

New Patent Law of 1870.

INSTRUCTIONS

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LETTERS-PATENT

FOR

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FOR Twenty-five years, MUNN & Co. have occupied the leading position of **Solicitors of American and European Patents.** During this long experience they have examined not less than **Fifty Thousand Inventions**, and have prosecuted upwards of **THIRTY THOUSAND APPLICATIONS FOR PATENTS.** In addition to this they have made, at the Patent Office, **Twenty-Five Thousand Special Examinations** into the novelty of various Inventions.

The important advantage of Munn & Co.'s American and European Patent Agency is that the practice has been tenfold greater than that of any other agency in existence, with the additional advantages of having the aid of the highest professional skill in every department and a Branch Office at Washington, that watches and supervises cases when necessary, as they pass through Official Examination.

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A SPECIAL EXAMINATION

is made into the novelty of an invention by personal examination at the Patent Office of all patented inventions bearing on the particular class. This search is made by examiners of long experience, for which a fee of \$5 is charged. A report is given in writing.

To avoid all possible misapprehension, MUNN & Co. advise generally, that inventors send models. But the Commissioner may at his discretion dispense with a model—this can be arranged beforehand.

MUNN & Co. take special care in preparation of drawings and specifications. If a case should for any cause be rejected it is investigated immediately, and the rejection if an improper one set aside.

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is made to clients for this extra service. MUNN & Co. have skillful experts in attendance to supervise cases and to press them forward when necessary.

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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 \$5 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.

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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. Caveat papers should be carefully prepared.

The Government fee on filing a Caveat is \$10, and MUNN & Co.'s charge for preparing the necessary papers is 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, & 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. There should also be forwarded a full statement of its ingredients, proportions, mode of preparation, uses, and merits.

CANADIANS and all other foreigners can now obtain patents upon the same terms as citizens.

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MUNN & Co. have solicited a larger number of European Patents than any other agency. They have agents located at London, Paris, Brussels, Berlin, and other chief cities. A pamphlet containing a synopsis of the Foreign Patent Laws sent free.

MUNN & Co. could refer, if necessary, to thousands of patentees who have had the benefit of their advice and assistance, to many of the principal business men in this and other cities, and to members of Congress and prominent citizens throughout the country.

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NEW BOOKS AND PUBLICATIONS.

A TREATISE ON THE THEORY AND PRACTICE OF LEVELING. Showing its Application to purposes of Railway Engineering and the Construction of Roads, etc. By Frederick W. Simms, F.G.S., M. Instit. C. E., Civil Engineer. Fifth Edition. Revised and Corrected, with the Addition of Mr. Law's Practical Examples for Setting out Railway Curves. With Three Lithographic Plates and several Wood-cuts. New York: D. Van Nostrand, Publisher, No. 23 Murray street and 27 Warren street.

This being a new edition of a well-known valuable work it would be unnecessary here as well as impossible in our limited space to give it an extended review. It is enough to say to those who are not acquainted with the merits of the work, that it is one of the best treatises on the subject of leveling extant. The addition of the practical examples mentioned in the title will prove a great help to students, and even to those who have passed the student stage and have become engaged in the actual practice of engineer-

ing. The book is printed in fine bold type, is well bound, and presents a handsome appearance.

THE PHRENOLOGICAL JOURNAL AND PACKARD'S MONTHLY. A Repository of Science, Literature, and General Intelligence. Embellished with numerous Portraits from Life, and other Engravings. Vol. L., Old Series; Vol. I., New Series, January to June, 1870. S. R. Wells, Editor and Publisher, No. 389 Broadway, New York.

Mr. Wells will please accept our thanks for a handsomely bound volume of this popular publication.

THE TECHNOLOGIST, for December, contains a fine table of contents. It closes the volume of this well-conducted and interesting monthly. It is issued by the Industrial Publication Company, 176 Broadway, New York, at the low price of \$2.00 per annum.

WE are in receipt, by the courtesy of the Hon. Horace Capron, U. S. Commissioner of Agriculture, of his Report for the year 1869. It is a voluminous and instructive document. Mr. Capron will please accept our thanks.

Business and Personal

The Charge for 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.

"507 Mechanical Movements."—A Book needed by every Mechanic, Inventor, Engineer, Draftsman, and Student. This is by far the largest illustrated table of Mechanical Movements ever published. Price \$1. By mail \$1 12. Address Theo. Tusch, 37 Park Row, New York.

For small, soft, Gray Iron Castings, Japanned, Tinned, or Bronzed, address Enterprise Manufacturing Company, Philadelphia.

A Situation Wanted to travel for some Agricultural or Hardware house, or to introduce a patented article. References given. Wm. Knowles, Rockville, Ind.

Situation Wanted by a Practical Draftsman. Best references given. C. Collins, 33 Nassau st., Newark N. J.

Grindstone Shafts, by J. E. Mitchell, Philadelphia, Pa.

Nova Scotia Grindstones, by J. E. Mitchell, Philadelphia, Pa.

