

D. W. Shares, of Hamden, Conn., for an Improvement in Harrows. Patented Jan. 27, 1857:

I claim a series of counter teeth, H, formed substantially as specified, and arranged diagonally to the line of motion, so as to form a harrow that loosens, muffs and harrows the soil, as described. I also claim the tooth, G, at the front end of the center bar, formed two divergent wings, in combination with a series of harrow teeth, H, on the diagonal bars, B B', as set forth.

H. Smith and D. B. Wesson, of Springfield, Mass., for an Improvement in Revolving Fire-arms. Patented July 5, 1859:

We claim the spring bolt, k, applied to the outer or curved part of the cylinder, in combination with the nose of the hammer, one of them being furnished with a wedge-shaped piece or projection, and the other with a spring projection, for the purpose specified.

Amos Whittemore, of Cambridgeport, Mass., for an Improved Machine for Making Horse-shoe Nails. Patented August 14, 1860:

I claim, first, The anvil, I, the same having both a rocking and reciprocating motion, in combination with adjustable or stationary dies, the faces of which shall be provided with a recess or groove for the purpose of preventing the pointing of the nail until its head and shank have been formed, substantially as set forth.

Second, I claim the pin, k', upon which is secured, permanently, the anvil, I, when the same shall be operated substantially as and for the purpose specified.

Third, I claim the mode of operating the shears or cutters, the same being made to advance at the proper moment to sever the nail from the rod, and then to fall back out of the way, substantially as and for the purpose described.

Fourth, I claim the various parts which constitute the feeding apparatus, consisting of upright, s, levers, S and c, spiral spring, a, and rod, b; the whole being operated in the manner and for the purpose specified.

Fifth, I claim the levers, m and e, acting in conjunction to hold the rod while the nail is undergoing its formation, substantially as and for the purpose specified.

Sixth, I claim the sliding frame, D, in combination with the hammers, H H, each being operated upon substantially as and for the purpose described.

ADDITIONAL IMPROVEMENT.

T. T. S. Laidley, of the United States Army, for an Improvement in Tape Primer for Fire-arms. Patented February 15, 1859:

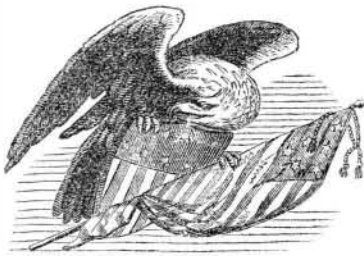
I claim making a continuous tape primer by inserting a cup or pellet, containing the percussion powder, in a recess or indentation formed in a strip of soft metal, alloy, india-rubber, gutta-percha, or other suitable material, and holding the cup or pellet in place by pressing the metal or substance of the strip partly over the outer edge of the pellet or cup, or by an easily-fusible solder securing the cup to the strip, or by means of a cement for that purpose.

DESIGNS.

S. H. Sailor and J. Steffe, (assignors to North, Chase & North), of Philadelphia, Pa., for a Design for Stoves.

Elias Tompkins, of Brooklyn, N. Y., for a Design for Heater Fronts.

THE RISE AND PROGRESS OF INVENTIONS.



During the period of Fourteen Years which has elapsed since the business of procuring patents for inventors was commenced by MUNN & Co., in connection with the publication of this paper, the number of applications for patents in this country and abroad has yearly increased until the number of patents issued at the United States Patent Office last year (1859) amounted to 4,538; while the number granted in the year 1845—fourteen years ago—numbered 502—only about one-third as many as were granted to our own clients last year; there being patented, through the Scientific American Patent Agency, 1,440 during the year 1859. The increasing activity among inventors has largely augmented the number of agencies for transacting such business.

In this profession, the publishers of this paper have become identified with the universal brotherhood of Inventors and Patentees at home and abroad, at the North and the South; and with the increased activity of these men of genius we have kept pace up to this time, when we find ourselves transacting a larger business in this profession than any other firm in the world.

We may safely assert that no concern has the combined talent and facilities that we possess for preparing carefully and correctly applications for patents, and attending to all business pertaining thereto.

FREE 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 to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The advice we 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 we may acquire of a similar invention from our long experience, and the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we 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 our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent persons. Over 1,500 of these examinations were made last year through this office, and as a measure of prudence and economy, we usually advise inventors to have a preliminary examination made. Address MUNN & CO., No. 37 Park-row, New York.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared on reasonable terms, by sending a sketch and description of the invention. The government fee for a caveat is \$30. A pamphlet or advice regarding applications for patents and caveats furnished gratis on application by mail. 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 is composed for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fee, by express. The express charges should be prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to 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.

