

U. S. Patent Office.

How to Obtain Letters Patent FOR NEW INVENTIONS.

Information about Caveats, Extensions, Interferences, Designs, Trade Marks; also, Foreign Patents.

For a period of nearly twenty-five years, MUNN & CO. have occupied the position of leading Solicitors of American and European Patents, and during this extended experience of nearly a quarter of a century, they have examined not less than fifty thousand alleged new inventions, and have prosecuted upward of thirty thousand applications for patents, and, in addition to this, they have made, at the Patent Office, over twenty thousand preliminary examinations into the novelty of inventions, with a careful report on the same.

The important advantages of MUNN & CO.'S Agency are, that their practice has been ten-fold greater than that of any other Agency in existence, with the additional advantage of having the assistance of the best professional skill in every department, and a Branch Office at Washington, which watches and supervises, when necessary, cases as they pass through official examination.

CONSULTATIONS AND OPINIONS FREE.

Those who have made inventions and desire a consultation are cordially invited to advise with MUNN & CO. who will be happy to see them in person at the office, or to advise them by letter. In all cases, they may expect an honest opinion. For such consultations, opinion, and advice, no charge is made. A pen-and-ink sketch and a description of the invention should be sent.

TO APPLY FOR A PATENT,

A model must be furnished, not over a foot in any dimension. Send model to MUNN & CO., 37 Park Row, New York, by express, charges paid, also, a description of the improvement, and remit \$15 to cover first Government fee, and revenue and postage stamps.

The model should be neatly made, of any suitable materials, strongly fastened, without glue, and neatly painted. The name of the inventor should be engraved or painted upon it. When the invention consists of an improvement upon some other machine, a full working model of the whole machine will not be necessary. But the model must be sufficiently perfect to show with clearness the nature and operation of the improvement.

PRELIMINARY EXAMINATION

Is made into the patentability of an invention by persons search at the Patent Office, among the models of the patents pertaining to the class to which the improvement relates. For this special search, and a report in writing, a fee of \$5 is charged. This search is made by a corps of examiner of long experience.

Inventors who employ us are not required to incur the cost of a preliminary examination. But it is advised in doubtful cases.

COST OF APPLICATIONS.

When the models received, and first Government fee paid, the drawings and specification are carefully prepared and forwarded to the applicant for his signature and oath, at which time the agency fee is called for. This fee is generally not over \$25. The cases are exceptionally complex if a higher fee than \$25 is called for, and upon the return of the papers, they are filed at the Patent Office to await Official examination. If the case should be rejected for any cause, or objections made to a claim, the reasons are inquired into and communicated to the applicant, with sketches and explanations of the references; and should it appear that the reasons given are insufficient, the claims are prosecuted immediately, and the rejection set aside, and usually without extra charge to the applicant.

MUNN & CO. are determined to place within the reach of those who confide to them their business, the best facilities and the highest professional skill and experience.

The only cases of this character, in which MUNN & CO. expect an extra fee, are those wherein appeals are taken from the decision of the Examiner after a second rejection; and MUNN & CO. wish to state very distinctly, that they have but few cases which can not be settled without the necessity of an appeal; and before an appeal is taken, in any case, the applicant is fully advised of all facts and charges, and no proceedings are had without his sanction; so that all inventors who employ MUNN & CO. know in advance what their applications and patents are to cost.

MUNN & CO. make no charge for prosecuting the rejected claims of their own clients before the Examiners and when their patents are granted, the invention is noticed editorially in the SCIENTIFIC AMERICAN.

REJECTED CASES.

MUNN & CO. give very special attention to the examination and prosecution of rejected cases filed by inventors and other attorneys. In such cases a fee of \$15 is required for special examination and report, and in case of probable success by further prosecution, and the papers are found tolerably well prepared, MUNN & CO. will take up the case and endeavor to get it through for a reasonable fee, to be agreed upon in advance of prosecution.

CAVEATS

Are desirable if an inventor is not fully prepared to apply for a Patent. Caveat affords protection, for one year, against the issue of a patent to another for the same invention. Caveat papers should be carefully prepared.

The Government fee on filing a caveat is \$10, and MUNN & CO.'s charges for preparing the necessary papers are usually from \$10 to \$12.

REISSUES.

A patent when discovered to be defective, may be reissued by the surrender of the original patent, and the filing of amended papers. This proceeding should be taken with great care.

