



ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING MARCH 11, 1862.

Reported Officially for the Scientific American.

\*\* Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

34,620.—C. F. Baxter, of Boston, Mass., for Improvement in Filters: I claim an air chamber so connected with a filter and filtering medium, as to remove the collected impurities of filtration, substantially as described.

34,621.—Alexander Birkholz, of Hartford, Conn., for Improved Composition Metal of Iron, Zinc and Copper: I claim the introduction of cast iron into a composition composed of copper and zinc, in about the proportion substantially in the manner as described.

34,622.—Samuel Colahan, of Cleveland, Ohio, for Improvement in Hay Presses: I claim the special arrangement of the chain or rope, M, pulleys, L, L', sheave, O, and windlass, P, in combination with the lever, R, pawl and ratchet wheel, U, T, and bottom, c, when these parts are arranged and operated as and for the purpose specified.

34,623.—L. O. Colvin and G. H. Gardner, of Philadelphia, Pa., for Improvement in Telegraphing by Light: We claim the combination of a lantern or other illuminating apparatus, a reflector, a shutter and an electro-magnet, to operate substantially as and for the purpose specified.

34,624.—G. W. Cook and Z. E. B. Nash, of St. Paul, Minnesota, for Improvement in Pumps: We claim, first The Warped flange, a, in combination with the pipe, f, and cylinder, or water chamber, m. Second, The double-acting slide or swing-valve, b, in combination with the flange, a, and chamber, m. Third, The extra pipe, g, in combination with the flange, a, and chamber, m, the whole being constructed and operated in the manner and for the purpose described.

34,625.—D. A. Courter, of Beloit, Wis., for Improvement in Combining a Pistol with a Sword: I claim, first, Combining with a sword, a pistol, with a transverse sliding breech-piece. Second The hollow breech extending beyond the breech piece, for the purpose of holding and guiding the same. Third, Combining the guard of the sword with the hollow breech.

34,626.—A. B. Ely, of Newton, Mass., for Improvement in Chain Shot for Ordnance: I claim the projectile constructed in sections held together by bands that are to be ruptured by the explosion of the charge of the gun, and this only when the sections are held by a chain contained within the projectile.

34,627.—O. F. Fitch, of Morristown, Ind., for Improved Fruit Can: I claim the clamp, E, in combination with the stopper, D, and india-rubber strip, C, in the manner and for the purpose set forth and described.

34,628.—John Gault, of Boston, Mass., for Improvement in Chain Shot for Ordnance: I claim, first, The combination of the hollow sectional projectile connected with a chain, or its equivalent, inclosed and carried within itself, and the charge regulated by the fuse to extend its sections at any desired point, as set forth. Second, I claim the securing the sections of the projectile at its front end or point, by means of a cap or nut, or its equivalent, as described and for the purposes set forth.

34,629.—A. F. Gray, of Belleville, Ill., for Improvement in Water Elevators: I claim the combination and arrangement of the cylinder, A, with the rotating plate and arms, B, b, ratchet wheel and gudgeon, G, the flange, H, and mode of fastening the rope at I, the form of the bail, J, for the attachment of the chain, H, the peculiar shape of the ears or hooks, K, k, adapted to the tilting rod, L, and the shape of the tilting rod, and its mode of attachment at M, m. I also claim the plate, N, on the upper edge of the inside wall of the trough, in combination with the bottom of the trough, O, inclining to the former, P, and the form of the box using the scale which accompanies the drawings as a guide for its proper construction, the whole being constructed, arranged and operated, substantially as described for the purpose set forth.

34,630.—I. A. Green, of Henry, Ill., for Improvement in Cultivators: I claim, first, These four features combined in one machine, in the manner described; the first feature consisting in the main frame, the bowed and cast axle, and driver's seat, arranged in respect to each other as described; the second consisting in the arrangement of the tongue, G, the lever, H, and the driver's seat, J, in relation to each other as set forth; the third consisting in making the main frame in two parts, arranging and elevating the driver's seat, J, and the frame, E, L, L, and thereon, and the bow of the axle therein, as set forth; the fourth feature consists of the bars, O, O, the frame, E, L, L and N, the swivel, I, and the main frame, arranged in relation to each other as set forth.