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 their case, enclosing the official letters, &c.

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 our 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 our Agency, the requirements of the different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either of our branch offices.

CAUTION TO INVENTORS.

Messrs. MUNN & CO. wish it to be distinctly understood that they neither buy nor sell patents. They regard it as inconsistent with a proper management of the interests and claims of inventors, to participate in the least apparent speculation in the rights of patentees. They would also advise patentees to be extremely cautious to those hands they entrust the power to dispose of their inventions. Nearly fifteen years' observation has convinced us that the selling of patents cannot be conducted by the same parties who solicit them for others, without causing distrust.

BUSINESS CONDUCTED CONFIDENTIALLY

We would inform inventors that their communications are treated with the utmost confidence, and that the secrets of inventors confided to us are never divulged, without an order from the inventor or his acknowledged representative.

TESTIMONIALS.

Immediately after the appointment of Mr. Holt to the office of Postmaster-General of the United States, he addressed to us the following very gratifying testimonial:—

Messrs. MUNN & Co.—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of 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.

Messrs. MUNN & Co.—Gentlemen: 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.

MONEY RECEIVED

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, Oct. 13, 1860:—

- J. W., of N. Y., \$28; J. B. C., of N. Y., \$12; H. C. A., of Ill., \$31; A. C., of N. B., \$35; J. J. S., of N. Y., \$25; R. T. K., of Pa., \$30; J. W. K., of Ga., \$30; J. H. G., of Ky., \$55; B. A. G., of Mass., \$30; J. W., of N. Y., \$33; G. I. M., of Conn., \$30; G. K. W., of R. I., \$30; W. C., of N. Y., \$30; M. D., of Ind., \$30; C. D., of Mass., \$15; G. G. L., of Del., \$60; J. H. B. S., of Ga., \$15; J. E., of Texas, \$30; J. G., of N. H., \$30; J. M., of Conn., \$25; L. A. B., of N. Y., \$31; R. H., of N. J., \$125; C. G., of Pa., \$35; R. & W., of N. Y., \$35; L. S., of Ky., \$25; W. F. K., of Ill., \$30; J. C., of Minn., \$25; C. W. S. H., of Ill., \$10; S. L. W., of N. C., \$30; W. H. N., of Conn., \$28; C. & S., of Pa., \$20; E. D., of N. Y., \$31; S. P. P., of N. Y., \$30; J. A. G., of Mass., \$30; T. J. P., of Ohio, \$75; C. W. W., of Mass., \$30; A. C. C., of R. I., \$25; J. H. D., of Mo., \$30; C. R. O., of N. Y., \$15; J. R., of N. Y., \$25; E. W. G., of Mass., \$40; P. M., of Mich., \$55; P. K., of Conn., \$30; J. P. F., of N. Y., \$25; T. J. W., of Conn., \$25; J. H. B., of N. Y., \$15; J. B., of N. Y., \$30; J. A. A., of Mass., \$30; W. C. E., of Tenn., \$25; W. & G., of Va., \$20; E. R. P., of N. Y., \$10; J. S., Jr., of Pa., \$25; J. B. McM., of N. Y., \$15; J. D., of La., \$25; S. L. B., of S. C., \$30; H. M. B., of Ohio, \$30.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Oct. 13, 1860:—

- E. W. G., of Mass.; J. W., of N. Y.; W. F. K., of Ill.; T. J. W., of Conn.; J. J. S., of N. Y.; J. M., of Conn.; O. P., of N. Y. (two cases); J. S. Jr., of Pa.; P. H., of Mo.; A. C. C., of R. I.; J. D., of Ia.; C. G., of Pa.; R. D., of N. Y.; J. C., of Minn.; L. S., of Ky.; J. H. B., of N. Y.; C. D., of Mass.; J. R., of N. Y.; J. E. P., of Miss.; H. Van S., of Conn.; G. K. W., of R. I.; L. O. B., of N. Y.; J. H. B. S., of Ga.; J. M., Jr., of N. Y.; J. W., of N. Y.; A. C., of N. B.; R. C., of Tex.; J. W. R., of Ga.; J. P. F., of N. Y.; R. T. K., of Pa.; J. G., of Ky. (four cases); J. R. C., of N. Y.; W. C. E., of Tenn.; W. G., of Mass.; C. W. W., of Mass.



CORRESPONDENTS sending communications for publication in our columns are requested to avoid writing on both sides of a sheet of paper. This fault, though common to persons unaccustomed to writing for the press, gives great trouble to the printer (especially in long articles), and, when combined with illegibility of handwriting, often causes interesting contributions to be regretfully consigned to our waste-paper basket.