"How to use Grindstones," by J. E. Mitchell, Philadelphia, Pa.

At the Cincinnati Industrial Exposition, Oct., 1870, the judges say: "The Union Stone Company exhibit Emery Wheels and Grinding Stones which are composed of materials not affected by water, and that do not glaze in doing ordinary work, and do not produce a disagreeable smell when doing hard work. We consider them the best article of the kind on exhibition.

Thomson Road Steamers save 50 per cent over horses D. D. Williamson, 32 Broadway, New York.

Improved Foot Lathes. Many a reader of this paper has one of them. Selling in all parts of the country, Canada, Europe, etc. Catalogue free. N. H. Baldwin, Laconia, N. H.

Peck's Patent Drop Press. For circulars address the sole manufacturers, Milo, Peck & Co., New Haven, Ct.

Peteler Portable R.R. Co., contractors, graders. See adv'ment.

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

E. Howard & Co., 15 Maiden Lane, New York, and 114 Tremont st., Boston, make the best Stem-winding Watch in the country. Ask for it at all the dealers.

Taft's Portable Hot Air, Vapor, and Shower Bathing Apparatus. Light, cheap, and convenient. Address Portable Bath Co., Sag Harbor, L. I., N. Y. (Send for Circular.)

The best place to get Working Models and parts is at T. B. Jeffery's, 160 South Water st., Chicago.

Scale.—Allen's Patent will remove scale from steam boilers, and not injure the iron. Send for Circulars. Josiah J. Allen, Philadelphia.

Building Felt (no tar) for inside and out. C. J. Fay, Camden, N. J.

Patent Elliptic-gear Punctures and Shears.—The greatest economy of power, space, and labor. Can be seen in operation at our factory, in Trenton, N. J. Address American Saw Co., 1 Ferry st., New York.

Hand Screw Punctures and Lever Punctures. American Saw Co., New York.

Steel Stamp Alphabets, Figures, and Names. E. H. Payn, Burlington, Vt.

Self-testing Steam Gage—Will tell you if it is tampered with, or out of order. The only reliable gage. Send for circular, E. H. Ashcroft, Boston, Mass.

Glynn's Anti-Incrustator for Steam Boilers—The only reliable preventive. No foaming, and does not attack metals of boilers. Price 25 cents per lb. C. D. Fredricks, 587 Broadway, New York.

The Merriman Bolt Cutter—the best made. Send for circulars. Brown and Barnes, Fair Haven, Conn.

Manufacturers and Patentees.—Agencies for the Pacific Coast wanted by Nathan Joseph & Co., 619 Washington st., San Francisco, who are already acting for several firms in the United States and Europe, to whom they can give references.

To Cure a Cough, Cold, or Sore Throat, use Brown's Bronchial Troches.

Machinery for two 500-ton propellers, 60-Horse Locomotive Boiler, nearly new, for sale by Wm. D. Andrews & Bro., 414 Water st., N. Y. Keuffel & Esser 116 Fulton st., N. Y., the best place to get 1st-class Drawing Materials, Swiss Instruments, and Rubber Triangles and Curves.

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.

House Planning.—Geo. J. Colby, Waterbury, Vt., offers in formation of value to all in planning a House. Send him your address. A very Valuable Patent for sale, the merits of which will be appreciated at sight. Apply to or address Jewell & Ehlen, 93 Liberty st., N. Y.

For Solid Wrought-iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Belting that is Belting.—Always send for the Best Philadelphia Oak-Tanned, to C. W. Army, Manufacturer, 301 Cherry st., Phil'a.

For Fruit-Can Tools, Presses, Dies for all Metals, apply to Bliss & Williams, successor to May & Bliss, 118, 120, and 122 Plymouth st., Brooklyn, N. Y. Send for catalogue.

The Best Hand Shears and Punctures for metal work, as well as the latest improved lathes, and other machinists' tools, from entirely new patterns, are manufactured by L. W. Pond, Worcester, Mass. Office 98 Liberty 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

By the Circular Pamphlet

which the New York Advertising Agents, Messrs. Geo. P. Rowell & Co. issue for the use of Advertisers, much information is conveyed about all the best advertising mediums.

Back Numbers, Volumes, and Entire Sets of the SCIENTIFIC AMERICAN are for sale at low prices, by Theo. Tusch, 37 Park Row, New York.

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 designed 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 100 a line, under the head of "Business and Personal."

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

FILTERING WATER.—Your correspondent can make a cheap and good filter in his cistern by simply partitioning off one corner with one course in thickness of soft-burnt bricks, leaving a space inside of about 18x36 inches at the top of the cistern, making a close-fitting cover, through which to insert the pipe from the pump. The water will filter through the partition just about as fast as it comes into the outside cistern. F. A. H.

CLEANING FIRE-ENGINE BOILERS.—I think the trouble with H. C.'s Cole steam fire-engine boiler would disappear by the attachment and use of a surface blow-off. I find it so not only with such engines, but locomotives.—T. L. V. D., of Neb.