DESIGNS, TRADE MARKS, AND COMPOSITIONS

Can be patented for a term of years, also, new medicines or medical compounds, and useful mixtures of all kinds. When the invention consists of a medicine or compound, or a new article of manufacture, or a new composition, samples of the article must be furnished, neatly put up. Also, send a full statement of the ingredients, proportions, mode of preparation, uses, and merits.

PATENTS CAN BE EXTENDED.

All patents issued prior to 1861, and now in force, may be extended for a period of seven years upon the presentation of proper testimony. The extended term of a patent is frequently of much greater value than the first term; but an application for an extension, to be successful, must be carefully prepared. MUNN & CO. have had a large experience in obtaining extensions, and are prepared to give reliable advice.

INTERFERENCES

Between pending applications before the Commissioners are managed and testimony taken; also, Assignments, Agreements, and Licenses prepared. In fact, there is no branch of the Patent Business which MUNN & CO. are not fully prepared to undertake and manage with fidelity and dispatch.

FOREIGN PATENTS.

American inventors should bear in mind that five Patents—American, English, French, Belgian, and Prussian—will secure an inventor exclusive monopoly to his discovery among ONE HUNDRED AND THIRTY MILLIONS of the most intelligent people in the world. The facilities of business and steam communication are such, that patents can be obtained abroad by our citizens almost as easily as at home. MUNN & CO. have prepared and taken a larger number of European Patents than any other American Agency. They have Agents of great experience in London, Paris, Berlin, and other Capitals.

A Pamphlet, containing a synopsis of the Foreign Patent Laws, sent free. Address MUNN & CO., 37 Park Row, New York.

The American Newspaper Directory,

Published by G. P. Rowell & Co., Advertising Agents, No. 40 Park Row, New York, contains a full and complete statement of all facts about newspapers which an advertiser desires to know. The subscription price is five dollars.

Business and Personal.

The Charge or Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per Line will be charged.

The paper that meets the eye of manufacturers throughout the United States—Boston Bulletin, \$4.00 a year. Advertisements 17c. a line.

An experienced mechanical and railway engineer wishes a position as Master of Machinery, or Manager. Address "Engineer," Station "G," Philadelphia Postoffice.

Manufacturers of washing machines are requested to send illustrated description to Postoffice Box, 3322.

The Best is the Cheapest.—The genuine Hammond Window-sash Spring, made only by W. S. Hammond, Lewisberry, York Co., Pa.

Manufacturers of portable steam saw mills please send circulars to A. B. Hayden Old Saybrook, Conn.

Wanted to buy—Small engine and boiler in good order, one to three-horse power. Address A. Assman, 26 Liberty st., New York.

Jas. J. Gregg, Augusta, Ga., wishes to correspond with parties who have machinery or plans for boring deep wells in sandy soils. Also, means for elevating the water. Depth necessary to sink the well 40 to 100 feet.

A good business for a machine shop.—The right to manufacture, on royalty or otherwise, a first-class article already introduced; demand unlimited. Address Wm. Johnson, Lambertville, N. J.

Dickinson's Patent Shaped Carbon Points and adjustable holder for dressing emery wheels, grindstones, etc. See Scientific American, July 24th, and Nov. 20, 1869. 64 Nassau st., New York.

Peck's patent drop press. Milo Peck & Co., New Haven, Ct.

Wanted—No. 1 2d-hand Brown & Sharp's Screw Machine, by Chas. Place & Co., 60 Vesey st., New York.

For Sale.—One Stave Planer, at a bargain. Apply to Hartmann, Laist & Co., Cincinnati, Ohio.

The Tennessee Manufacturing Co., Nashville, Tenn., wish to contract for water, gas, and steam piping for a large cotton mill. Address S. D. Morgan, Prest T. M. Co.

The Pew Hat Rack.—E. S. Blake, Pittsburgh, Pa.

For description of the best lath and blind slat sawing machine in use, address W. B. Noyes, Gen'l Ag't, P. O. Box 558, Manchester, N. H.

Important advance on the draft and easement of carriage. See Jackson's Patent Oscillating Wagon, with tests of draft, models, etc., No. 149 High st., Newark, Essex Co., N. J. See Scientific American, Sept. 25, 1869.

The "Anti-Friction" Lever Horse Power, for from one to eight horses, is the best for driving every kind of farm or factory machinery. Send stamp for circular to R. H. Allen & Co., Postoffice Box 376, N. Y.

Our Catalogue of Agricultural and Horticultural Implements, Machines, and Tools (300 pages, 600 illustrations) is sent, postpaid, for \$1. This is refunded on receipt of first order. Every manufacturer or dealer should have a copy. R. H. Allen & Co., Postoffice Box 376, New York.

