

42,056.—Gunpowder, &c.—Charles M. Wetherill, Lafayette, Ind., assignor to Isaac R. Diller, Springfield, Ill.:

I claim the invention of a mixture of an oxygen compound of chlorine, capable of giving off its oxygen by heat, with a carbonaceous body or bodies, in such proportion that oxygen given off by the former, shall be the total carbon contained in the latter, as eight parts by weight, to six parts, with a view of forming carbonic oxide, or as sixteen parts by weight to six parts by weight with a view of forming carbonic acid; or in some intermediate proportion to form a mixture of the two aforesaid gases.

I also claim by the proper selection of the kind of carbonaceous matter, or by the addition of the peroxide of manganese, or its equivalent to obtain at pleasure a quicker or slower burning powder.

Furthermore I claim by the addition of a sufficient amount of dextrine or other equivalent gum and with or without the subsequent operations of pounding, or pressing and granulating the manufacture of a grained powder having valuable properties.

And I claim by the use of oil of vitrol or any body acting similarly upon the aforesaid chlorine compound, and brought in contact with it by appropriate devices at the proper moment, to effect the explosion of the powder in shells, at or soon after striking an object; or by similar devices, the explosion of mines, torpedoes or the like under or against an enemy.

42,057.—Apparatus for the Manufacture of Gunpowder.—Charles M. Wetherill, Lafayette, Ind., assignor to Isaac R. Diller, Springfield, Ill.:

I claim the use of this drying apparatus for completing, if it be needed, the desiccation of the aforesaid explosive or degrading compound after it shall have left the aforesaid boiling or evaporating pan.

42,058.—Fastening for Dock and Side Lights of Vessels.—Herman Winter, Boston, Mass., assignor to James Gregory, New York City:

I claim the collar, g, applied to the shank of the fastening screw of a deck or side light in combination with the recess, h, in the frame carrying the glass for the purpose and as specified.

42,059.—Petroleum Stove.—George L. Witsil (assignor to himself, Charles M. Rhodes and C. W. Oldenberg), Philadelphia, Pa.:

I claim, first, the combination of the disk C, base plate A, its opening, h, and plate, E, or its equivalents.
Second, The combination of the disk C, dome, D, and disk D', constructed and arranged within a stove or heater substantially as and for the purpose herein set forth.

RE-ISSUE.

1,640.—Horse Rake.—Gideon Pierce, Ercildoum, Pa. Patented November 29, 1859:

I claim the arrangement and combination of the axle a, cog wheel b, rack c, lever I, frame d, bar G, standard g, and teeth f, operating substantially as and for the purpose set forth.

DESIGN.

1,925.—Carpet Pattern.—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass.



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 past 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 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.

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:—

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| 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)..... | \$50 |

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.

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.

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 often 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.

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



H. A. C., of Pa.—We know of no work which contains statements of the amount of friction of air in passing through pipes. We have seen some brief mention of experiments to determine this having recently been made by the accomplished engineer of the Philadelphia gas works, and should be pleased to obtain the results for publication. A pneumatic tube for the transmission of the mails has been in practical operation in London for two years or more. It has proved so successful that it is to be extended. For currents of air without much pressure a centrifugal fan, like that of winnowing mills, is in general use, but where any considerable pressure is required a cylinder and piston must be employed.

J. J. S., of Mass.—You say that in your experiment in boiling potatoes, those which were boiled fast were cooked in 23 minutes, and those that were boiled slow were cooked in 38. When you put a large quantity of cold potatoes into a small quantity of boiling water, the temperature of the water will be considerably reduced, and a hot fire will raise it again to the boiling point more quickly than a slow fire. If you try the experiment fairly, you will find that water boiling slowly will cook any kind of food just as quickly as water boiling with the greatest fury.

C. H. W., of N. Y.—There is no way at present known of protecting india-rubber from the action of oil if the two substances are brought in contact; nor are we acquainted with any substance possessing the properties of india-rubber which will resist the action of oil.

C. W., of Mass.—We know of no better plan for preventing stoves from rusting than not in use than to oil them with the heaviest portion of petroleum. As petroleum contains no oxygen and absorbs none, it is peculiarly adapted for preserving iron from rust. But as the light portion soon evaporates, the heavy portion only is suitable for this purpose.

A. S., of Nova Scotia.—We give but a small portion of our space to agricultural matters, and in making selections for this space we prefer to take the facts established by experience rather than to enter upon the discussion of unsettled questions.

J. F. T., of Pa.—Septimus Piesse's work is the best yet published on perfumery. It is an English work, but you may be able to get it at some of your bookstores.

C. Bradley, of Ohio.—The long-stroke engine would not require so much repair as the one with a short stroke. Engines that run at high speeds are generally costly to keep in order.

J. B. W., of Pa.—The "American Railway Times" is still published in Boston. The part between the eye of the crank and the shaft is called the "web." We do not know what you mean by "the duplex steam boiler and duplex safety valve."

Subscriber, of Pa.—You will find the best treatise on steam in Lardner's treatise on the Steam Engine. There is no other more lucid or intelligible.

L. R. F., of Ind.—You will find the information you require in "Notes and Queries," No. 14, current volume, under the initials "M. A. A." If correspondents would look in the paper first, and then write to us for what they cannot find, it would save time and trouble to all concerned. We have published the receipts for making black japan varnish an infinite number of times.

E. C., of Mich.—After eighteen centuries had passed the nineteenth century began. As soon as a man is 65 years old his 66th year begins.

J. O. L., of Ill.—The trouble you refer to in your pump is a very common one with the class it belongs to, and is an objection to its use. You should inject a little oil once in a while. Impure water and sand or grit also get in and cause the plunger to cut and scratch.