
Camden, N. J.	94,538	Joliet, Ill.	34,670
Canton, Ohio	50,217	Joplin, Mo.	32,073
Cedar Rapids, Iowa	32,811	Kalamazoo, Mich.	39,437
Charleston, S. C.	58,833	Kansas City, Kans.	82,331
Charlotte, N. C.	34,014	Kingston, N. Y.	25,908
Chattanooga, Tenn.	44,604	Knoxville, Tenn.	36,346
Chelsea, Mass.	32,452	La Crosse, Wis.	30,417
Chester, Pa.	38,537	Lancaster, Pa.	47,227
Chicopee, Mass.	25,401	Lansing, Mich.	31,229
Clinton, Iowa	25,577	Lawrence, Mass.	85,892
Colorado Springs, Colo.	29,078	Lewiston, Me.	26,247
Columbia, S. C.	26,319	Lexington, Ky.	35,099
Council Bluffs, Iowa	29,292	Lima, Ohio	30,508
Covington, Ky.	53,270	Lincoln, Nebr.	43,973
Dallas, Tex.	92,104	Little Rock, Ark.	45,941
Danville, Ill.	27,871	Lorain, Ohio	28,883
Davenport, Iowa	43,028	Lynchburg, Va.	29,494
Decatur, Ill.	31,140	Lynn, Mass.	89,336

Des Moines, Iowa	86,368	Macon, Ga.	40,665
Dubuque, Iowa	38,494	McKeesport, Pa.	42,694
Duluth, Minn.	78,466	Madison, Wis.	25,531
Easton, Pa.	28,523	Malden, Mass.	44,404
East Orange, N. J.	34,371	Manchester, N. H.	70,063
East St. Louis, Ill.	58,547	Meriden, Conn.	27,265
El Paso, Tex.	39,279	Mobile, Ala.	51,521
Elgin, Ill.	25,976	Montgomery, Ala.	38,136
Elizabeth, N. J.	73,409	Mount Vernon, N. Y.	30,919
Elmira, N. Y.	37,176	Muskogee, Okla.	25,278
Erie, Pa.	66,525	Nashua, N. H.	26,005
Evansville, Ind.	69,647	Newark, Ohio	25,404
Everett, Mass.	33,484	New Bedford, Mass.	96,652
Fitchburg, Mass.	37,826	New Britain, Conn.	43,916
Flint, Mich.	38,550	Newburgh, N. Y.	27,805
Fort Wayne, Ind.	63,933	Newcastle, Pa.	36,280
Fort Worth, Tex.	73,312	Newport, Ky.	30,309
Galveston, Tex.	36,981	Newport, R. I.	27,149
Green Bay, Wis.	25,236	New Rochelle, N. Y.	28,867
Hamilton, Ohio	35,279	Newton, Mass.	39,806
Harrisburg, Pa.	64,186	Niagara Falls, N. Y.	30,445
Hartford, Conn.	98,915	Norfolk, Va.	67,452
Haverhill, Mass.	44,115	Norristown, Pa.	27,875
Hazleton, Pa.	25,452	Ogden, Utah	25,580
Oklahoma City, Okla.	64,205	South Omaha, Nebr.	26,259
Orange, N. J.	29,630	Springfield, Ill.	51,678
Oshkosh, Wis.	33,062	Springfield, Mass.	88,926
Pasadena, Cal.	30,291	Springfield, Mo.	35,201
Passaic, N. J.	54,773	Springfield, Ohio.	46,921
Pawtucket, R. I.	51,622	Stamford, Conn.	25,138
Peoria, Ill.	66,950	Superior, Wis.	40,384
Perth Amboy, N. J.	32,121	Tacoma, Wash.	83,743
Pittsfield, Mass.	32,121	Tampa, Fla.	37,782
Portland, Me.	58,571	Taunton, Mass.	34,259
Portsmouth, Va.	33,190	Terre Haute, Ind.	58,157
Poughkeepsie, N. Y.	27,936	Topeka, Kans.	43,684
Pueblo Colo.	44,395	Trenton, N. J.	96,815
Quincy, Ill.	36,587	Troy, N. Y.	76,813
Quincy, Mass.	32,642	Utica N. Y.	74,419
Racine, Wis.	38,002	Waco, Tex.	26,425
Heading, Pa.	96,071	Waltham, Mass.	27,834
Roanoke, Va.	34,874	Warwick, R. I.	26,629
Rockford, Ill.	45,401	Waterbury, Conn.	73,141
Sacramento, Cal.	44,696	Waterloo, Iowa	26,693
Saginaw, Mich.	50,510	Watertown, N. Y.	26,730
St. Joseph, Mo.	77,403	West Hoboken, N. J.	35,403
Salem, Mass.	43,697	Wheeling, W. Va.	41,641
Salt Lake City, Utah	92,777	Wichita, Kans.	52,450
San Antonio, Tex.	96,614	Wilkes-Barre, Pa.	67,105
San Diego, Cal.	39,578	Williamsport, Pa.	31,860
San Jose, Cal.	28,946	Wilmington, Del.	87,411
Savannah, Ga.	65,064	Wilmington, N. C.	25,748
Schenectady, N. Y.	72,826	Woonsocket, R. I.	38,125
Sheboygan, Wis.	26,398	Yonkers, N. Y.	79,803
Shenandoah, Pa.	25,774	York, Pa.	44,750
Shreveport, La.	28,015	Youngstown, Ohio	79,066
Sioux City, Iowa	47,828	Zanesville, Ohio	28,026
Somerville, Mass.	77,236		
South Bend, Ind.	53,684		