QUARTER TWIST BELT.—If it would not be too presumptuous in a young mechanic, I will give to J. F. K., and others if they wish it, a rule for putting on a quarter twist belt to make it stretch alike on both edges, and do their work well, no matter what the width of the belt. The belt is to be put on in the usual way, and the ends brought together ready for lacing. Then turn one piece the opposite side (or inside) out, and lace. The belt will run, it will be found, first one side out, and then the other, and will draw alike on both sides.—W. H. K., of N. Y.

QUARTER TWIST BELT.—If Mr. J. F. K. will put up a short shaft parallel with, and running at the same speed as his driving shaft, with driving pulley the same size as the one in the driving shaft for quarter twist belt, and two pulleys on his driven shaft, and use two five-inch belts, he will find it much better than one wide belt.—W. S., of N. Y.

T. M. H., of Pa.—In the system of levers described in your query, if the power be constantly applied in a tangential line to the arc described, by the ends of the levers, the leverage will be the same on each lever; but if it be applied in the direction of either the chord or sine of the same arc the leverage will be greater on the longer lever. In estimating the power of levers, the direction in which the moving force is applied must never be disregarded.

T. H. R., of Kansas.—The holes broken out of the bottom of your lamp chimney admit air, which mixing with vapor from the oil used in your lamp forms an explosive compound, which, when sufficiently heated, makes the slight explosion described, and extinguishes the light.

C. H. R., of N. Y.—The electric light produced by the use of carbon points in connection with a galvanic battery is continuous. The flashes or sparks generated by friction in electric machines may also be made to succeed each other with such rapidity as to produce the effect of a continuous light, though, of course, only a succession of flashes in reality.

T. H. D., of —.—All other things being equal, the longer the hose of a fire engine, the less will be the volume discharged, the less will be the velocity of discharge, and, as a matter of course, the less will be the throw. The diminution is wholly attributable to friction.

E. F. D., of Conn.—Very many recipes for black ink have been published in the SCIENTIFIC AMERICAN. You say you have found none that suits, but give no requirements, except that it shall be jet black at first, and always remain so. Arnold's Japan ink comes as near this requirement as any we know. We do not think the powder mentioned in our description of a new printer's ink, could be used to make a writing ink.

S. L. G. T., of N. H.—If we understand your query, the pipe nearest the ground would exact the least power for the supply of water to your city, for the two reasons, that being shorter it would have less friction, and the height to which the water would be raised would also be less.

J. W. M., of N. Y.—There is no substance known that, placed between the poles of a magnet and its armature, will intercept the attracting power of the magnet.

W. H., of Wis.—The lubricating oil, called "West Virginia Black Oil," contains, we believe, some volatile hydrocarbons, which justify the discrimination made against it by the underwriters.

H. S. S., of Minn.—Rubber is not melted in the process of making overhoes as now conducted. The information you seek is hard to obtain, as the manufacturers refuse to disclose their processes.

S. A. R. and G. W. McK., of Ohio.—So far as we know, there has been no recent contest between English and American mowers and reapers.

H. E. S., of Kansas.—We know of no preparation that will remove hair from the human body without injury to the skin.

G. E. S., of Wis.—You should apply to some extensive dealer in paper hangings. Your query is not of sufficient general interest for publication.

A. L., of Texas.—Colored men have taken out patents, but as yet they, as a race, have not developed large inventive genius.

G. L. E., of Mass.—The tonnage of the Great Eastern is 27,000.

Recent American and Foreign Patents.

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

COTTON-SEED PLANTER AND GUANO DISTRIBUTER.—Henry L. Tillery, Halifax, N. C.—This invention relates to divers improvements in a machine intended for distributing guano in a drill, and then for planting cotton or other seed in the same drill, said improvements consisting of corrugated wings on the drum that sits within the seed box, and of an arrangement of an A-shaped scraper, whereby the same may be made to cut furrows of greater or less depth; and of sundry other arrangements of said scraper and other devices.

"TARGET GAME."—John C. Schooley, New York city.—This invention relates to a target through which is made a dozen, more or less, of holes, each hole being marked with a certain number; and in combination with the target a ball connected therewith by an elastic cord, the object of the game being to send the ball through one of the holes in the target by the recoil of the cord after it has been stretched.

EXTENSION PLOWSHARE.—George W. Thorp, Columbus, Kansas.—This invention has for its object to furnish an improved plow, which shall be so constructed and arranged that the share may be extended as it becomes worn and held securely in place when adjusted.]

CORN PLANTER.—Fielding W. Poe, Jr., Vandalia, Ill.—This invention relates to certain improvements in corn planters, which appertain especially to the means whereby the seed-tubes are raised and lowered; and to the means whereby the seed-tubes are made to follow the inequalities of the ground; and to the means for insuring the "second drop."

