

muslin, or an equivalent fabric, having a smooth white surface coated with transparent varnish, for the purpose specified.

1,928.—Revolving Fire-arm.—Rollin White, Springfield, Mass. Patented April 13, 1858 :

I claim in that class of arms consisting of a fixed barrel with a rotating cylinder having a series of parallel chambers, which are brought in succession in line with the barrel to be fired, making a recess or aperture through the breech, and communicating with, but of less area than the rear end of the chamber, and of a form, substantially as described, suited to and in combination with the hammer, or the equivalent thereof, to strike through such recess against the rear end of the cased cartridge which contains the fulminate priming, as set forth.

1,929.—Tobacco Pipe.—The Tobacco Pipe Company, Baltimore, Md., assignees by mesne assignment of Andrew J. Bowen. Patented June 10, 1862 :

We claim, First, The two tubes or channels, a and b, in the stem, in combination with the bowl, c, and cup or receptacle, d, as herein set forth.

Second, The device by which the cup or receptacle, d, is attached to the bowl, c; i. e., the male screw in the latter and the female screw in the former, or their equivalents, in combination with the channels, a and b, bowl, c, and cup, d, substantially as shown and described and for the purposes set forth.

PATENTS

GRANTED

FOR SEVENTEEN YEARS.

MUNN & COMPANY,

In connection with the publication of the SCIENTIFIC AMERICAN, have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past seventeen years. Statistics show that nearly ONE-THIRD of all the applications made for patents in the United States are solicited through this office; while nearly THREE-FOURTHS of all the patents taken in foreign countries are procured through the same source. It is almost needless to add that, after seventeen years' experience in preparing specifications and drawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly conversant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office; but they take pleasure in presenting the annexed testimonials from the three last ex-Commissioners of Patents.

Messrs. MUNN & Co.—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence indicated has been fully deserved, as I have always observed, in all your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

Yours very truly,

CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter.

Messrs. MUNN & Co.—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as solicitors of Patents, while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability, and uncompromising fidelity in performing your professional engagements.

Very respectfully, your obedient servant,

J. HOLT.

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

Messrs. MUNN & Co.—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency; and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy.

Very respectfully, your obedient servant,

WM. D. BISHOP.

THE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent, free of charge. Address MUNN & CO., No. 37 Park Row, New York.

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than 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 they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individuals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service which Messrs. MUNN & CO. render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there; but is an opinion based upon what knowledge they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, accompanied with a model, or drawing and description, they have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Branch Office of Messrs. MUNN & CO., corner of F and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue. Address MUNN & CO., No. 37 Park Row, New York.

THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or patentees who are about erecting extensive works for manufacturing under their patents, should have their claims examined carefully by com-

petent attorneys, to see if they are not likely to infringe some existing patent, before making large investments. Written opinions on the validity of patents, after careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is solicited. For further particulars address MUNN & CO., No. 37 Park Row, New York.

The Patent Laws, enacted by Congress on the 2d of March, 1831 are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

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 (except in cases of designs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

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 is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

REJECTED APPLICATIONS.

Messrs. MUNN & CO. are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of their Washington Agency to the Patent Office affords them rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Their success in the prosecution or rejected cases has been very great. The principal portion of their 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 MUNN & CO., on the subject giving a brief history of the case, inclosing the official letters, &c.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by a draft on New York, payable to the order of Messrs. MUNN & CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$15. Other changes in the fees are also made as follows:—

On filing each Caveat.....	\$10
On filing each application for a Patent, except for a design.....	\$15
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$20
On application for Re-issue.....	\$30
On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$15
On filing application for Design (fourteen years).....	\$30

SEARCHES OF THE RECORDS.

Having access to all the official records at Washington, pertaining to the sale and transfer of patents, MESSRS. MUNN & CO., are at all times ready to make examinations as to titles, ownership, or assignments of patents. Fees moderate.

ASSIGNMENTS OF PATENTS.

The assignment of patents, and agreements between patentees and manufacturers, 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.

FOREIGN PATENTS.

Messrs. MUNN & CO., are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business they have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. They thing they can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through their agency.

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 MUNN & CO.'s Agency, the requirements of different Government Patent Offices, &c. may be had, gratis, upon application at the principal office, No. 37 Park Row, New York, or any of the branch offices.

INVITATION TO INVENTORS.

Inventors who come to New York should not fail to pay a visit to the extensive offices of MUNN & CO. They will find a large collection of models (several hundred) of various inventions, which will afford them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

MUNN & CO. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances; but that they devote their whole time and energies to the interests of their clients.

