

A. 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 \$16 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 model is 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 \$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.

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.

Recent American and Foreign Patents.

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

STEAM PUMPING ENGINE.—Wm. H. Roberts, Mauch Chunk, Pa.—This invention has for its object to secure uniformity of motion in the plunger of a steam pump throughout the stroke.

JACK FOR MOVING THE CROSS-HEADS OF STEAM ENGINES.—John S. Funk, Marysville, Pa.—This invention has for its object to move the cross-heads of locomotives or other engines when disconnected from their piston rods.

AUTOMATIC REGULATOR FOR VALVES, DAMPERS, ETC.—George Miller Sternberg, Fort Riley, Kansas.—This invention has for its object the operation of valves on the principle of gradually opening when a supply is needed, and gradually closing when the supply is obtained. It is applicable to the regulation of any sort of liquid or gaseous current that may be required to flow into or from a receptacle.

DEVICE FOR REVERSING MOTIONS.—Charles F. Hadley, Chicopee, Mass.—This invention is designed for direct-acting steam pumps, engines, or other machinery where reverse motion is required. The object of this invention is to overcome dead points in machinery, where continual reciprocating motion is required.

STOVE.—William Magill, Port Deposit, Md.—This invention has for its object to cause the draft of a base-burning stove to enter at the top, pass over the fuel in the magazine, effecting by its weight, during this passage, the retention of the gaseous products in the region of combustion beneath, and thereby contributing to their more thorough consumption; and, by flowing down a vertical flue at the rear of the stove, to gain a position whence it may strike the fire from beneath.

CHURN.—N. A. Prentiss, Silver Creek, N. Y.—This invention has for its object to furnish an improved churn, simple in construction and effective in operation, doing its work quickly and well.

FOLDING CRATE, BOX, ETC.—Landy A. Lindsey, Jackson, Miss.—This invention has for its object to furnish an improved crate, box, chest, or trunk, which shall be so constructed and arranged that it may be conveniently and quickly folded into a compact form for storage or transportation, and which, when opened for use, will be strong and serviceable.

CARRIAGE TOP.—M. T. Jackson, Montrose, Pa.—This invention has for its object to furnish an improvement for carriage tops by means of which the labor of raising and lowering the top shall be lessened and which will partially support the top when down, taking part of the weight of said top off the bows.

BREAKER ROLLER.—Edwin Douclet, Lykens, Pa.—This invention has for its object to furnish an improvement in the construction of breaker rollers by means of which the teeth may be detached and sharpened when required, and which will enable the breaker to split the coal instead of crushing it, as is the case with breakers constructed in the ordinary manner.

ADJUSTABLE BEDSTEAD.—Wm. O. Reid, Vienna, N. C.—This invention relates to improvements in beds for sick persons, and consists in an arrangement of the bottom in three sections and joining them together, and supporting them on a transverse axis mounted in the side rails of the bedstead, and producing therewith novel arrangements of supporting and adjusting arms, and hoisting and adjusting cords and pulleys, whereby the patient may while lying on the bed, raise himself to a sitting posture, with the feet projecting below the plane of the bottom of the bed, which assumes the position of a large chair; and whereby also he may, while lying on the back, raise the thighs to a perpendicular position, the lower legs remaining in a horizontal position. The said improved bed is particularly adapted for the treatment of diseases requiring the patient to be changed and placed in particular positions, which changes are greatly facilitated by it.

ROCK DRILL.—A. Blatchly, Central City, Colorado Territory.—This invention relates to improvements in rock drilling machines, designed to provide an automatically feeding drill to be actuated by steam power, under a more simple and reliable arrangement than now in use. The invention consists in certain improvements in the construction of the rotary engines for operating the drill, relating to the valve mechanism, pistons, bridges, or dividing plates, and to packing the cylinders; also, in the combination therewith of an acam wheel of peculiar construction, for communicating a reciprocating movement to the drill carriage; also, an arrangement for disconnecting the propelling action of the cams with the drill carriage, previous to the blow of the drill.

BOTTLE COCK.—L. A. Perrault, Natchez, Miss.—This invention relates to improvements in cocks for bottles, jugs, and other like articles, and consists of a cock attached to the cork or other plug, and having a turning plug provided with a loose key for operating it, the said cock having at the end of the tube projecting through the cork, a pair of wing or friction plates, so connected to it and bearing against the inner walls of the bottle, that a sliding tube or a piece of steel or other wire within the cock tube, and acted on by a cock plug, when turned to stop the passage of the liquid will force the wing plates against the walls of the bottle, so as to prevent the withdrawal of the cork.