SPARK ARRESTER.—Charles Pierpont, Durand, Wis.—This invention has for its object to furnish a simple and effective spark arrester for attachment to engine smoke-stacks.

FETTER OR CLOG FOR FOWLS.—Sanford J. Baker, Madison Center, Me.—This invention has for its object to furnish an improved fetter or clog for hens, turkeys, and other fowls, to prevent them from scratching in gardens, yards, fields, etc., which shall be simple in construction and effective in operation.

CORN PLANTER.—Joseph M. Whitmore and John N. Arvin, Valparaiso, Ind.—This invention has for its object to furnish an improved corn planter, which shall be simple in construction, easily operated, and effective in operation, and, at the same time, so constructed as not to be liable to get out of order.

SCREW-CUTTING DIES.—W. F. Cole, New York city.—This invention relates to improvements in screw-cutting dies with movable cutters, and has for its object to provide an arrangement, whereby the blocks may have the requisite strength and capacity, especially in the part for supporting the cutting ends of the cutters, with less metal used than heretofore.

RAILROAD CAR SPRING.—Albert Potts, Philadelphia, Pa.—This invention relates to a new manner of arranging, holding, and compressing the spiral springs for railroad cars, so that the same will be prevented from bulging out or bending when contracted, and increase in power of resistance with the weight.

FRAME FOR WHEELBARROW.—B. W. Tuthill, Oregon City, Oregon.—This invention relates to a new construction of metallic frames for wheelbarrows, and consists in making the two side bars or pieces of the frame together with the handles, all of one continuous piece of tubing. Great strength and simplicity of construction are thus obtained.

NAIL HEAD.—Thomas C. Richards, New York city.—This invention relates to a new arrangement of ornamental picture nail heads, with the object of facilitating the attachment of the same to the nails.

SEEDING MACHINE.—Jackson Cozad, Corydon, Iowa.—This invention relates to a new machine for scattering seed broadcast, and consists in the application and arrangement of a rotary basin, which serves by centrifugal force to throw the seed in all directions. The apparatus is applicable to all wheeled vehicles, and readily detachable when not required for use.

CAR-WHEEL MOLDS.—Wm. E. Worth, San Francisco, Cal.—This invention relates to improvements in rotary molds or flasks for utilizing the effect of centrifugal force to dispose the metal in casting car wheels. It consists in making the mold of a perforated disk of metal, and a ring fitted to it on which the chilling rests, and the cope of a top plate and ring, all fitted together and to a disk on the top of a rotary shaft, for clamping together and to the disk, and the top and bottom plates are provided with ventilators.

CLOTHES PIN.—Geo. A. Harris, Buchanan, Mich.—This invention relates to improvements in clothes pins, and it consists in two pieces of wood or other substance, pivoted together at or near the center, and provided with an india-rubber spring between the pivot and one end, having a hole through it in the lengthwise direction of the said pieces, which are grooved, and the point is so formed that the clothes line may be passed through in the said direction, and the pieces will be clamped upon it at one end by the spring.

CLOTHES FRAME.—Henry M. Stevenson, South Peacham, Vt.—This invention relates to improvements in clothes-drying frames, and it consists in a frame composed of two side panels and two top panels, the side panels being oiled and braced, and connected to each other by jointed cross bars, the top panels being pivoted to the side panels at the top, one to each, and provided with pivoted braces for holding them in the oblique positions corresponding to the rafters of a house; all so arranged that the said dryer may be adjusted to one shape to stand in one position alone, or in other positions for leaning against a support, and may be folded together for stowing away.

REVERSIBLE PLOW.—G. W. Thompson, Ripley, Ohio.—This invention relates to improvements in reversible plows, and consists in making the double mold board of sheet metal in two parts, joined transversely at the center between the points where they are riveted to the oscillating brace connecting them with the plow beam. It also consists in an arrangement of the said brace calculated to prevent clogging.

SHOT CASE AND DISTRIBUTOR.—Sinclair Booton, Seguin, Texas.—This invention was fully illustrated and described in the last issue of the SCIENTIFIC AMERICAN.

DOUBLE HINGE.—John S. Jenness, Bangor, Me.—This invention relates to a new and useful improvement in hinges for hanging doors, more especially designed for trap doors, by means of which the door when open is made to rest flat upon the floor.

CLOTHES LINE HOLDER.—Ezra W. Talbott, Napoleon, Ohio.—This invention relates to a new and useful improvement in mode of raising, stretching, and holding clothes lines.

DROP-HAMMER LIFTER.—Francis M. Hodge, Shelburne Falls, Mass.—This invention relates to improvements in drop-hammer lifting apparatus, and consists in the application to the shaft of a drum, which lifts the hammer by winding up a belt attached to it, of an oscillating steam piston within a fixed case, and a tappet disk with lappets for shifting a steam valve for admitting the steam to the piston, and exhausting it; the object being to apply the steam directly to the shaft of the drum, so as to dispense with intermediate apparatus.

