

RE-ISSUES.

- 1,704.—Sewing Machine.—S. Pancoast (assignee of Geo. Fetter), Philadelphia, Pa. Patented Oct. 23, 1860 :
I claim, first, The hook or loop-catcher, N, formed substantially as described and illustrated, the said hook being arranged to revolve around or adjacent to a spool case, and being so situated in respect to the eye-pointed needle, and having such a motion imparted to it in connection with its revolving motion on that it will seize the needle thread, carry the same around, or partly around, a spool case, and release the said loop of thread, all substantially as set forth.
Second, The guard, M, or its equivalent, constructed, arranged, and operating on the thread which passes from the spool case to the fabric, substantially as set forth.
Third, The stationary spindle, I, with its disk, J, the hollow spindle, G, and carrier, H, the annular cap, L, and spool case, K, the whole being arranged and operating substantially as set forth.
- 1,705.—Mode of casting Plow Plates.—F. F. Smith (assignor to himself and the Collins Company), Collinsville, Conn. Patented Nov. 20, 1860 :
I claim, in connection with the making of cast cast-steel plow plates in molds, the opening or loosening up of the mold before the molten metal chills enough to shrink to any extent, for the purpose of relieving the plate or casting, and to prevent it from cracking by the shrinkage of the cast cast-steel in cooling, substantially as herein described.
- 1,706.—Plow.—F. F. Smith (assignor to himself and the Collins Company), Collinsville, Conn. Patented Nov. 20, 1860 :
I claim a plow the plates of which are made of molten cast-steel, substantially as and for the purpose described.
- 1,707.—Mode of attaching Door Knobs to Spindles.—Emery Parker, Meriden, Conn. Patented May 5, 1863 :
In combination with a screw-threaded knob, and the screw-threaded angular spindle, I claim the key or clamp piece, b, or its equivalent, fitting a recess in the end of the shank, located entirely within the escutcheon, and concealed therefrom by view, in the manner and for the purpose substantially as set forth.
I claim the employment of the independent washer, e, in combination with the spindle, escutcheon, knob, shank, and metal piece, b, when constructed and arranged substantially as and for the purpose described.
- 1,708.—Buckle.—Frederick Stevens, Harrison Township, N. J., assignee of Luther Fogg, Boston, Mass. Patented June 2, 1863. Re-issued Aug. 11, 1863 :
I claim the connection of the tongue with the surrounding frame by a hinged joint, substantially as described, in combination with its connection with the metallic shank by a second hinged joint back of, and parallel with, the hinged joint by which it is connected with the surrounding frame, substantially as described, whereby the tongue can be made to liberate the end of the strap independently of the bending or yielding of the connection between the shank and the strap, or other article to which it is to be attached.
I also claim the curved or bent frame having the inner face of the cross bar, b', sloping or beveled, or of equivalent form, in combination with the spring tongue, substantially as described.
And I also claim grooving the gripping end of the tongue, substantially as described, when combined with the surrounding frame, substantially as described.

DESIGNS.

- 1,964.—Lady's Hat.—Wm. E. George, Wenthams, Mass., assignor to Joseph Cowell.
- 1,965.—Plate of a Cook's Stove.—Garrettson Smith & Henry Browne (assignors to J. G. Abbott and C. Noble), Philadelphia, Pa.



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 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 thus 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 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.

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

The Patent Laws, enacted by Congress on the 2d of March, 1861, 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 of 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.

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 think 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.

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.

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.

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 competent 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 so solicited. For further particulars address MUNN & CO., No. 37 Park Row New York.

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 ninety days' notice of their intention.

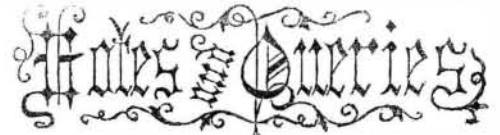
Patents may be extended and preliminary advice obtained, by consulting or writing to MUNN & CO., No. 37 Park Row, New York.

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.

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



P. D. G., of N. Y.—You cannot straighten your circular saw by hammering. The face of the hammer, or drop, as well as of the anvil, must be equal in extent to the size of the saw. Manufacturers of circular saws are provided with tools of this description.

B. O., of N. Y.—Chloride of nitrogen is made by passing chlorine through salammiac. Great caution is requisite to avoid accidents.

L. M. R., of Ohio.—Caloric engines are not made large enough to operate four mills. They are used chiefly when small power is needed.

J. M., of Pa.—We presume you can obtain rifle barrels of the kind you mention by addressing Messrs. Blunt & Sym, of this city.

G. C., of N. Y.—Plow-shares are painted with blue paint, and varnished.

A. Van V., of N. Y.—The mode of setting your boiler is defective in one point; that is the smoke-box, or more properly the combustion chamber at the end. The boiler is but 13 feet long, and you have a smoke-box at the end 12 feet long. The gases evolved from burning fuelignite only at certain temperatures, and your smoke-box is so long that the gases aforesaid get so cool that they pass out through the flues unconsumed. Shorten your smoke-box one-half at least; and you may make it even less with benefit. Try it six feet long first. Otherwise your boiler is well set.

E. J. B., of Ohio.—It takes time to burn gunpowder as it does to do anything else. If you will put a very large charge in a gun and fire it over snow, you will find unburned grains on the surface of the snow. The quantity that will burn in a gun depends upon the length and caliber of the gun, the quality of the powder, the size of the grains, and other conditions, all of which perhaps are not understood.

T. N., of N. J.—The proper proportion for cement pipe is one of water cement to three of sand. Gravel from the size of a pigeon's egg down is better than fine sand, and it must be perfectly clean and free from mold or vegetable matter. The cement and sand must be thoroughly mixed before the water is added, and it must be used immediately after mixing. The most common cause of failure is a poor quality of cement.

O. H. R., of N. Y.—We know of no oil that can be burned with a blow-pipe without smoke or smell. A lamp that would burn kerosene in this way would be a valuable invention, now that alcohol is so high. Probably all that is required is a thorough mixing of air with the vapor of the oil.

G. B. S., of Canada.—If you are a Canadian the patent fee will be \$500, to be paid at the time the application is made.

F. P. C., of Mass.—Some time ago we gave the rule for calculating the horse-power of a steam-engine as follows:—Square the diameter of the cylinder and multiply the product by 7854, this will give the number of inches area in the piston. Multiply the area by the pressure of steam and the number of feet the piston travels per minute. This must be divided by 33,000, which is supposed to be the standard for a horse-power. It seems that some have misunderstood this simple matter, and one subscriber asks whether a stroke is one movement of the piston or two. If the