BUTT HINGES.—A. P. Seymour, Necla Works, N. Y.—This invention relates to improvements in butt hinges, and consists in an improved arrangement of the same for adaptation for use either as right or left handed hinges, and for self-locking to hold the door or shutter open when working on either hand; also, for unlocking by pressing on the stile of the shutter to which the hinge is connected.

FLOWER POT.—Mathias Ludlum, Williston, Conn.—This invention relates to improvements in flower pots, and has for its object to provide pots from which the plants with the earth enveloping the roots may be more readily transplanted, and an improvement in form calculated to give greater room for the roots.

GANG PLOW.—George R. Duval, Salem, Oregon.—This invention relates to new and useful improvements in gang plows, and consists in the method of raising and delivering the plows from the ground.

PARLOR HOUSHOOD.—Patrick Griffith, Brooklyn, N. Y.—This invention relates to a new and useful improvement in apparatus for propagating and growing plants, cultivating flowers, and for preserving them in cold weather.

WAGON.—J. H. Barr, Mansfield, Ohio.—This invention relates to a new and useful improvement in wagon gearing, whereby the wagon is made to turn shorter curves, and therefore be less liable to upset than wagons of ordinary construction.

CHAMELEOTROPE.—Smith W. Anderson, New York city.—The object of this invention is to produce a spinning toy, which will exhibit in constant variation, a beautiful array of colors. The invention consists in the employment of a holder or support, which will retain a colored disk eccentric to the rotating shaft on which the said holder is secured. The invention also consists in connecting the said shaft by suitable gear connection with a hand lever, so that its revolutions may be unequal being produced by muscular power.

STOP-MOTION FOR CARDING MACHINES.—C. W. Anderson, Grosvenordale, Conn.—The object of this invention is to provide an attachment to the railway head of a carding machine, whereby any rupture in the fleece or crowding of the sliver between the rollers will at once cause the machine to stop. The invention consists in the use of a pivoted funnel or trumpet through which the fleece is passed, and which, as long as it is acted upon by the moving fibers remains inactive. As soon, however, as the fleece ceases to pass through it and to draw it back by friction, it is thrown forward and releases the sliver bar which throws the belt upon the loose pulley. The invention consists also in the use of a pivoted lever, which acts in conjunction with the afore-mentioned pivoted funnel, to arrest the machine as soon as the upper roller is elevated by the doubling or crowding of the sliver.

TOY.—H. J. Heald, Birmingham, Conn.—This invention consists in the combination of a rotating figure, which is propelled by a wheel revolving on the ground, with a rattle, which is a spring elevated by pins on the wheel.

COMPRESSED AIR CYLINDER.—G. W. W. Goodwin, New Orleans, La.—This invention consists in an improved construction of cylinders for holding compressed air, by soldering successive sheets of tin or other thin sheet metal on a cylinder of the same substance to insure great strength, and forming the ends in conical shape, and similar construction the whole being tinned inside and out.

NEW BOOKS AND PUBLICATIONS.

A PRACTICAL TREATISE ON MECHANICAL ENGINEERING. Comprising Metallurgy, Molding, Casting, Forging, Tools, Workshop Machinery, Mechanical Manipulation, Manufacture of the Steam Engine, etc. With an Appendix on the Analysis of Iron and Iron Ores. By Francis Campin, C. E., President of the Civil and Mechanical Engineers' Society, Author of "The Engineer's Pocket Remembrancer, for Civil and Mechanical Engineers," etc. To which are added Observations on the Construction of Steam Boilers, Remarks upon Furnaces Used for Smoke Prevention and on Explosions. By Robert Armstrong, C. E. Revised, with Notes, by John Bourne. Rules for Calculating the Change of Wheels for Screws on a Turning Lathe, and for a Wheel-Cutting Machine. By J. La Nicca. The Management of Steel, including Forging, Hardening, Tempering, Annealing, Shrinking, Expansion, and the Case-Hardening of Iron. By George Ede. Illustrated with Twenty-nine Plates of Boilers, Steam Engines, Workshop Machinery, Change Wheels for Screws, etc., and One Hundred Wood Engravings. Philadelphia: Henry Carey Baird, Industrial Publisher, No. 406 Walnut street. Price, by mail, free of postage, \$6'00.