NUMBER, ACREAGE, AND VALUE OF FARMS, BY STATES: 1910.

State.	Number of Farms.	Land in Farms. (Acres.)	Value of Farms. (Land.)	Value of Farms. (Buildings.)	Implements and Machinery.
The United States	6,398,491	75,788,000	$28,457,789,000	$6,302,777,000	$1,270,528,000
Alabama	262,720	20,713,000	216,510,000	71,163,000	16,279,000
Arizona	8,078	1,242,000	42,116,000	4,918,000	1,779,000
Arkansas	214,275	17,377,000	245,137,000	62,992,000	16,806,000
California	87,670	27,883,000	1,315,718,000	132,842,000	36,393,000
Colorado	45,839	13,448,000	361,680,000	45,335,000	12,761,000
Connecticut	26,431	2,176,000	71,527,000	65,094,000	6,865,000
Delaware	10,800	1,037,000	34,810,000	18,117,000	3,202,000
District of Columbia	214	6,000	5,466,000	835,000	62,000
Florida	49,834	5,231,000	93,288,000	24,335,000	4,429,000
Georgia	290,499	26,866,000	369,120,000	108,483,000	20,883,000
Idaho	30,741	5,269,000	219,346,000	25,074,000	10,459,000
Illinois	250,853	32,471,000	3,081,564,000	429,630,000	73,533,000
Indiana	214,741	21,264,000	1,325,475,000	264,750,000	40,880,000
Iowa	216,807	33,905,000	2,799,025,000	454,694,000	95,273,000
Kansas	177,299	43,261,000	1,534,552,000	199,101,000	48,244,000
Kentucky	258,742	22,159,000	483,127,000	150,655,000	20,793,000
Louisiana	120,270	10,519,000	189,071,000	49,611,000	18,951,000
Maine	59,773	6,291,000	85,923,000	72,753,000	14,476,000
Maryland	48,769	5,051,000	163,023,000	77,751,000	11,845,000
Massachusetts	36,512	2,870,000	104,273,000	87,025,000	11,512,000
Michigan	206,376	18,913,000	612,143,000	284,914,000	49,771,000
Minnesota	155,759	27,623,000	1,016,889,000	242,621,000	52,243,000
Mississippi	273,820	18,419,000	250,715,000	79,580,000	16,726,000
Missouri	276,081	34,516,000	1,441,529,000	268,976,000	50,769,000
Montana	25,946	13,499,000	225,819,000	24,666,000	10,522,000
Nebraska	129,419	38,553,000	1,613,077,000	198,480,000	44,215,000
Nevada	2,660	2,585,000	34,876,000	4,277,000	1,558,000

