

The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (but in cases of designs on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

During the last seventeen years, the business of procuring Patents for new inventions, in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the inventors throughout the country, we would state that we have acted as agents for at least TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees at home and abroad. Thousands of inventors for whom we have taken out patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the inventors whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in our extensive offices, and we are prepared to attend to patent business of kinds in the quickest time and on the most liberal terms.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted, are invited to correspond with us on the subject, giving a brief history of the case, inclosing the official letters, &c.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The Government fee for a caveat, under the new law, is \$10. A pamphlet of advice regarding applications for patents and caveats, printed in English and German, is furnished gratis on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through the Scientific American Patent Agency, No. 37 Park Row, New York.

Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

Circulars of information concerning the proper course to be pursued in obtaining patents in foreign countries through our Agency, the requirements of different Government Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park Row, New York, or any of our branch offices.

ASSIGNMENTS OF PATENTS.

Assignments of patents, and agreements between patentees and manufacturers are carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park Row, New York.

It would require many columns to detail all the ways in which inventors or patentees may be served at our offices. We cordially invite all who have anything to do with patent property or inventions to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the rights of patentees will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park Row, New York.

TO OUR READERS.

Models are required to accompany applications for Patents under the new law, the same as formerly, except on design patents when two good drawings are all that are required to accompany the petition, specification and oath, except the Government fee.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1863, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

RECEIPTS.—When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscribers remit their money by mail, they may consider the arrival of the first paper a *bona-fide* acknowledgment of our reception of their funds.

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of *Instructions to Inventors*, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon application at this office. Address MUNN & CO., No. 37 Park Row, New York.

Back Numbers and Volumes of the Scientific American
VOLUMES I., II., III., IV., V., VII. AND VIII. (NEW SERIES) complete (bound) may be had at this office and from periodical dealers. Price, bound, \$2 25 per volume, by mail, \$3— which includes postage. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding. VOL. VI. is out of print and cannot be supplied.

Binding the "Scientific American."

It is important that all works of reference should be well bound. The SCIENTIFIC AMERICAN being the only publication in the country which records the doings of the United States Patent Office, it is preserved by a large class of its patrons, lawyers and others, for reference. Some complaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series, i. e., heavy board sides covered with marble paper, and morocco backs and corners.

Believing that the latter style of binding will better please a large portion of our readers, we commenced on the expiration of Volume VII. to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners.

The price of binding in the above style is 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, No. 37 Park Row, New York.



Q. C., of Mass.—You will find the formula for calculating the flow of water through pipes in "Nystrom's Handbook for Mechanics," page 228, published by J. B. Lippincott & Co., Philadelphia; but more full in Professor Rankin's work on "Prime Movers," page 102—a London publication.

L. R., of Pa.—There is no business directory for the State of New York published, so far as we know.

G. S., of Pa.—Aniline colors cannot be made from petroleum, by any known process, because it does not contain true benzole.

E. J., of Mass.—Skeleton leaves are prepared by macerating in soft water, and exposing them to the sun for several days, until they ferment, when the soft portions may be easily removed with the fingers, or a brush, leaving the fibrous skeletons perfect. To render them white, steep for a short period in a dilute solution of the chloride of lime, then wash and dry them.

J. T. T., of Mass.—Communicate with Charles Seely, editor of the *American Journal of Photography*, No. 244 Canal street, this city, respecting articles for the photographer, their cost, &c., and the other information which you desire.

G. & T., of Ill.—You state that your iron tanks are cylindrical, five-sixteenths of an inch thick and 60 inches in diameter, and you wish to know what pressure of steam they will bear. The practice is to allow about 52,000 pounds for the strength of a square inch of iron; divide this by the diameter (60) in inches of the tank, or boiler, and the quotient is the bursting pressure. It is customary to use steam at only one-third this pressure, and to allow one-third for the weakening effects of riveting. The pressure for your tanks should, therefore, not exceed 60 pounds on the iron; but if you were to hoop them with half-inch ring, eighteen inches apart, they would bear a pressure of 90 pounds.

R. W. G., of Ill.—Thomas Prosser, No. 28 Platt street, this city, will give you information, and furnish you with drawn steel rods.