The object of this work appears to have been to bridge a chasm in the literature of mechanical engineering. The author informs us in his preface that when the various works published on the different branches of mechanical engineering are classed they may be grouped under two general heads; that is, elementary works and complete treatises. There has been then an obvious want for a work combining practical method, portability and conciseness, with the exclusion of all unnecessary matter. The present work is designed to meet this want, and it will be seen from the title, which we give in full, that the whole field of practical mechanical engineering has been covered. That this has been done ably and well will, we think, be acknowledged by every intelligent engineer who gives the work a careful perusal. If the many young mechanics who so frequently write to us for information upon various mechanical subjects would possess themselves of this work and give it a careful reading they would find the money and time thus expended, a capital investment.

TROUT CULTURE. By Seth Green. Published by Seth Green and A. S. Collins. Caledonia, N. Y.

This pamphlet, written by one of the first to practice fish culture in this country, and now perhaps the largest and most successful trout culturist in America, is intended especially as a manual for those who wish to raise trout. It is essentially practical in character, and will be read with avidity by all who have any interest in fish farming.

HOWE'S MUSICAL MONTHLY.

We have received No. 8 of this valuable musical publication. It contains twenty-one pieces of music, and is sold at thirty-five cents each for single copies. Terms, per annum, three dollars. Elias Howe, publisher, 108 Court street, Boston, Mass.

BICKNELL'S VILLAGE BUILDER. Elevations and Plans for Cottages, Villas, Suburban Residences, Farm Houses, Stables and Carriage Houses, Churches, Court Houses, and a Model Jail. Also Exterior and Interior Details for Public and Private Buildings. With Approved Forms of Contracts and Specifications, including Prices of Building Materials and Labor at Boston, Mass., and St. Louis, Mo. Containing Fifty-five Plates Drawn to Scale, Showing the Style and Cost of Building in Different Sections of the Country. Being an Original Work, comprising the Designs of Fifteen Leading Architects, representing the New England, Middle, Western, and South-western States. A. J. Bicknell & Co., Publishers, Troy, N. Y., and Springfield, Ill.

We should do violence to our estimate of its merits did we fail to express our most cordial approbation of this large, elegant, and complete work. The title sufficiently sets forth its scope, and all we need say on that head is that it gives only a truthful exposition of the valuable contents of the book. We notice that the elevations are drawn on the scale of one eighth, one twelfth, or one sixteenth, and the details on a scale of from one half to three fourths of one inch to the foot, so that they may be easily comprehended and executed. The book is not characterized by the style of any one architect or locality, but being general in its adaptation, is eminently fitted to meet the wants of village builders throughout the country. To such we recommend it. The style of execution is excellent, and does credit to the publishers. Send for descriptive catalogue to A. J. Bicknell & Co., Troy, N. Y., or Springfield, Ill.

BARNS, OUTBUILDINGS, AND FENCES. By George G. Harney, Architect, Newburgh and Cold Spring, N. Y. New York: George E. Woodward.

This is a series of designs for the different outbuildings required on farms and country places generally, and on village and suburban lots, besides a number of suggestions for gateways and fences, and for rustic structures of all kinds. It contains sixteen designs for stables and a large number of designs for wood-houses, tool-houses, workshops, poultry-houses, together with one for an ice-house, a Swiss Chalet, and one for a small billiard house. It also contains two complete sets of farm buildings, and a large number of designs for rustic fences, inclosures, etc., etc., with descriptive text. The designs are well executed, and the work is printed in quarto form with large type, and on good paper. We commend the work to builders and those who are about to select designs for buildings of this class.

THE TWO GREAT BOOKS OF NATURE AND REVELATION; OR, THE COSMOS AND THE LOGOS. Being a History of the Origin and Progression of the Universe from Cause to Effect; more particularly of the Earth and the Solar System, the *modus operandi* of the Creation of Vegetables, Animals and Man, and how they are the Types and Symbols by which the Creator Wrote the Logos. Illustrated by the First Chapters of Genesis. By George Field. New York: S. R. Wells, 389 Broadway. Boston: H. H. and T. W. Carter, 13 Beacon street.