NUMBER, ACREAGE, AND VALUE OF FARMS, BY STATES: 1910.—Continued

State.	Number of Farms.	Land in Farms. (Acres.)	Value of Farms. (Land.)	Value of Farms. (Buildings.)	Implements and Machinery.
New Hampshire	26,913	3,242,000	$44,327,000	$41,215,000	$5,870,000
New Jersey	33,161	2,562,000	122,357,000	90,784,000	12,955,000
New Mexico	35,032	11,225,000	98,496,000	12,934,000	4,101,000
New York	214,650	21,998,000	703,214,000	473,008,000	83,330,000
North Carolina	253,425	22,400,000	342,545,000	113,170,000	18,415,000
North Dakota	74,165	28,392,000	729,896,000	92,139,000	43,887,000
Ohio	271,383	24,074,000	1,283,827,000	366,919,000	51,115,000
Oklahoma	189,438	28,717,000	647,178,000	89,295,000	27,002,000
Oregon	45,128	11,628,000	409,949,000	43,622,000	13,135,000
Pennsylvania	218,394	18,556,000	627,185,000	408,115,000	70,547,000
Porto Rico	58,371	2,085,000	73,968,000	8,752,000	8,711,000
Rhode Island	5,191	442,000	14,837,000	12,619,000	1,753,000
South Carolina	176,180	13,469,000	267,931,000	63,902,000	14,067,000
South Dakota	77,314	25,952,000	901,134,000	102,317,000	33,762,000
Tennessee	245,509	20,011,000	370,783,000	108,823,000	21,260,000
Texas	416,377	109,226,000	1,613,513,000	209,200,000	56,533,000
Utah	21,426	33,540,000	98,891,000	17,987,000	4,451,000
Vermont	32,598	4,653,000	58,255,000	54,072,000	10,162,000
Virginia	183,762	19,476,000	393,837,000	137,081,000	18,079,000
Washington	55,744	11,663,000	515,918,000	54,224,000	16,653,000
West Virginia	95,876	9,961,000	205,610,000	56,848,000	6,962,000
Wisconsin	176,546	21,012,000	909,462,000	288,096,000	52,783,000
Wyoming	10,980	8,543,000	88,877,000	8,983,000	3,765,000

TABLE OF OCCUPATIONS

Census of 1890

All Occupations (persons engaged in)	22,735,861

Agriculture, Fisheries, and Mining, total, 9,013,336

Agricultural laborers	3,004,061
Apiarists	1,778
Dairymen and dairywomen	17,895
Farmers, planters, and overseers	5,281,557
Fishermen and oystermen	60,162
Gardeners, florists, nurserymen, and vine growers	72,601
Lumbermen and raftsmen	65,866
Miners (coal)	208,545
Miners (not otherwise specified)	141,047
Quarrymen	37,656
Stock raisers, herders, and drovers	70,729
Wood choppers	33,697
Other agricultural pursuits	17,747

Professional Service, 944,333

Actors	9,728
Architects	8,070
Artists and teachers of art	22,496
Authors and literary and scientific persons	6,714
Chemists, assayers, and metallurgists	4,503
Clergymen	88,203
Dentists	17,498
Designers, draughtsmen, and inventors	9,391
Engineers (civil, mechanical, electrical, and mining and surveyors)	43,239
Journalists	21,849
Lawyers	89,630
Musicians and teachers of music	62,155
Officers of the United States army and navy	2,926
Officials (Government)	79,664
Physicians and surgeons	104,805
Professors in colleges and universities	5,393
Teachers	341,952
Theatrical managers, showmen, etc.	18,055
Veterinary surgeons	6,494
Other professional service	1,569