34,631.—L. A. Green, of Rocky Hill, Conn., for Improvement in Line Holders for Mason Work, &c.: I claim, first, The employment of the brackets, b, b, combined with line, a, for holding and easily adjusting it (the line) in its proper place. Second, I claim the pad, s, brackets, b, b, and line combined as and for the purpose described. Third, I claim the combination of the ratchet, e, spool, f, brackets, b, b, line, a, substantially as and for the purposes described.

34,632.—W. H. Gwynne, of Brooklyn, N. Y., for Improved Apparatus for Making Water Gas: I claim the distributing box, B, with its circulating and heating passage, D, and gas ret axle, and driver's seat, arranged in respect to each other substantially as described and shown for the purpose set forth.

34,633.—James Harper, of East Haven, Conn., for Improvement in Machinery for Making Paper: I claim, first, The combination with the Fourdrinier-wire-cloth apron, E, and the couching felt, G, so arranged as to couch the paper from the wire cloth by direct contact of the perforated cylinder, E, when these parts are so arranged that the cylinders, E and H, support the wire cloth, B, and the couching felt, G, respectively, directly opposite their point of contact with each other, substantially as set forth. Second, The combination with each other when arranged as described, of the Fourdrinier cloth, B, couching felt, G, and beater, N, substantially as set forth.

34,634.—Henry Hayward, of Chicago, Ill., for Improvement in Safety Paper: I claim the described means of designating varieties in the value or character of printed sheets of paper, in which threads of fibrous material are incorporated into and among the pulp, as described, to wit: the use of threads of different colors or characters, arranged substantially as specified.

34,635.—J. D. Ehlers, of Baltimore, Md., and J. P. Herron, of Washington, D. C., for Improvement in Pantaloon: We claim, in the construction of pantaloon and drawers, making a

fall, B, on the posterior portion thereof, and securing the same to the waist, A, of the pantaloons or drawers, substantially as described.

34,636.—D. A. Hopkins, of Brooklyn, N. Y., for Improvement in Railroad-Car Journal Boxes: I claim, first, The combination of one or more springs with a movable plate bearing against the whole or part of the diaphragm, substantially as set forth for the purposes stated. Second, The grooving of the stop bar, substantially as shown and described for the purpose set forth. Third, The construction of the friction plate with a flange at each end thereof, in combination with a removable seat or support, when said plate and support are constructed and combined, substantially as shown and described for the purposes stated.

34,637.—Amos Krotzer, of Woodville, Ohio, for Improved Clothes Dryer: I claim the combination and arrangement of the frames, a, a, cord, b, hinges, c, and catches, e, substantially as and for the purpose specified.

34,638.—William Mentzel and Alexander and J. W. Geddes, of Baltimore, Md., for Improvement in Lamps: We claim the jacket tube, a, a, a, as described in combination with the perforated bottom, E, E, and outside cap, F, forming an air chamber for regular drafts of heated air through the perforations of the jacket tube, c, c, for the supply of oxygen at the point of combustion.

34,639.—C. Messenger, of Warren, Ohio, for Improved in Clothes Wringer: I claim the special arrangement of the adjustable clutch, L, clutch, B', springs, S, cross bar, K, adjusting screw, P, in combination with the adjustable endless apron, R, and rollers, G and H, when operating conjointly, in the manner and for the purpose set forth.

34,640.—Martin Miller, Jr., of Vienna, Empire of Austria, for Improved Mode of Electroplating Steel Wire for Piano Strings, and other purposes: I claim the production of steel or other music wire, provided with a copper or other metallic coating, substantially in the manner and for the purposes set forth.

34,641.—Henry Morse, of Natick, Mass., and Dan Perry, of Attleborough, Mass., for Improvement in Water Elevators: We claim the arrangement and combination of a hoisting chain and a hoisting wheel with openings through its rim, for the escape of the water, substantially as described. Second, We claim the construction and arrangement of the hook, K, when hung in the manner and for the purpose, substantially as specified.

34,642.—E. S. Muringer, of Philadelphia, Pa., for Improved Concentrated Food or Beef Tea: I claim the concentrated food or beef tea, described, when prepared, in the manner, substantially as specified.