CALIPERS.—William P. Hopkins, Lawrence, Mass.—This invention relates to improvement in calipers, and in the adjusting nuts therefor, and consists in arranging the adjusting nut and screw (or screw only, when used without a nut) for spreading the legs apart, and to serve as a stop when they are forced together, and in arranging the spring to force the legs together, the object being to provide calipers which may be used for taking the gage of plates, disks, and the like, which are thicker at the rims than inside the same, by opening the legs to pass over the thick place, and adjusting the nut or screw to the right point, then opening the calipers to disengage them from the plate, after which the spring will close them down to the nut again, in the same position as before.

PAINT BRUSH.—William B. Burnett, New York city.—This invention relates to improvements in the construction of paint brushes, and it consists in improvements in the construction of the conical plug by which the bristles are wedged into the ferrule, and the handle is secured in the ferrule, to facilitate the application of the plug and the tightening of the bristles. It also consists in the arrangement of the handle and the plug relatively thereto to facilitate tightening up the bristles in case they become loose by the age of the plug.

COMBINED GUIDE FOR SEWING MACHINES.—William H. White, Baltimore, Md.—The object of this invention is to combine in one simple, practicable instrument, devices which will fold, hem, and bind in many different ways, each of which has heretofore required a different guide, and to adapt such instrument at the same time to the manufacture of French folds, in two, three, or more parts.

SAW SET.—H. A. Harris, Center, Texas.—This invention has for its object to furnish an improved saw set for setting the teeth of circular and other saws, which shall be simple in construction, convenient in use, and effective in operation, enabling the teeth to be all set at the same pitch, and at any desired pitch.

SAWING MACHINE.—W. A. Allen, Baltimore, Md.—This invention relates to improvements in machines for splitting kindling wood, and it consists in a combination with a fixed feeding spout, of a pair of reciprocating splitting blades and a holding and discharging plate, in a manner to split the block into slabs, and the slabs into small pieces, and discharge the same after being split, in a simple and efficient manner. It also consists in an arrangement with the hopper of a gate for preventing the discharge of the wood in case the feedings stopped while the machine continues to run.

ADJUSTABLE COFFEE AND TEAPOT STRAINER.—G. A. Barron, Pembroke, Maine.—This invention relates to a new and useful improvement in strainers for coffee and teapots, and consists in a cylinder, open at each end, composed in whole or in part of perforated metal or wire gauze, and constructed so as to be varied in diameter to fit tea and coffee pots of different sizes.

CHURN DASHER.—Robert Brown, Columbus, Miss.—This invention relates to improvements in churn dashers, and consists in a wide ring of metal with two sets of oblique bars traversing the space within the ring in a way to be very efficient in agitating the cream.

MANUFACTURE OF PILLS.—Pierre Cauhaepe, New York city.—This invention relates to improvements in the manufacture of pills, and it consists in the employment, either in combination with a molding device for shaping the pills or other holder for them, of a comb bar with pins or needles adapted for inserting a pin in each mold cavity for taking the pills and clipping them in the coating solution, and a clamp and stripper for taking them from the needles and recipping them for filling and covering the cavities formed by the pins.

BASIN COCK.—C. A. Newton, Providence, R. I.—This invention relate to improvements in wash-basin cocks, designed for drawing hot or cold water from one cock, and consists in a combination with a vertical tube having two independent passages and adapted for attachment to the table in which the basin is placed, and a nozzle fitted to it to cut off one passage, while allowing the water to discharge from the other, of a branch attachment and packing therefor of peculiar construction for the attachment of the hot and cold water pipes.

MOTIVE POWER.—C. A. Mills, Bridgeport, Conn.—This invention relates to improvements in motive power, and it consists in a combination with a wheel having buckets, and mounted to work in a vertical plane, of a couple of chambers for holding and delivering sand, shot, or other like matters to be used to apply the power by flowing upon the wheel, said chambers being supported on opposite sides of the wheel by a case disclosing the wheel and serving to conduct the flowing matter from the wheel into the chambers, which case may be turned by hand or other means to shift the loaded chamber from below to the top, and the empty one from top to bottom, when the flowing matter has run through.

Inventions Patented in England by Americans.
(Compiled from the Commissioners of Patents' Journal.)

- PROVISIONAL PROTECTION FOR SIX MONTHS.**
- SEWING MACHINE.**—David Whittemore, Boston, Mass. December 3, 1870.
 - AXLES AND AXLE-BOXES FOR WHEELED VEHICLES.**—Ernest Von Jeinsen and James Monroe McDonald, San Francisco, Cal. December 2, 1870.
 - SPRINGS CHIEFLY DESIGNED FOR RAILWAY AND OTHER CARRIAGES.**—P. Sarsfield Devlan, Jersey City, N. J., and Isaac Pennington Wellen and S. F. M. Tasker, Philadelphia, Pa. December 15, 1870.
 - LIFE-PRESERVING CLOTHING.**—Clark Spencer Merriman, Valesca, Iowa. December 8, 1870.
 - MACHINERY FOR CUTTING LOAF SUGAR.**—George Henry Moller, New York city. December 1, 1870.
 - WIRE BANDS FOR FASTENING BALES.**—Edwin Sewall Lenox, New York city. December 13, 1870.
 - ELECTRIC BRAKE FOR RAILWAYS.**—Joseph Olmstead, Chicago, Ill. December 13, 1870.
 - PROCESS OF ELIMINATING THE COLORING MATTER OF GARANICINE AND OTHER PRODUCTS OF Madder.**—Spencer Borsten, Fall River, Mass. December 15, 1870.