COPIES OF PATENT CLAIMS.

Messrs. MUNN & CO., having access to all the patents granted since the rebuilding of the Patent Office, after the fire of 1836, can furnish the claims of any patent granted since that date, for \$1.

EXTENSION OF PATENTS.

Many valuable patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effort at extension, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of procedure in order to obtain a renewed grant. Some of the most valuable grants now existing are *extended patents*. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give plenty days' notice of their intention.

Patents may be extended and preliminary advice obtained, by consulting, or writing to, MUNN & CO., No. 37 Park Row, New York.

UNCLAIMED MODELS.

Parties sending models to this office on which they decide not to apply for Letters Patent and which they wish preserved, will please to order them returned as early as possible. We cannot engage to retain models more than one year after their receipt, owing to their vast accumulation, and our lack of storage room. Parties, therefore, who wish to preserve their models should order them returned within one year after sending them to us, to insure their obtaining them. In case an application has been made for a patent the model is in deposit at the Patent Office, and cannot be withdrawn.

It would require many columns to detail all the ways in which the Inventor or Patentee 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.



Correspondents who wish information from us through this column must, as an evidence of good faith, sign their names to their letters. We throw aside all anonymous communications. W. C., of N. J.—We don't know what the "trap process" of tempering springs is. One way to temper them is to make them hard first and then draw the temper in hot sand heated to 550 or 570 degrees, at which temperature they are dark purple to blue. Oil or tallow smokes at 470 degrees, and takes fire when a light is presented. At 570 degrees it goes out when the light is withdrawn.

R. B. C., of Mass.—It is not new to make a ratchet drill with vertical teeth; such drills were made and sold fifteen years ago.

E. W. D., of Conn.—The wisest and the most learned men are always the most ready to admit their errors, while the greatest fools and ignoramuses are the ones to insist most strongly that they never make mistakes. In the case referred to, all that was said was that the boat with the pulley engine ran faster than the one with the crank engine, but you must know that it is very easy for interested parties to conduct such experiments so as to show any result they please.

T. W. D., of Cal.—Petroleum is composed of the same elements as India-rubber, viz.: hydrogen and carbon. It is probable that by the destructive distillation of India-rubber part of it might be converted into oil closely resembling some portions of petroleum, but we know of no fact that would suggest the possibility of converting petroleum into India-rubber.

Horace, of Pa.—To calculate the power of a steam engine multiply the area of the piston in inches by the pressure per inch in pounds, the product by the length of the stroke in feet, this product by the number of strokes in a minute, and divide by 33,000.

J. S., of N. S.—For cotton machinery of all kinds address Whiting & Sons, Northbridge, Mass.

Nassau, of N. J.—It is rather a complicated problem, but it seems to us that the oscillations must be continuous.

Critic, of R. I.—The earth in its rotation on its axis turns one degree in four minutes; bodies, therefore, at the equator are carried along about seventeen miles in a minute from west to east. Portions of the earth nearer the center are also moving around from west to east, but with less velocity. If a hole were made through the center of the earth at the equator and a stone were dropped into it the stone would continue its eastward motion at the rate of seventeen miles a minute till it came to portions of the earth moving in the same direction but with less velocity, when it would overtake them and strike the eastern side of the hole.

B. H. M., of N. H.—India-rubber varnish for cloth should be of vulcanized rubber.

L. W. S., of Mo.—You can procure a newspaper file suitable for the SCIENTIFIC AMERICAN from Alfred Goulding, Worcester, Mass.

J. P. V., of Cooksville.—Your improvement seems to be new, and we should think a patent could be obtained for it. In what State do you reside?

F. G. F., of Ohio.—You have the right spirit. An inventor can never succeed if he allow a single failure to discourage him.

J. S. E., of Wis.—We cannot admit to our columns a communication that prejudices a case that may involve litigation in court.

C. C., of D. C.—We cannot publish your letter, for the reason that it might prejudice the rights of the patentees in advance of a judicial decision. The patent must stand on its own merits, without any interference on our part.

J. S., of Ind.—We have credited you \$1 on account of your subscription. The article to which you refer was prepared expressly for our paper or we should not have published it, as we dislike long communications. We do not think your proposed article on natural and mental philosophy would be acceptable.

J. W. H., of N. Y.—You can procure soluble glass of Lewis Feuchtwanger, No. 55 Cedar street, this city. We believe the emery wheels made with it are rendered insoluble by having the least possible excess of alkali, so that hot water is required for the solution.

O. D. M., of N. H.—The sample which you send us we take to be very thin tin foil pasted upon paper.