Photographs.—Rockwood & Co., 839 Broadway, for five dollars, make 8x10 photographs of machinery or views within the city.

Machinery Wanted.—Good Calender Mills, suitable for working India-rubber. Address (stating description and prices), Postoffice Box 8213, Boston, Mass.

1250 lbs. portable platform scales, \$25; hay scales, 4-tun, \$75. Send for free price list, No. 373. Edward F. Jones, Binghamton, N. Y.

American Boiler Powder.—A safe, sure, and cheap remedy for scale. Send for circular to Am. B. P. Co., P. O. Box 315, Pittsburgh, Pa.

Kidder's Pastilles.—A sure relief for Asthma. Price 40 cents by mail. Stowell & Co., Charlestown, Mass.

Needles for all sewing machines at Bartlett's, 569 Broadway, N. Y.

Pat. paper for buildings, inside & out, C. J. Fay, Camden, N. J.

For solid wrought-iron beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

For first-quality new 14, 17, and 20-in. screw lathes, milling machines, and one-spindle drills, at small advance from cost, apply to Geo. S. Lincoln & Co., Hartford, Conn.

Hackle, Gill Pins, etc., at Bartlett's, 569 Broadway, New York.

Perforated Zinc and Sheet Iron for separators, smut machines grain dryers, tubular wells, malt kilns, etc. R. Aitchison & Co., Chicago

Portable Pumping or Hoisting Machinery to Hire for Coffers Dams, Wells, Sewers, etc. Wm. D. Andrews & Bro., 414 Water st., N. Y.

Keuffel & Esser, 71 Nassau st., N. Y., the best place to get 1st-class Drawing Materials, Swiss Instruments, and Rubber Triangles and Curves

For tinners' tools, presses, etc., apply to Mays & Bliss, Brooklyn, N. Y.

Glyn's Anti-Incrustator for Steam Boiler.—The only reliable preventative. No foaming, and does not attack metals of boiler. Liberal terms to Agents. C. D. Fredricks, 587 Broadway, New York.

Two 60-Horse Locomotive Boilers, used 5 mos., \$1,300 each. The machinery of two 500-tun iron propellers, in good order, for sale by Wm. D. Andrews & Bro., 414 Water st., New York.

To ascertain where there will be a demand for new machinery or manufacturers' supplies read Boston Commercial Bulletin's manufacturing news of the United States. Terms \$4.00 a year.

Cold Rolled—Shafting, piston rods, pump rods, Collins pat. double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa.

For mining, wrecking, pumping, drainage, and irrigating machinery, see advertisement of Andrews' Patents in another column.

Caveats are desirable if an inventor is not fully prepared to apply for a patent. A caveat affords protection for one year against the issue of a patent to another for the same invention. Patent Office fee on filing a caveat, \$10. Agency charge for preparing and filing the documents from \$10 to \$12. Address MUNN & CO., 37 Park Row, New York.

CITY SUBSCRIBERS.—The SCIENTIFIC AMERICAN will be delivered in every part of the city at \$3.50 a year. Single copies for sale at all the News Stands in this city, Brooklyn, Jersey City, and Williamsburgh, and by most of the News Dealers in the United States.

Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek information from us; besides, as sometimes happens, we may prefer to address correspondents by mail.

SPECIAL NOTE.—This column is destined for the general interest and instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at \$1.00 a line, under the head of "Business and Personal."

All reference to back numbers should be by volume and page.

P. S. R., of Ga.—The velocity of water issuing from a pipe is that of a heavy body falling through space, reduced by the retarded motion of friction. What the actual retardation of that friction is can only be determined by experiment. Many experiments have been made on this subject, perhaps those as reliable as any others are published in Eytelwein's "Handbuch und der Hydraulik," by which it appears that, if we call the velocity in feet per second v , the diameter of the pipe in feet d , the head of water in feet h ,

$$v = 50 \sqrt{\frac{dh}{l + 50d}}$$

l being the length of the pipe in feet. Or, to translate this formula into common language, multiply the diameter of the pipe in feet into the head of water in feet, and divide the product by the length of the pipe in feet, plus fifty times the diameter in feet. Fifty times the square root of the quotient will be the velocity in feet per second sufficiently near for practical purposes, in a pipe without bends.