E. B., of Mass.—The Ruhmkorff apparatus is simply an induction coil on a large scale. A common battery may be used in repeating Gassiot's experiments, but success would be doubtful unless you have a very large one. A current of intensity is required. By the flat spiral, we understand a coil like a watch spring. Professor Rogers, of Boston, has a set of Gassiot's tubes.

HUGO, of Pa.—The error of your calculation lies in the supposition that the lower hemisphere attracts your body (B) with the same force as the upper. Sir Isaac Newton was right, and you are wrong. It has before been proposed to carry up condensed gas with a balloon, and dispense with ballast in the way you describe.

C. F., of Mass.—In the process of hermetically sealing fruits, catsup, oysters, &c., it is not the custom to add any substance, unless sirup, to prevent fermentation. Success seems to depend upon having the articles fresh, and excluding all the air. The process of sealing seems quite simple, yet requires a good amount of judgment and dexterity. If you wish to use an anti-ferment we would recommend the blaulphite of lime.

MINERALOGIST, of Pa.—Dana's is the best treatise on mineralogy.

J. N., of Oregon.—There are several varieties of silver ores, each requiring peculiar treatment. Ore containing silver in the metallic state may be treated precisely like gold ore, viz.: by crushing, washing and amalgamation.

J. S. F., of Ill.—It is not probable that nitric acid would be used for the adulteration of vinegar. Sulphuric acid is readily detected by the addition of a few drops of a solution of chloride of barium. We thank you for the compliment on our amiability. Good-tempered folks live longest and do the most good.

H. E., of N. Y.—About 2 lbs. of shellac to the gallon of alcohol is a good proportion for shellac varnish.

E. H. R., of Iowa.—We have had no experience in fastening leather to iron pulleys which are to be exposed to the weather; but for such a case we would try roughening the metal with acid, and then fastening the leather with india-rubber cement. You may find it better, instead of the leather, to use an india-rubber band, which you can easily stretch over the pulley, and which will require no cement.

M. B. T., of N. J.—The term "improved article of manufacture" implies that the party asks a patent, not for an entirely new thing, but for the thing in its improved state.

J. J., of Conn.—The difficulty of casting zinc on steel arises chiefly from the fact that these metals expand by heat at very different rates.

A. B., of Iowa.—You ask how it is that a high pressure steam engine will work at all, unless the steam is of a greater pressure than 15 lbs. It will not work. No steam will be made until the water receives sufficient heat to overcome the pressure of the atmosphere. As the pressure of the atmosphere varies (which it does at different elevations above the level of the sea) water boils at different temperatures. Under an atmosphere that exerts a pressure of 2 1/2 lbs. to the square inch, water boils at 125° Fah.; under 8 lbs., at 192°; under 15 lbs., at 212°; under 33 lbs., at 255°; under 60 lbs., at 292°, and so on.

R. S. C., of Wis.—The device described by you is very ingenious, but it is not new.

B. L., of Mass.—A patent could be obtained for the combination for the particular purpose specified, though the several parts have long been known. In regard to the value of the invention you must be your own judge. Our own opinion is that it would depend on the way you managed it.

G. P. N., of Tenn.—The north star is not exactly in the pole of the heavens, but revolves daily around the true pole with all the rest of the stars, as well as the sun and the moon.

R. T. K.—You will find your letter on page 243 of the present volume. Our own articles, as well as those of our friends, have frequently to lie over two or three weeks after they have been passed to the printer.

C. B., of Penn.—The air is not composed of the same substances as water. Air consists principally of oxygen and nitrogen in the proportion of about 1/4 oxygen to 3/4 nitrogen, while water is composed of hydrogen and oxygen in the proportion of 1 lb. of hydrogen to 8 and 13-1000 lbs. of oxygen.

L. M. E., of N. C.—To reduce the degrees of the centigrade thermometer to those of Fahrenheit, multiply by 9, divide by 5, and add 32. The zero of the centigrade is at the freezing point of water, and the boiling point is at 100°.

S. S., of N. Y.—The idea of your invention is a good one, but you ought to work it into more complete shape before applying for a patent.

O. C. P., of N. J.—The water gas of Narbonne is entirely different in principle from that of Philadelphia. In the French system, hydrogen gas is simply used as fuel for heating a wire to a white heat, and the light comes from the wire.

S. S., of Vt.—The specimen you send us is a very good clay, of which much is found in your State. The potteries of Bennington are well-known here.

F. G. A., of N. Y.—Our "Talks with the Boys" will be continued, though we may not write them every week during the publication of Faraday's lectures.