34,643.—Joseph Nason, of New York City, and Robert Briggs, of Brooklyn, N. Y., assignors to said Joseph Nason, for Improvement in Steam Radiators: We claim the method, substantially as described, of constructing the tubes of steam radiators and condensers, with an interior diaphragm or dividing plate, or its equivalent, an interior tube, in combination with a single steam chamber.

34,644.—D. B. Neal, of Mount Gilead, Ohio, for Improvement in Evaporating Pans for Saccharine Juices: I claim the employment of the pan, constructed as described, of combined sheet and cast iron, whereby the sirup may be boiled at a lower temperature, with the same fire, than the juice, as is specified.

34,645.—Resolved Reed, of Brockport, N. Y., for Improvement in Machines for Cleaning and Assorting Beans: I claim the combination of the hexagonal screen, constructed as described, flanges, e, e, spouts, m, n, o, and case, D, feed hopper, H, spout, I, and disk, K, when arranged and operating as and for the purpose set forth.

34,646.—N. A. Rhoads, of Waterbury, Vt., for Improved Clothes Wringer: I claim, in a clothes-wringing machine, provided with elastic rollers, the construction of either or both of such rollers, or, in other words, the arrangement of their operating surfaces, so that they may be at a greater distance asunder at their middles than at their ends, the whole being substantially in manner and for the purpose, as described. I also claim the arrangement and combination of the connection and bearing bar, G, with the rubber springs, g, g, the shaft, H, and its cam, I, when being applied to the frame, A, and its rollers, D, D', as described.

34,647.—Elisha Robbins, of Milford, Mass., for Improvement in Picker Motion for Looms: I claim my improved arrangement of the radius arm, E, its spring, F, and the guides, g, g, viz., within the support piece, D, and the rocker, G, when they are covered and protected from dust and accidental displacements or injury. Also, the arrangement of the heel guide or back stop, i, with the rocker and the support piece. Also, the arrangement and combination of the oil cups, with the rocker, the support piece and the radius arm, applied to the latter and the rocker.

34,648.—H. C. Sherman, of Buffalo, N. Y., for Improved Condenser for Stells: I claim, first, Making the condenser of zig-zag condensing pipes, arranged side by side in sections, and parallel to each other, or nearly so, each section opening in and connecting to a transverse supply pipe at the top and a transverse discharge pipe at the bottom, for the purposes, and substantially as described. Second, The combination of the sections, B, C, D, with the transverse discharge and supply pipes, E and F, each transverse pipe having short pipes, b' c' and d', &c., and b' c' d' d', &c., to admit of an easy connection, and disconnection of the sections thereto, for the purposes, and substantially as set forth. Third, I claim the combination and arrangement of the perforated cold water feed pipe, H, with a condenser, constructed in sections, substantially as set forth.

34,649.—C. W. Smith, of New York City, for Improvement in Friction Matches: I claim the use of paraffine in the manufacture of matches, in the manner and for the purposes described.

34,650.—R. A. Smith, of Newburyport, Mass., for Improvement in Fences: I claim my mode of constructing each fence section, in order that two or more of them may be arranged and combined, as specified, the said mode consisting in making it with two interlocking projections, and with the mortise arranged in each end of it, substantially as specified. I also claim the combination and arrangement of the connecting bar, D, with two fences, or sections, which are constructed, interlocked and arranged together, substantially in manner as set forth.

34,651.—J. A. Southmayd, of Jersey City, N. J., for Improvement in Vacuum Pans for Evaporating: I claim the plunger or lifter, when constructed and operated in combination with evaporating pans, as specified. I also claim evaporating pans, constructed and arranged in the manner and for the purpose set forth. Lastly, I claim the condenser and pump, constructed in the manner described, in combination with pans used for evaporating purposes.

34,652.—H. N. Stearns, of Chardon, Ohio, for Improvement in Churn Dashers: I claim, first, A horizontal churn dasher, consisting of a crank shaft, F, arms, A, metallic wires, C, and rods, B, all combined and arranged in the manner set forth. Second, Stretching the wires, C, between the arms, A, by soldering the said wires in their metallic plates, D, and securing the latter within the arms, A, as explained. [By this invention the entire mass of cream is subjected to cutting and frictional action without unnecessary violence and agitation. The

result is the rapid production of a large quantity of butter, of superior quality, with but little labor.]