B. K. BLISS & SON'S ILLUSTRATED CATALOGUE OF HORTICULTURE, FOR 1870. New York: 41 Park Row.

The sixteenth spring catalogue of this old-established house, formerly of Springfield, Mass., is just out. It contains 120 pages, is full of well-executed engravings of every variety of flowers, plants, vegetables, grains, etc., with description and hints as to soil and time to cultivate. It is a publication which every person will take pleasure and derive profit in examining, and which every one in the country who has ever so small a patch of ground, should possess. See an advertisement on another page.

THE CARPENTERS' AND BUILDERS' GUIDE. Being a Hand Book for Workmen. Also a Manual of Reference for Contractors, Builders, etc. By P. W. Plummer. Second Edition. Portland: Hoyt, Fogg & Breed, Publishers. St. Louis: Keith & Woods.

THE PRACTICAL BRASS AND IRON FOUNDERS' GUIDE. A Concise Treatise on Brass Founding, Molding the Metals, and their Alloys, etc. To which are added Recent Improvements in the Manufacture of Iron and Steel by the Bessemer Process, etc. By James Larkin, late Conductor of the Brass Foundry Department in Reaney, Neafe & Co.'s Works Philadelphia. Fifth Edition. Revised with extensive Additions. Philadelphia: Henry Carey Baird, Industrial Publisher, No. 406 Walnut street. Price, by mail, free of postage, \$2.25.

This edition of a well-known and popular work, has been prepared from the manuscript of the author, and is essentially improved and enlarged. It now contains a vast mass of practical information, useful not only to brass and iron founders, but to mechanics of all kinds. It is one of those books that any mechanic can read with pleasure and profit.

GRISWOLD'S RAILROAD ENGINEERS' POCKET COMPANION FOR THE FIELD. Comprising Rules for Calculating Deflection, Distances, and Angles, Tangential Distances and Angles, and all necessary Tables for Engineers; also the Art of Leveling, from Preliminary Survey to the Construction of Railroads. Intended expressly for the Young Engineer. Together with numerous valuable Rules and Examples. By W. Griswold. Philadelphia: Henry Carey Baird, Publisher, No. 406 Walnut street. Price, by mail, \$1.75.

This is a book of reference, designed to aid the memory in field work, and has been prepared from notes taken during a long experience in railroad engineering. It is bound in morocco, with a clasp and pocket, and seems to be in every way adapted to subserve the purpose designed.

Inventions Patented in England by Americans.

[Compiled from the "Journal of the Commissioners of Patents."]

PROVISIONAL PROTECTION FOR SIX MONTHS.

- 3,188.—APPARATUS FOR SHAMPOOING.—M. L. Winn, San Francisco, Cal. Nov. 3, 1869.
- 87.—SHARPENING KNIVES.—C. Robbins and H. A. Robbins, Washington, D. C. January 11, 1870.
- 244.—CONNECTING TRACES TO CARRIAGES.—J. W. Currier, Newbury, Vt. January 27, 1870.
- 306.—PROPELLER.—C. Kinzler and A. Keppler, New York city. February 2, 1870.

Official List of Patents.

Issued by the United States Patent Office

FOR THE WEEK ENDING March 1, 1870.

Reported Officially for the Scientific American.

SCHEDULE OF PATENT OFFICE FEES:

Table with 2 columns: Fee description and Amount. Includes fees for applications, extensions, and disclaimers.

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 upward, but usually at the price above-named. 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 price of drawings, in each case, may be had by addressing MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