Domestic and Personal Service, 4,360,577

Barbers and hairdressers	84,982
Bartenders	55,806
Boarding and lodging house keepers	44,349
Engineers and firemen (not locomotive)	139,765
Hotel keepers	44,076
Housekeepers and stewards	92,036
Hunters, trappers, guides, and scouts	2,534
Janitors	21,556
Laborers (not specified)	1,913,373
Launderers and laundresses	248,463
Nurses and midwives	47,586
Restaurant keepers	19,283
Saloon keepers	71,385
Servants	1,454,791
Sextons	4,982
Soldiers, sailors, and marines (United States)	27,819
Watchmen, policemen, and detectives	74,629
Other domestic and personal service	13,063

Trade and Transportation, 3,326,122

Agents (claim, commission, real estate, insurance, etc.) and collectors	174,582
Auctioneers	3,205
Bankers and brokers (money and stocks)	30,008
Boatmen and canalmen	16,716

Bookkeepers and accountants	159,374
Brokers (commercial)	5,960
Clerks and copyists	557,358
Commercial travellers	58,691
Draymen, hackmen, teamsters, etc	368,499
Foremen and overseers	36,084
Hostlers	54,036
Hucksters and pedlers	59,083
Livery stable keepers	26,757
Locomotive engineers and firemen	79,463
Merchants and dealers in drugs and chemicals (retail)	46,375
Merchants and dealers in drygoods (retail)	42,527
Merchants and dealers in groceries (retail)	114,997
Merchants and dealers in wines and liquors (retail)	10,078
Merchants and dealers in wines and liquors (wholesale)	3,643
Merchants and dealers not specified (retail)	446,262
Merchants and dealers (wholesale), importers and shipping merchants	37,443
Messengers, and errand and office boys	51,355
Newspaper carriers and newsboys	5,288
Officials of banks and insurance, trade, transportation, trust and other companies	39,900
Packers and shippers	24,946
Pilots	4,259
Porters and helpers (in stores and warehouses)	24,356
Sailors	55,899
Salesmen and saleswomen	264,394
Steam railroad employés (not otherwise specified)	382,750
Stenographers and typewriters	33,418
Street railway employés	37,434
Telephone and telegraph operators	52,314
Telephone and telegraph linemen and electric light and power company employés	11,134
Undertakers	9,891
Weighers, gaugers, and measurers	3,860
Other persons in trade and transportation	3,883

MANUFACTURING AND MECHANICAL INDUSTRIES. 5,091,393

Agricultural implement makers (not otherwise classified)	3,755
Apprentices (blacksmiths')	4,244
Apprentices (boot and shoe makers')	1,031
Apprentices (carpenters and joiners')	6,760
Apprentices (carriage and wagon makers')	852
Apprentices (dressmakers')	4,340
Apprentices (leather curriers', etc.)	421
Apprentices (machinists')	9,738
Apprentices (masons')	1,927
Apprentices (milliners')	1,204
Apprentices (painters')	2,321
Apprentices (plumbers')	4,624
Apprentices (printers')	4,635
Apprentices (tailors')	2,625
Apprentices (tinsmiths')	2,037
Apprentices (not otherwise specified)	35,698
Artificial flower makers	3,046
Bakers	60,197
Basket makers	5,225
Blacksmiths	205,337
Bleachers, dyers, and scourers	14,210
Bone and ivory workers	1,691
Bookbinders	23,858
Boot and shoe makers and repairers	213,544
Bottlers and mineral and soda-water makers	7,230
Box makers (paper)	17,757
Box makers (wood)	10,883
Brass workers (not otherwise specified)	17,265
Brewers and maltsters	20,362
Brick and tile makers and terra cotta workers	60,214
Britannia workers	904
Broom and brush makers	10,115
Builders and contractors	45,988
Butchers	105,456
Butter and cheese makers	11,211
Button makers	2,601