34,653.—Zadok Street, of Salem, Ohio, for Improved Cement and Tile Roofing: I claim a roof composed of a rigid body of any suitable material, laid in and covered by cement, compounded substantially as set forth.

34,654.—W. R. Thomas and Morgan Emanuel, Jr., of Catasauqua, Pa., for Improved Blasting Powder: I claim the blasting compound made of nitrate of soda, sulphur, ground bark and chlorate of potash, in the manner substantially as, and in about the same proportions set forth.

34,655.—M. and S. G. Tafts, of Mainville, Ohio, for Improved Apparatus for Evaporating Sugar Juices: We claim, first, The arrangement and combination of two or more sets of swinging adjustable pans, E' G' G', with the flue, C, heater, A, and furnace, B, all constructed, operated and operating substantially in the manner and for the purpose shown and described. Second, The combination with the pans, E' G' G', of swinging levers, F, H, and transversely-moving carriages, d, h, substantially as and for the purpose specified. Third, The arrangement of the continuous open flue, C, and dampers, I, I', in combination with the pans, E' G' G', as and for the purpose set forth.

34,656.—Maurice Vergnes, of New York City, for Improvement in Liquids for Exciting Galvanic Batteries: I claim the preparation and production of a fluid for use in galvanic batteries in the place of nitric acid, composed or prepared with a solution of the two salts, bichromate and chlorate of potash, in combination with peroxide of manganese treated with sulphuric acid, as described, the whole prepared substantially as set forth.

34,657.—Richard Vose, of New York City, for Improvement in Car Springs: I claim an improved compound spring, produced by interposing a packing and catches to the front edge of the horizontal lower fire grate, so as to retain the fuel in its place for the purpose of roasting and to allow the inside door to be swung outward and upward, that coals may be drawn from the fire for the purpose of broiling.

34,658.—C. J. Woolson, of Cleveland, Ohio, for Improvement in Cooking Stoves: I claim the use of an inside fire door or movable plate, attached by hinges to the inside upper corners of the front door frame of cooking stoves and catches to the front edge of the horizontal lower fire grate, so as to retain the fuel in its place for the purpose of roasting and to allow the inside door to be swung outward and upward, that coals may be drawn from the fire for the purpose of broiling.

34,659.—Charles Wright, of Newark, N. J., for Improvement in Tool Posts or Holders: I claim a tool post or holder constructed in the manner and for the purpose as specified.

34,660.—Geo. Cessford (assignor to John S. and Meritt Peckham), of Utica, N. Y., for Improvement in Stove Dampers: I claim the combination and arrangement of the register plate, A, the damper, B, and the expansion rod, F, all constructed and operating substantially as described.

34,661.—Patrick Foy (assignor to himself and John Fitch) of New York City, for Improvement in Apparatus for Boring and Rifling Cannon: I claim, first, The head block, g, provided with the adjustable rings, 4, m, s, a, and stop, o, together with the frame, c, and driving gear, f, in combination with the screw, i, and spirally grooved cutter stock, h, the whole arranged and acting in the manner and for the purpose substantially as specified. Second, I claim the guiding segments, s, s, and plate, t, arranged and acting as and for the purposes set forth. Third, I claim the auxiliary shaft, u, provided with the gearing, v, m, in combination with the tool or cutter stock, h, and screw, i, with their respective gears, w, l, substantially as and for the purposes specified.

34,662.—W. T. Grant (assignor to himself and J. S. Snyder), of Jacksonville, Ill., for Improvement in Machines for Grading and Excavating: I claim, first, The arrangement of the tongue, S, and truck, M, with the driver's seat, R, and the oscillating adjustable lever, P, as shown and described. Second, The arrangement of the two parts of the main frame, d, e, with each other, in the manner shown and described, so as to be separately self-adjusting in respect to the surface of the ground, all as set forth. [The object of this invention is to obtain a machine of simple construction which may be used for grading, excavating, ditching and like purposes, and consists in the employment or use of a share, guide box, endless conveying apron, rotary cutter. The invention also consists in a novel arrangement of the main frame of the machine with its front track, whereby the depth of the penetration of the blow may be regulated as required.]