- 100,244.—SUCTION HOSE.—Albert F. Allen, Providence, R. I.
- 100,245.—MAIN SPRING BARREL FOR WATCHES.—John P. Allen, Springfield, Ohio.
- 100,246.—WATCH REGULATOR.—J. P. Allen and W. E. Banta, Springfield, Ohio.
- 100,247.—STOP MECHANISM FOR CARDING MACHINE.—C. W. Anderson, Grosvener Dale, Conn.
- 100,248.—CHAMELEOTROPE.—Smith W. Anderson, New York city.
- 100,249.—STEAM TRAP.—John Ashworth, North Andover, Mass.
- 100,250.—FASTENING FOR NECKTIES.—John Bachelder, Norwich, Conn.
- 100,251.—WAGON.—J. H. Barr, Mansfield, Ohio.
- 100,252.—ROCK DRILL.—A. Batchly, Central City, Colorado.
- 100,253.—WASHING MACHINE.—W. A. Brown, Philadelphia, Pa.
- 100,254.—IRON BRIDGE.—Henry C. Brundage, Buffalo, N. Y.
- 100,255.—HYDRANT.—S. G. Cabell, Quincy, Ill. and A. Q. Ross, Cincinnati, Ohio. Antedated Feb. 16, 1870.
- 100,256.—SPRING BED BOTTOM.—J. B. Campbell, Cincinnati, Ohio.
- 100,257.—BED LOUNGE.—H. S. Carter, Chicago, Ill.
- 100,258.—TAG MACHINE.—C. H. Chapman (assignor to A. G. Snell), Shirley, Mass.
- 100,259.—COAL-HOISTING APPARATUS.—Lewis S. Chichester, Brooklyn, N. Y. Antedated Feb. 19, 1870.
- 100,260.—LAMP BURNER.—Michael Henry Collins, Chelsea, Mass.
- 100,261.—SPOKE LATHE.—C. B. Conant and Hiram Thompson, Worcester, Mass.
- 100,262.—FOUNDATION FOR BUILDINGS.—A. F. Cooper, San Francisco, Cal.
- 100,263.—ROCKING HORSE.—Jesse A. Crandall, Brooklyn, N. Y.
- 100,264.—SAFETY HATCH FOR BUILDINGS.—G. N. Creamer, Trenton, N. J.
- 100,265.—SELF-ACTING HATCHWAY HOIST.—G. N. Creamer, Trenton, N. J.
- 100,266.—GRAND PIANO.—G. H. Davis, Boston, Mass.
- 100,267.—VENTILATOR.—Edward Mortimer Deey, New York city.
- 100,268.—HYDROCARBON BURNER.—Adolphe De Landsee, Paris, France.
- 100,269.—COMPOSITION FOR ROOFING, PAVING, ETC.—E. J. De Smet, New York city, assignor to New York Improved Anthracite Co., New York city.
- 100,270.—VAPOR BURNER.—Henry C. De Witt, Waukegan, Ill.
- 100,271.—UMBRELLA FRAME.—Harry E. Douer (assignor to himself and Robert E. Brett), New York city. Antedated February 17, 1870.
- 100,272.—RAILWAY CAR COUPLING.—J. W. H. Doubler (assignor to himself, J. M. Clending, S. C. Hayes, and T. F. Rooney), Chicago, Ill. Antedated Feb. 16, 1870.
- 100,273.—BREAKER ROLLER.—Edwin Douden (assignor to himself and Charles Broome), Lykens, Pa.
- 100,274.—CARBURETER.—Cleveland F. Dunderdale, New York city.
- 100,275.—SCHOOL DESK.—W. P. Erwin and T. A. Dugdale, Richmond, Ind.
- 100,276.—SCHOOL DESK AND SEAT.—W. P. Erwin and T. A. Dugdale, Richmond, Ind.
- 100,277.—CORN CULTIVATOR.—John C. Erwood, Vernon, Ind.
- 100,278.—CORSET.—D. H. Fanning, Worcester, Mass.
- 100,279.—OIL CAN.—J. L. Folsom, East Boston, Mass.
- 100,280.—VEGETABLE CUTTER.—Michael Gerhard, Newark, N. J.
- 100,281.—HOT AIR FURNACE.—B. Commenginger, Rochester, N. Y.