Cabinetmakers	35,915
Candle, soap, and tallow makers	3,450
Carpenters and joiners	611,482
Carpet makers	22,302
Carriage and wagon makers (not otherwise classified)	34,538
Charcoal, coke, and lime burners	8,704
Chemical works employés	3,628
Clock and watch makers and repairers	25,252
Compositors	30,060
Confectioners	23,251
Coopers	47,486
Cooper workers	3,384
Corset makers	6,533
Cotton mill operatives	173,142
Distillers and rectifiers	3,314
Door, sash, and blind makers	5,041
Dressmakers	289,164
Electroplaters	2,756
Electrotypers and stereotypers	1,471
Engravers	8,320
Fertilizer makers	732
Fish curers and packers	1,279
Gas works employés	5,224
Glass workers	34,382
Glove makers	6,416
Gold and silver workers	20,263
Gunsmiths, locksmiths, and bell hangers	9,158
Hair workers	1,254
Harness and saddle makers and repairers	43,480
Hat and cap makers	24,013
Hosiery and knitting mill operatives	29,555
Iron and steel workers	144,921
Lace and embroidery makers	5,256
Lead and zinc workers	4,616
Leather curriers, dressers, finishers, and tanners	39,332
Machinists	177,090
Manufacturers and officials of manufacturing companies1	01,610
Marble and stone cutters	61,070
Masons (brick and stone)	158,918
Meat and fruit packers, canners, and preservers	5,830
Mechanics (not otherwise specified)	15,485
Metal workers (not otherwise specified)	16,694
Mill and factory operatives (not specified)	93,596
Millers (flour and grist)	52,841
Milliners	60,842
Model and pattern makers	10,300
Moulders	66,289
Musical instrument makers (not otherwise specified)	652
Nail and tack makers	4,583
Oil well employés	9,147
Oil works employés	5,624
Painters, glaziers, and varnishers	219,912
Paper hangers	12,369
Paper mill operatives	27,817
Photographers	20,840
Piano and organ makers and tuners	14,683
Plasterers	39,002
Plumbers and gas and steam fitters	56,607
Potters	14,928
Powder and cartridge makers	1,385
Printers, lithographers, and pressmen	86,893
Print works operatives	6,701
Publishers of books, maps, and newspapers	6,284
Roofers and slaters	7,043
Rope and cordage makers	8,001
Rubber factory operatives	16,162
Sail, awning, and tent makers	3,257
Salt works employés	1,765
Saw and planing mill employés	133,637
Seamstresses	150,044
Sewing machine makers (not otherwise classified)	880
Sewing machine operators	7,126
Ship and boat builders	22,951
Shirt, collar, and cuff makers	21,097
Silk mill operatives	34,855

Starch makers	746
Steam boiler makers	21,339
Stove, furnace, and grate makers	8,932
Straw workers	3,666
Sugar makers and refiners	2,616
Tailors and tailoresses	185,400
Tinners and tinware makers	55,488
Tobacco and cigar operatives	111,385
Tools and cutlery (not otherwise specified)	17,985
Trunk, valise, leather case, and pocket-book makers	6,297
Umbrella and parasol makers	3,403
Upholsterers	25,666
Well borers	4,854
Wheelwrights	12,856
Whitewashers	3,996
Wire workers	12,319
Wood workers (not otherwise specified)	67,360
Woolen mill operatives	84,109
Other persons in manufacturing and mechanical industries	76,714

INDEX.

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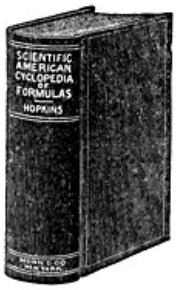

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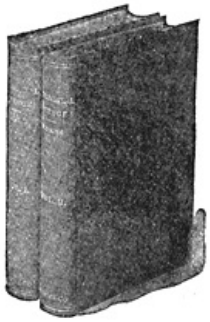

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