M. M., of Pa.—When fresh milk has a bad odor, you may be sure there is a cause for it, which a little patience will reveal. Cows are much more sensitive creatures, and their milk is much more easily affected than most people imagine. Even the odor from carrion inhaled by the cow, will taint her milk very unpleasantly. In one instance a farmer lost \$1,000 in consequence of the rejection of his milk during a single season, on account of its bad odor, for which he was unable to account. He finally discovered that it was caused by the decaying body of a dead horse in the pasture where his cows fed. The mere breathing of the carrion odor by the cows tainted the milk. This shows how important it is that pastures, streams, the air of stables, and everything connected with the cow, should be pure and clean if we want good milk.

R. O., of Me.—Your application of the turbine principle to the construction of a rotary steam engine is by no means new, and is worthless. It has all the defects of ordinary rotary steam engines, with comparatively few of the advantages of other rotary steam motors. There are radical defects in this entire class of machines, which will probably render them always uneconomical converters of steam pressure into work.

R. P. G., of Vt.—The elongation of a steel wire by tension within the limits of its elasticity, is in proportion to the tension. This is true of all elastic rods. The law does not apply, however, to tensions which will produce a permanent elongation, and this may be accomplished by too great duration of the tension by a weight, which, acting but temporarily, would not be heavy enough to produce permanent set.

P. D. W., of Tenn.—The great problem in bridge construction is to secure greatest strength and rigidity with equalized strain at all points, and the least possible weight in the structure. Neither of these things have been accomplished in your device, and there is nothing novel or patentable about it.

E. F. R., of Mass.—There is no way that we know of whereby you can dissolve rubber sponge, and when it hardens have it resume its spongy consistence. We advise you to communicate with H. E. Towle, 176 Broadway, New York, who may be able to set you on the right track.

D. B. S., of Mass.—The cement you allude to is undoubtedly made nearly like the old recipe, 16 parts gutta percha, 4 parts india-rubber, 2 parts common caulkers' pitch, 1 part linseed oil. The ingredients are melted together, and used hot. It will unite leather or rubber.

L. M., of Va.—The first use of copper plates at the ends of telegraph wires, in making the earth circuit, is attributed to Herr Steinhilf, of Munich, Bavaria, who is said to have adopted this plan as early as 1837.

D. L. T., of Miss.—No method of operating the ordinary blacksmiths' bellows can give a perfectly uniform blast. In this respect the bellows is a far inferior instrument to the fan-blower.

R. H., of Wis.—The center of a magnet is neutral, manifesting neither attraction nor repulsion. Your electro-motor will work: not a doubt of it.

E. S. N., of Pa.—We think the best way to mark figures on an engineer's brass tape is to stamp them on with small steel dies.

M. C. D., of Mass.—You are wrong. The reflecting telescope made by the Earl of Rosse is the largest ever constructed.

C. C., of D. C.—We do not deem it prudent to publish your statement of how U. S. Securities may be counterfeited.

J. C., of Pa., wishes some expert to tell him how he can stop cracks in gas retorts, so as to render them fit for use.

J. M. F., of N. Y.—You will find a rule for placing and shape of bridge walls on page 146, current volume.

B. L. H., of Mo.—The mineral you send is sulphuret of lead.

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

COMBINED SEEDER AND HAY TEDDER.—Jonas House, Howard, N. Y.—This invention consists in the combination of a seeder, of peculiar construction, with a tedder for spreading hay, in such manner that one set of wheels may operate both devices, either separately or in conjunction, as may be desired.

GAGING INSTRUMENT.—Eli S. Prime, Baltimore, Md.—This invention consists in the combination of a gage rod a "variety" scale, and a bung slide in such a manner as to enable the operator to accurately ascertain the contents of a cask without performing any mental computation.

STEAM PRESSURE GAGE AND DETECTOR.—Elijah Clark, Louisville, Ky.—This invention has for its main object to prevent engineers from raising the pressure of steam upon their boilers beyond a certain fixed limit.

MODE OF STORING POWER.—Henry F. C. Krumme, Ridgeway, Pa.—This invention consists in an apparatus for enabling a railroad train, when drawn by a pneumatic engine, to bring itself to a halt by the resistance afforded to pumps connected with the driving or other wheels of its locomotive, and employed in condensing atmospheric air into the main tank, by which process brakes are rendered unnecessary, and power is stored up for drawing the train when it is set in motion again.

WASHING MACHINE.—John O. Kopas, Washington, D. C.—This invention consists in the combination of a wringer with a washing machine, when the latter is provided with a reciprocating rubber that slides in a weighted vertical sash, by means of which the rubber is pressed downward upon the inclined washboard or upon the garments inserted between the rubber and washboard, and when the wringer and rubber are operated from the same shaft.