- 100,282.—COMPRESSED AIR CYLINDER.—G. W. Warfield, Goodwin, New Orleans, La.
- 100,283.—BREASTPLATE FOR THE BREAST COLLARS OF DOUBLE HARNESSES.—C. Graham, New York city.
- 100,284.—VIOLIN.—Joseph Grandjon, Paris, France.
- 100,285.—WICK TUBE FOR LAMPS.—J. H. Gray, Boston, Mass. Antedated Feb. 21, 1870.
- 100,286.—CONSTRUCTION OF BARRELS AND PACKAGES.—C. Green, Wilmington, Del.
- 100,287.—PARLOR HOT HOUSE.—Patrick Griffith, Brooklyn, N. Y.
- 100,288.—ADDING MACHINE.—John Groesbeck, Philadelphia, Pa.
- 100,289.—LANTERN.—Charles Hart, Wakefield, Mass.
- 100,290.—TOY.—H. J. Heald (assignor to himself and Henry Somers), Birmingham, Conn.
- 100,291.—FERRUTYPE PLATE.—H. M. Hedden, Worcester, Mass.
- 100,292.—CHURN.—C. P. Holmes, Gouverneur, and A. L. Howell, Mohawk, N. Y.
- 100,293.—MANUFACTURE OF ARTIFICIAL FLOWERS.—Catherine E. Howard, San Gabriel, Cal.
- 100,294.—STEAM BLOWER AND EXHAUSTER.—John Howarth, Salem, Mass.
- 100,295.—CARRIAGE TOP.—M. T. Jackson, Montrose, Pa.
- 100,296.—CIGAR BOX.—Chauncey Jerome, New Haven, Conn., assignor, by mesne assignments, to S. B. Jerome, administrator of estate of Chauncey Jerome, deceased, and S. B. Jerome, assignor to E. A. Douglass, Philadelphia, Pa.
- 100,297.—PORTABLE BATH.—E. J. Knowlton, Ann Arbor, Mich.
- 100,298.—DOUBLE-SHOVEL PLOW.—G. W. Lawbaugh, Geneseo, Ill. Antedated Feb. 26, 1870.
- 100,299.—FOLDING CRATE.—Landy A. Lindsey, Jackson, Miss.
- 100,300.—FLOWER POT.—Mathias Ludlum, Williston, Vt.
- 100,301.—FLOOR FOR DRYING PEAT.—J. B. Lyons, Milton, Conn.
- 100,302.—PEAT MACHINE.—J. B. Lyons, Milton, Conn.
- 100,303.—SHAFT COUPLING.—H. F. Mann, Pittsburgh, Pa.
- 100,304.—MANUFACTURE OF POTTERY, ETC.—Philip Marquardt, Buffalo, N. Y.
- 100,305.—ICE-CREAM FREEZER.—B. G. Martin, Williamsburgh, N. Y. Antedated Feb. 14, 1870.
- 100,306.—FRUIT JAR.—J. L. Mason, New York city.
- 100,307.—LIQUID MEASURE.—Martin McDewitt, Hampton, Vt.
- 100,308.—PUDDLING FURNACE.—Samuel McLaughlin (assignor to himself and B. R. Caskey), Philadelphia, Pa.
- 100,309.—PURIFICATION OF COAL GAS.—Emerson McMillin, Ironton, Ohio.
- 100,310.—FENCE.—G. S. Mills, Johnson, Vt.
- 100,311.—MANURE HOOK.—S. B. Minnich, Landisville, Pa.
- 100,312.—SAW GUMMER.—Gilbert Munday, Montezuma, Ohio.
- 100,313.—REVERSIBLE LATCH.—W. T. Munger (assignor to P. & F. Corbin), New Britain, Conn.
- 100,314.—ROSE FOR DOOR KNOBS.—W. T. Munger (assignor to P. & F. Corbin), New Britain, Conn.
- 100,315.—RATCHET AND PAWL MECHANISM.—M. D. Myers, Frankfort, N. Y.
- 100,316.—CHILDREN'S HORSE AND SELF-PROPELLER.—J. H. Nolan, Waterville, N. Y. Antedated Feb. 11, 1870.
- 100,317.—SHUTTLE FOR LOOMS.—E. A. Paine, Grafton, Mass.
- 100,318.—APPARATUS FOR MAKING SOLID CORES.—S. J. Peet, New York city. Antedated Feb. 16, 1870.
- 100,319.—MACHINE FOR PRODUCING MOLDS.—S. J. Peet, New York city. Antedated Feb. 16, 1870.
- 100,320.—MACHINE FOR PRODUCING CORES.—S. J. Peet, New York city. Antedated Feb. 16, 1870.
- 100,321.—BOTTLE COCK.—L. A. Perrault, Natchez, Miss.
- 100,322.—BASE BURNING STOVE.—J. S. Perry and Andrew Dickey, Albany, N. Y.