Official List of Patents.
ISSUED BY THE U. S. PATENT OFFICE.
FOR THE WEEK ENDING JAN. 3, 1871.

Reported Officially for the Scientific American.

SCHEDULE OF PATENT FEES.

On each caveat.....	\$10
On each Trade-Mark.....	\$25
On filing each application for a Patent, (seventeen years).....	\$50
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For Copy of Claim of any Patent issued within 30 years..... \$1
A sketch from the model or drawing, relating to such portion of a machine as the Claim covers, from \$1
The full Specification of any patent issued since Nov. 20, 1866, at which time the Patent Office commenced printing them..... \$1.25
Official Copies of Drawings of any patent issued since 1836, we can supply at a reasonable cost, the price depending upon the amount of labor involved and the number of views.
Full information, as to value of drawings, in each case, may be had by addressing

MUNN & CO.,
Patent Solicitors, 37 Park Row, New York.

- 110,617.—FLIER FOR SPINNING MACHINE.—T. T. Abbott and John A. V. Smith, Manchester, N. H.
- 110,618.—MOLE TRAP.—John Adams, Greencastle, Ind.
- 110,619.—STONE DRAG.—Elijah C. Allen, Deerfield, Mass. Antedated Dec. 21, 1870.
- 110,620.—SEEDING MACHINE.—Asher S. Babbitt (assignor to Babbitt, Hinkle & Co.), Keesville, N. Y. Antedated December 29, 1870.
- 110,621.—FETTER OR CLOG FOR FOWLS.—Sanford J. Baker, Madison Center, Me.
- 110,622.—PUMP.—Joel R. Bassett, Cincinnati, Ohio.
- 110,623.—MACHINE FOR MARKING SQUARES.—Charles S. Bennett, Southington, assignor to Hart Manufacturing Co., Kensington, Conn.
- 110,624.—CUTTER FOR NAIL-CUTTING MACHINES.—Eleazar Bless, Indianapolis, Ind.
- 110,625.—SHOT-CASE AND DISTRIBUTOR.—Sinclair Booton, Seguin, Texas.
- 110,626.—COMPOUND FOR CULINARY USE.—Henry W. Bradley, Birmingham, N. Y.
- 110,627.—RENDERING AND TREATING OFFAL AND OTHER ANIMAL SUBSTANCES.—Durcan Bruce (assignor to Emma Bruce), Brooklyn, N. Y.
- 110,628.—PAINT BRUSH.—William B. Burnett, New York city.
- 110,629.—HOG SNOTTER.—John C. Campbell and Warren S. Bruce, Good Hope, Ill. Antedated December 30, 1870.
- 110,630.—PILL MACHINE.—Pierre Cauhaepe, New York city.
- 110,631.—PAPER-CUTTING MACHINE.—John E. Coffin (assignor to F. W. Bailey and James Noyes), Portland, Me.
- 110,632.—BEDSTEAD FASTENING.—Charles S. Comins, Lowell, Mass.
- 110,633.—FASTENING FOR EAVES TROUGHS.—Leonard Cook, Shreveport, La.
- 110,634.—SEEDING MACHINE.—Jackson Cozad, Corydon, Iowa.
- 110,635.—FLOUR BOLT.—Robert W. Cunningham, Chesterville, Ohio.
- 110,636.—COTTON PLANTER AND MANURE DISTRIBUTER.—N. Donaldson, Line Creek, S. C.
- 110,637.—REVERSIBLE LATCH.—Heinrich Dotzenroth, Pittsburgh, Pa.
- 110,638.—REFINING PETROLEUM.—Richard Eaton, Montreal, Canada.
- 110,639.—PROTECTING THE HEARTHS OF FURNACES.—H. W. Ellicott, Baltimore, Md.
- 110,640.—LOOM.—Robert Elliott, Chester, Pa.
- 110,641.—VENTILATOR.—William Ennis, Philadelphia, Pa.
- 110,642.—DOVETAILING MACHINE.—Harry E. Evarts, Chicago, Ill.
- 110,643.—ALARM FOR LOCOMOTIVE ENGINES.—R. A. Filkins, North Adams, Mass.