A. R. S., of Ohio.—The Practical Draughtsman's Book of Industrial Design, published by Henry Carey Baird, Philadelphia, is the best you can obtain upon the designing of gearing. The art of cutting gear wheels, however, can only be learned by practice.

J. M. Z., of Ill.—We do not understand, from your letter, what kind of coating you desire for light hardware, such as door handles, latches, &c. The black coating usually consists of a black varnish, which is manufactured and sold for common use in nearly every city. Porcelain door handles are composed of Chinese clay, molded and baked under a high heat in porcelain kilns.

G. W. S., of Boston.—We have received your communication on the rights of authors and inventors to ideas, as permanent property, like real estate. Having fully investigated this subject many years ago, we consider that your conclusions are unsupported by sound reasoning. You will find the subject discussed on page 122 Vol. IX. (old series) of the SCIENTIFIC AMERICAN, and especially on page 237, Vol. II. (old series) of the SCIENTIFIC AMERICAN.

D. J. T., of Ohio.—There is no first rate work published on rifles and gunnery. At present gunnery is in a transition state. Experiment alone can determine the amount of pressure in front of a bullet moving in the barrel of a rifle. The total pressure of the atmosphere is only 15 pounds on the square inch.

D. K., of N. Y.—You will find it troublesome to work a low pressure engine of the size you mention. You had better let it work high pressure. A boiler 4 feet high, and 18 inches diameter, will do the work, providing it contains five flues one inch in diameter, and 3 feet long, or in that proportion. An old boiler flue will answer if you can get fire enough under it to make steam rapidly.

E. G. C., of Mass.—Mr. Gail Borden's address is 36 Elizabeth street, New York. We shall make use of your perpetual motion item.

L. C., of Maine.—We will send you one of our pamphlets of advice by mail. Generally, in doubtful cases, we advise parties to have preliminary examination made at the Patent Office.

C. B., of N. J.—The patent law provides that a design patent may be extended for seven years, upon the payment of \$100 to the Patent Office, and otherwise complying with the terms of the law. Our pamphlet fully explains all these matters.

H. C., of Mo.—War is always more or less a temporary calamity; but in measuring its consequences we must look beyond mere temporary issues, and contemplate its effects upon the ultimate interests of the nation. We regard disunion as the greatest calamity that could befall the country. It would insure the destruction of our Government, and promote endless border wars. We must be one people living under one Government; then we shall be great and powerful for all purposes.

N. B., of Cal.—The use of silk for wearing apparel may become more extensive in this country, but it will never supersede cotton and flax tissues. You are surprised at the elegant silks worn by all classes and sexes of Chinese in your State! You must remember that the silk worm and the mulberry are indigenous to China, and there are twenty persons there for one in America.

A. T., of Mass.—Between three and four feet is the usual quantity of rain that falls in a year; but this year there was nearly that much during the month of July, in some parts of the United States. During the same month (17th of July) it was so cold in England that a severe frost injured vegetation near London.

C. H., of Pa.—Many new American patented agricultural implements are now introduced to Cuban industry, by Don José Macéas, an enterprising Americanized islander, who has recently established a model farm near Matanzas. Connected with it, he has a stock farm, for raising the best breeds of useful farm animals.

P. T., of Wis.—The longest railway tunnel in the world is that between Lyons and Turin, under Mont Cenis: it is more than seven miles in length, and beats the famous Hoosac tunnel of Old Bay State, yet unfinished, through solid granite. The first special tunnel we have any account of, is that called the *Grotto di liipo*, near Naples, Italy, now used as a common roadway. It is through the *tuca* of a mountain spur, between Naples and Barce.

E. R. S., of Md.—You will find an article on petrole for the fuel of steamers on page 415, Vol. I, current series of the SCIENTIFIC AMERICAN. Whoever informed you that petroleum is cheaper than coal for generating steam, and that it is now used in boilers for fuel, must be mistaken.

J. M. G., of Ill.—We see nothing in your device which differs substantially from, or is of more practical value than the well-known hydrostatic paradox. The experiment would be simple and if you are in any doubt try it.