34,663.—Gustavus Hammer (assignor to Holstein and Hammer), of Cincinnati, Ohio, for Improved Machine for Framing Oval Moldings: I claim, first, In combination with stops, F, F, and feed wheel, E, outer frame, H, or its equivalent, surrounding frame, I, and having a contour differing from the same, when so adapted to stops, F, F, and the form of the frame, I, as to cause the latter to be fed under cutter head, B, appropriated by the stop, substantially as described. Second, I claim the arrangement of standard, G, brackets, f, small sleeves, g, h, spring, l, and lever, n, substantially as and for the purpose set forth.

34,664.—Philander Shaw (assignor to C. E. Hodges and N. D. Silsbee), of Boston, Mass., for Improvement in Writing Tablets: I claim a tablet formed of wood compressed to resist the indenting action of pencils or crayons and covered on one or both surfaces with a preparation having a suitable tooth to receive marks for crayons or pencils. Also such a tablet when formed by compression so as to leave a raised border or frame on and around one or both surfaces of the tablet and integral with it.

34,665.—T. J. Young (assignor to himself and John Elder), of Philadelphia, Pa., for Improvement in Counting Machines: I claim the numbering wheels, 1, 2, 3, &c., with their projections and the plates, G, G, in combination with the cog wheels, 7, 8, 9, &c., and the plates, I, when the said plates, G and I, are prevented from turning by the rods, H and J, or their equivalents, and when the whole of the plates and wheels are acted on by the spiral springs, or their equivalents, as and for the purpose set forth.

34,666.—Richard Montgomery, of New York City, for Improvement in Ordnance: I claim, first, Incasing a longitudinally corrugated cylinder with a series of corrugated layers divided transversely in sections, the corrugations of which fit into each other, and run around in the direction of the curves of the arch, as described. Second, In combination with the outer and inner cylinder thus formed, I claim the use of the hollow tubes or bars, a, a, a, and for the purpose set forth. Third, In combination with the outer and inner cylinder thus formed, I also claim the mode described of securing the several parts thereof to each other and to the breech of the cannon, that is to say, the bolts, e and f, arranged as set forth.

RE-ISSUE.

1,256.—Charles Mettam (assignee of Samuel Nowlan), of New York City, for Improvement in Galvanic Soles. Patented June 18, 1861: I claim, first, The preparation of articulated electro-voltaic plate work in sections, as described, throughout the whole or a part of its area so as to give to the same a general pliability, and formed of copper and zinc plates, or their equivalents, essentially as described, and the several sections of negative and positive plates being united in separate relations to their contiguous sections by a flexible insulating strip or strips, substantially as specified. Second, Uniting the several sections of articulated electro-voltaic

plate work, by means of eyelets or their equivalents, substantially as set forth.

Third, The employment of a skeleton flexible insulator for uniting the several sections of articulated galvanic-electric plate work.

1,287.—Jesse A. Crandall, of New York City, for Improved Rocking Toy. Patented May 17, 1859.

I claim the combination of the body, A, whether made in the form of a hobby horse or of a toy of other description of the class described with the base, B, B, and a spring or springs, C, for producing a rocking movement, as and for the purpose described.

### New Publications.

**NEW MILITARY MAP OF THE SOUTHERN AND BORDER STATES.** Just issued by H. H. Lloyd & Co., No. 25 Howard street, New York City.

We find this a very useful map indeed, and can recommend it to our readers. It contains all the chief points of interest at the present time.

**LONDON, EDINBURGH, NORTH BRITISH AND WESTMINSTER REVIEWS.** These periodicals, with "Blackwood's Magazine," are re-published by Leonard Scott & Co., No. 54 Gold street, New York City.

These five publications present to us the thoughts and opinions of the leading minds of England, and they exercise a potent influence on public affairs. All the last issues of these reviews contain articles on the "American Crisis." The "London" is intensely Tory, as might have been expected; the others are more liberal, but not fully enlightened on this great and intricate question. The most distinguished European writers who seem to understand it, are Count Gasparin, in France, and J. Stuart Mills, in Scotland. Their instincts, learning and reasoning are against oppression and wrong.