- 110,644.—COMBINED COTTON-SEED PLANTER AND GUANO DISTRIBUTOR.—Lafayette Gant, Camilla, Ga.
- 110,645.—GLASS TELEGRAPH INSULATOR.—John Garity, East Birmingham, Pa.
- 110,646.—GATE.—Robert Gidley, Lagrangeville, N. Y.
- 110,647.—HAND-ROLE CAP FOR STEAM BOILERS.—Wm. W. Graham, Boston, Mass., assignor to himself and J. S. Parsons, Winham Conn.
- 110,648.—LAMP.—Franklin T. Grimes, Liberty, Mo.
- 110,649.—CLOTHES PIN.—George Alfred Harris, Buchanan, Mich.
- 110,650.—SAW SET.—Henry A. Harris, Center, Texas. Antedated December 23, 1870.
- 110,651.—FOLDING LAMP SHADES.—Henry M. Hartshorn, Malden, Mass. Antedated December 30, 1870.
- 110,652.—COMPOSITION FOR PRESERVING WOOD.—William Hayman (assignor to himself and William R. Black), Taunton, Mass.
- 110,653.—RECLINING AND ROCKING CHAIR.—Samuel Hayward, Boston, assignor to himself and Luther E. Kimball, Cambridgeport, Mass.
- 110,654.—BASE-BURNING FIRE-PLACE HEATER.—E. S. Heath, Baltimore, Md.
- 110,655.—DROP-HAMMER LIFTER.—Francis M. Hodge, Shelburne Falls, Mass. Antedated December 24, 1870.
- 110,656.—KNITTING MACHINE.—Wm. H. Hollen, Fostoria, Pa.
- 110,657.—CALIPER.—William P. Hopkins, Lawrence, Mass.
- 110,658.—THRASHING MACHINE.—Hiram E. Hurlburt, Hammondsport, N. Y. Antedated December 20, 1870.
- 110,659.—DOUBLE HINGE.—John S. Jenness, Bangor, Me.
- 110,660.—SUBSOIL PLOW.—Marquis R. Jones, Walworth, Wis. Antedated December 31, 1870.
- 110,661.—MILKING STOOL.—Richard W. Jones and John B. Baker, Syracuse, N. Y.
- 110,662.—APPARATUS FOR THE MANUFACTURE OF BROMINE.—John J. Juhler, Natrona, Pa.
- 110,663.—RUT LEVELER.—Calvin Marshall, North Easton, Mass.
- 110,664.—HOT-AIR FURNACE.—Peter Martin, Cincinnati, Ohio.
- 110,665.—COMPOSITION FOR ROOFING.—J. B. Melvin, Lowell, Mass.
- 110,666.—PURIFICATION OF CAST IRON.—J. W. Middleton, Philadelphia, Pa. Antedated December 22, 1870.
- 110,667.—MOTIVE-POWER APPARATUS.—C. A. Mills, Bridgeport, Conn.
- 110,668.—HOT-WATER FEEDER FOR STEAM BOILERS.—J. H. Mills, Boston, and John Howarth, Salem, Mass.
- 110,669.—SEWING MACHINE FOR WORKING BUTTON HOLES.—Eugene Moreau, San Francisco, Cal., assignor to himself, J. W. Hagerty, and Samuel Hill.
- 110,670.—TUCKING DEVICE FOR SEWING MACHINES.—Aaron Morehouse, Hartford, Conn.
- 110,671.—SAW TABLE.—Peter Neeb, Buffalo, N. Y., assignor, by mesne assignment, to Margaret Neeb.
- 110,672.—FLOUR SIFTER.—Lucy Sawyer, Templeton, Mass. Antedated December 17, 1870.
- 110,673.—WAGON BRAKE.—Andrew Van Der Hyden Oliver, Bethlehem, N. Y.
- 110,674.—BELT SHIPPER.—J. L. Otis, Leeds, Mass.
- 110,675.—PRINTING TELEGRAPH.—G. M. Phelps, Brooklyn, N. Y., assignor to the Western Union Telegraph Company, New York city.
- 110,676.—SPARK ARRESTER.—C. L. Pierpont, Durand, Wis.
- 110,677.—LUBRICATOR.—William Pratt, Providence, R. I. and N. B. Williams, New York city, assignors to A. A. Williams, Brooklyn, N. Y.
- 110,678.—CHURN.—J. H. Reed, La Fayette, Ind.
- 110,679.—CORN PLANTER.—John Reichelderfer, Cridersville, Ohio, administrator of Philip Kuntz, deceased.
- 110,680.—MANUFACTURE OF ACID PHOSPHATES FOR USE IN BAKING POWDERS, ETC.—N. B. Rice, East Saginaw, Mich.
- 110,681.—STEAM ENGINE.—Thomas Ross, Rutland, Vt.
- 110,682.—CULTIVATOR.—Jacob Sattison, Ripley Township, Ohio.
- 110,683.—WINDMILL.—Edvard Savoral, New York city. Antedated December 31, 1870.