C. C. R., of N. Y.—You will find the price for binding volumes of the SCIENTIFIC AMERICAN on our advertising page.

R. J. A., of Ill.—There is no loss of useful effect by the transmission of work through the crank of an engine, except the friction on the crank pin. It is an erroneous notion entertained by many persons, that a crank consumes power.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, Aug. 19, to Wednesday, August 26, 1863:—

A. G., of Pa., \$10; G. B. H., of N. Y., \$20; G. W. H., of Iowa, \$20; F. A. Jr., of Mich., \$20; S. T. S., of Mass., \$20; J. C., of N. Y., \$20; T. W., of Ill., \$20; N. B. B., of N. Y., \$20; W. E. N., of Conn., \$100; J. F., of N. Y., \$20; H. G., of N. Y., \$16; W. McK., of Pa., \$20; W. W., of Cal., \$45; S. & S., of Pa., \$20; W. B. R., of Mich., \$20; M. W. W., of Mo., \$20; C. M., of N. Y., \$25; H. W. C., of Vt., \$16; H. L., of Mo., \$25; W. D. H., of La., \$25; M. De C., of Ind., \$26; W. X. S., of Mass., \$16; G. G. H., of Conn., \$16; M. & S., of Vt., \$41; M. B. W., of Conn., \$25; T. T., of Pa., \$16; A. S. L., of N. Y., \$16; J. F., of N. C., \$15; H. J., of Conn., \$16; F. & P., of N. Y., \$16; R. W., of N. Y., \$16; M. M. C., of Ill., \$20; C. J. B., of Ill., \$26; H. F. & T. R. B., of Iowa, \$16; E. J. B., of Ill., \$16; J. W. Jr., of Wis., \$5; F. J. K., of Ohio, \$20; W. B. K., of Iowa, \$15; J. D. C., of Ill., \$15; H. & G., of Ill., \$20; C. F., of Ill., \$25; G. G. C., of N. Y., \$16; R. B. Z., of Ohio, \$15; D. I. S., of N. Y., \$25; G. M. L., of N. Y., \$12; W. H. G., of N. Y., \$25; H. K., of N. Y., \$45; J. D., of N. J., \$45; R. B., of Mich., \$45; L. S., of N. Y., \$25; J. S., of N. Y., \$25.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, August 19, to Wednesday, August 26, 1863:—

E. C., of N. Y. (4 cases); H. & C., of Conn.; W. C., of Ill.; M. & S., of Vt.; F. S. G., of Conn.; C. M., of N. Y.; D. J. S., of N. Y.; O. & F., of N. Y.; L. S., of N. Y.; P. M. G., of Iowa; T. J. K., of Ohio; O. F. H., of Mass.; M. B. W., of Conn.; J. C. L., of Mo.; W. D. H., of La.; M. D., of Ind.; C. F., of Ill.; C. C., of N. Y.; J. S., of N. Y.

RATES OF ADVERTISING.

Twenty-five Cents per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns, and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.

A PRACTICAL SOAP MAKER HAS TWO NEW Soaps (Patentable) he wants introduced to the public, there's in them. Address, with stamp for reply, WM. E. BOULGER, Chicago, Ill.

WANTED.—PATENTEE. ANY PERSON PAYING the expense of procuring the patent on a valuable improvement in a Window Sash Stop and Lock, can purchase the entire right when patented, very low, by addressing LOCK, box No. 541, Providence, R. I.

PATENT FOR SALE.—FISHER'S LAWN OR YARD Mower, Patented 1863. Vibrating cutters; lightest machine made, weighs 35 lbs.; a lady can mow with it. For further particulars, address HENRY FISHER, Alliance, Ohio.

TO THE ENTERPRISING AND INTELLIGENT.—I have the right of New Jersey on a Patented machine, which I wish to sell to a party of some means and energy. It is worth a fortune. I will sell it for two thousand dollars. For further information, call or address A. BARRETT, 186 William street, Hoboken, N. J.

FOWLER'S ADDING MACHINE.—STATE AND COUN try Rights, and Machines for sale. This Machine has no equal on the American continent. Cheapness and simplicity, combined with accuracy and speed, is what I claim for it over all others. For further information, address GEO. B. FOWLER & CO., 37 Park Row, Room 21, New York City, or Box 3212 Chicago, Ill. (See cut and description in SCIENTIFIC AMERICAN, No. 10, Vol. 9.)