## PATENTS FOR SEVENTEEN YEARS.



The new 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 duration of patents granted under the new act is prolonged to SEVENTEEN years, and the government fee required on filing an application for a patent is reduced from \$30 down to \$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 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 law abolishes discrimination in fees required of foreigners, excepting reference to such countries as discriminate against citizens of the United States—thus allowing English, French, Belgian, Austrian, 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.

During the last sixteen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the Inventors throughout the country, we would state that we have acted as agents for more than FIFTEEN 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 we have taken out Patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the Inventors whose Patents were secured through this Office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive Offices, and we are prepared to attend to Patent business of all kinds in the quickest time and on the most liberal terms.

### 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 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 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. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

### 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 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 the order of 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.

### 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, under the new law, is \$10. A pamphlet of advice regarding applications for Patents and Caveats, in English and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

### 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 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.

### 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 the case, inclosing the official letters, &c.

### 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.



S. B. R., of Mass.—The power of a hydraulic press is in proportion to the area of the cross section of the cylinder as compared with the area of the cross section of the pump piston. So, if the size of the pump remains the same, with double area of cylinder section there will be double power. The areas of circles are to each other as the squares of their diameters, consequently, with double diameter you have four times the area.

G. W. S., of Pa.—The question of pointed projectiles for piercing armor plates has been much discussed in the SCIENTIFIC AMERICAN and other papers.

B. W. T., of Ill.—Hydraulic cement is spoiled by being wet unless it is used immediately. You can easily try yours by wetting a little and cementing two stones together with it. Any bar of iron or steel standing for a long time in a vertical position becomes magnetic. We have tried many old pairs of tongs with a compass and always found that one end would attract the North pole and the other the South. We should like a more minute account of the action of the tacks of which you speak.

F. E. M., of Mass.—We recommend Wells's Chemistry as an excellent hand book.

A. C. D., of Mich.—The number of pounds required to hold your scow against the current would depend very much on the form of the scow.

T. A. H., of Ill.—If a cylinder 12 inches in diameter with its upper end open, has a piston fitted into it airtight, and a weight is placed on the piston, the cylinder below the piston being filled with water; the water will be forced out of an opening an inch square in the lower end of the cylinder with a force just equal to the pressure of the weight on each square inch of the piston—minus the friction.

T. J., of Ind.—We have had considerable experience with cement pipes, and like them very well for small aqueducts, but do not believe they would answer for 10,000 gallons per day under a pressure of 60 feet head. We presume cast iron would be the only suitable material in such a case.

W. B., of Pa.—If the invention to which you refer as having been patented and described in the SCIENTIFIC AMERICAN is an old and well known device then surely the patent is of no value and any one can use it with impunity. We do not admit the right of parties ordinarily to attack the validity of a patent in our columns. It would be unjust to the patentee and lead to abuses dangerous to the interests of inventors.

G. E. M., of N. B.—Quite a number of amalgamators have been illustrated and described in former volumes of the SCIENTIFIC AMERICAN. Consult these and write to the patentees of such machines, respecting their price, &c.; also to J. & E. W. Barker, of Baltimore, Md., on the particulars of the amalgamator illustrated on page 97, Vol. II. (new series) SCIENTIFIC AMERICAN.

G. W. L., of N. Y.—We are not acquainted with any other treatise on watch making but the "Clock and Watch Maker's Manual," excepting Reid's treatise on Horology which would be of no use to you for the repairing of watches.

J. R., of Wis.—We think that the pendulum question is about exhausted.

H. C. R., of N. Y.—If a cannon pointing due south is discharged while it is moving due west with velocity equal to that of the ball, the direction of the ball will not vary appreciably from a southwest course in the extent of its range. If it should go a thousand miles its course would curve a little to the west in consequence of the surface of the earth at the equator, moving more rapidly than at the poles.

A. B. S., of Conn.—We cannot advise you to substitute a wind-wheel for a steam engine of 10-horse power to be employed in grinding tan bark. A wind-wheel of such power would be very large and its action very irregular.

C. A. D., of N. Y.—India rubber boats were used on the first Arctic expedition of Dr. Kane, but we do not know how much they weighed.

S. P., of N. Y.—The soles of boots and shoes have been provided with metallic guards arranged in various ways. We have some doubts of the patentability of your particular plan of applying them, as we cannot see that it differs essentially from many others.

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Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from March 5 to Wednesday, March 19, 1862:—

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