- 110,684.—CASTING BAR SOLDER.—Abraham Schoenberg, New York city.
- 110,685.—DIES FOR FORMING HORSE-COLLAR SHELLS.—J. W. Schwaner, Egg Harbor City, N. J.
- 110,686.—SHUTTER FASTENING.—P. T. Share, Baltimore, Md.
- 110,687.—GATE.—G. A. Slater, Benton Harbor, Mich. Antedated December 30, 1870.
- 110,688.—SEED DROPPER.—H. M. Smith, Richmond, Va.
- 110,689.—PATTERN FOR MOLDING STOVE LIDS.—Samuel Smith (assignor to himself and Charles Noble & Co.), Philadelphia, Pa.
- 110,690.—LUBRICATING COMPOUND.—J. H. Smyser, Pittsburgh, Pa.
- 110,691.—CLOTHES DRYER.—H. M. Stevenson, South Peacham, Vt.
- 110,692.—REVERSIBLE PLOWS.—G. W. Thompson, Ripley, Ohio.
- 110,693.—EXTENSION PLOWSHARE.—G. W. Thorp, Columbus, Kansas.
- 110,694.—SEED PLANTER AND GUANO DISTRIBUTER.—H. L. Tillery, Halifax, N. C.
- 110,695.—PRINTERS' FURNITURE.—R. B. Topham, D. C.
- 110,696.—PLATFORM SCALE.—J. H. Truex, Rochester, N. Y.
- 110,697.—FOLDING BEDSTEAD.—Joshua Turner (assignor to B. A. Pettingill and I. S. Pear), Cambridgeport, Mass.
- 110,698.—WHEELBARROW FRAME.—B. W. Tuthill, Oregon City, Oregon.
- 110,699.—PLATING DEVICE FOR SEWING MACHINES.—William Walker, Brooklyn, N. Y., assignor to G. H. Wooster, New York city.
- 110,700.—ALARM ATTACHMENT FOR MACHINES FOR FORMING HAT BODIES.—W. C. Waring, Yonkers, N. Y.
- 110,701.—HEEL-TAP FOR BOOTS AND SHOES.—Alexander Warner, Brooklyn, E. D. N. Y.
- 110,702.—DYEING OIL-CLOTHS AND SIMILAR FABRICS.—O. C. Washburn (assignor to Thomas Potter), Philadelphia, Pa.
- 110,703.—GOVERNOR FOR STEAM ENGINES.—Charles Waters, Boston, Mass.
- 110,704.—CONSTRUCTING MOLDINGS OF PAPER.—W. W. Webster, Chelsea, Mass.
- 110,705.—SAW.—Thomas Welham, Philadelphia, Pa. Antedated December 17, 1870.
- 110,706.—SEED PLANTER.—W. F. West, Haverstraw, N. Y.
- 110,707.—BAG-FILLING AND WEIGHING MACHINE.—C. A. Whelan and C. T. Wakeley, Madison, Wis.
- 110,708.—SAD-IRON HEATER.—Lewis Wilkinson, New York city.
- 110,709.—CHILDREN'S HOBBY-HORSE.—Wm. A. Williams, New York city.
- 110,710.—APPARATUS FOR MAKING EXTRACTS FOR TANNING.—Riley P. Wilson, New York city.
- 110,711.—COVER AND TABLE FOR SEWING MACHINES.—F. R. Wolfinger, Chicago, Ill.
- 110,712.—GUIDING WHEEL FOR HARVESTERS.—Walter A. Wood and William Anson Wood, Hoosick Falls, N. Y.
- 110,713.—HARVESTER.—Walter A. Wood, Wm. A. Wood, and John M. Rosebrooks, Hoosick Falls, N. Y.
- 110,714.—HARVESTER.—Walter A. Wood, Wm. A. Wood, and John M. Rosebrooks, Hoosick Falls, N. Y.
- 110,715.—HARVESTER.—Walter A. Wood, Wm. A. Wood, and John M. Rosebrooks, Hoosick Falls, N. Y.
- 110,716.—HARVESTER-RAKE.—William Anson Wood, Hoosick Falls, N. Y.
- 110,717.—CAR-WHEEL MOLD.—Wm. E. Worth, San Francisco, Cal.
- 110,718.—HARVESTER.—Charles M. Young, Meadville, Pa.
- 110,719.—MUSICAL NOTATION FOR ACCORDEONS.—Carl F. Zimmermann, Philadelphia, Pa.
- 110,720.—SEEDING MACHINE.—D. S. Alvord, Austinburg, and Charles D. Hollis, Ashtabula, Ohio.
- 110,721.—MEAT CUTTER.—Jeremiah S. Artley, Danville, Pa.
- 110,722.—IRON PLOW BEAM.—Albert Ball, Canton, Ohio. Antedated December 29, 1870.
- 110,723.—CAR REPLACER.—David H. Ball and John Brooks, Sinnamahoning, Pa.
- 110,724.—GRAIN DUMPING CAR.—Leonard Bammerlin, Mansillon, Ohio.
- 110,725.—REIN HOLDER.—Wm. Barstow, San Francisco, Cal. Antedated December 30, 1870.