- 100,323.—FILTER FOR CISTERNS.—B. B. Redfield, Lapeer, Mich.
- 100,324.—ADJUSTABLE BEDSTEAD.—Wm. O. Reid, Vienna, N. C.
- 100,325.—PLOW.—Mark Rigell, Newton, Ala., assignor to himself, Robert D. Wm. D., and Robert F. Joy, Milford, Ga.
- 100,326.—PLOW.—Mark Rigell, Newton, Ala., assignor to himself, Robert D. Wm. D., and Robert F. Joy, Milford, Ga.
- 100,327.—DISINFECTING COMPOUND.—L. S. Robbins, New York city.
- 100,328.—HORSESHOE.—David Roberge, Mooer's Forks, N. Y.
- 100,329.—HORSESHOE.—David Roberge, Mooer's Forks, N. Y.
- 100,330.—GRAPPLE.—Seymour Rogers, Pittsburgh, Pa.
- 100,331.—COAL SIFTER.—Brown Sears, Cold Spring, N. Y.
- 100,332.—REVERSIBLE HINGE.—A. P. Seymour, Hecla Works, N. Y.
- 100,333.—RAILROAD CAR HEATER.—Frederick Shaller, Hudson, N. Y.
- 100,334.—SCHOOL DESK.—James Smith, Richmond, Ind.
- 100,335.—BASE BURNING STOVE.—James Spear, Philadelphia, Pa.
- 100,336.—BROOM.—W. C. Spellman, Hartford, Conn.
- 100,337.—MACHINE FOR FEEDING ORES INTO SHAFT ROASTING-FURNACES.—Chas. Stetefeldt, Austin, Nevada.
- 100,338.—CALENDAR.—J. T. Tannatt, Springfield, Mass.
- 100,339.—WOODEN PAVEMENT.—J. K. Thompson, Chicago, Ill.
- 100,340.—PEN.—E. P. Tiffany, Hartford, Conn.
- 100,341.—CURTAIN FIXTURE.—Jas. Turnbull and Wm. Turnbull, Vancouver, Washington Territory.
- 100,342.—DEVICE FOR OILING CARRIAGE AXLES.—Jas. Van-derpool, Hackensack, N. J.
- 100,343.—BROOM.—Thomas Walter, Philadelphia, Pa.
- 100,344.—FEED-WATER FILTER.—G. Waters, Cincinnati, Ohio.
- 100,345.—CLOTHES PIN.—Wm. Wellington, Rockford, Ill.
- 100,346.—APPARATUS FOR TRANSMITTING MOTION TO SEWING MACHINES.—Wm. Wellington, Rockford, Ill.
- 100,347.—FERTILIZER FROM EXCREMENTS.—Friedrich Wicke, Bockenbalm, Julius Bröner, Theodor Petersen, and J. G. Zehfus, Frankfurt-on-the-Main, Prussia.
- 100,348.—MACHINE FOR PARING FRUIT.—W. H. Williams (assignor to himself and C. H. Williams), Canton, Ohio.
- 100,349.—PARLOR FOUNTAIN FOR DIFFUSING LIQUIDS.—Wm. Atte, Dayton, Ohio.
- 100,350.—HORSE POWER.—J. E. Atwood, Willimantic, Conn.
- 100,351.—BARN DOOR HANGER.—W. R. Axe, Rockton, Ill.
- 100,352.—METHOD OF PRESERVING THE AROMATIC PRINCIPLE OF HOPS.—Henry Bartholomay (assignor to Bartholomay & Fraenker), Rochester, N. Y.
- 100,353.—MANUFACTURE OF DRY WHITE LEAD.—E. O. Bartlett, Birmingham, Pa.
- 100,354.—COVERING FOR STEAM BOILERS.—C. A. Baumann, New York city.
- 100,355.—FASTENING FOR CARRIAGE CURTAINS.—Frederick Baumgartner, Brooklyn, N. Y.
- 100,356.—VELOCIPEDE.—Joseph Beck, Morrisania, N. Y. Antedated Feb. 26, 1870.
- 100,357.—BRAKE FOR CARRIAGES AND WAGONS.—Joseph G. Bicknell, Cambridge, assignor to himself, C. S. Wilkins, Boston, Mass., and G. F. Jennings, New York city.
- 100,358.—COMPOUND FOR PREVENTING INCRUSTATION IN STEAM BOILERS.—Geo. Birks, Marine, Ill.
- 100,359.—COMBINED ENGINE BOILER AND SUPERHEATER.—F. B. Blanchard, Spuyten Duyvil, N. Y. Antedated Feb. 18, 1870.
- 100,360.—SIFTING APPARATUS.—S. O. Blanding, Vineland, N. J.
- 100,361.—CULINARY BOILER.—G. W. Bliss, Brooklyn, N. Y.
- 100,362.—WATER-WHEEL CASE.—J. W. Bookwalter, Springfield, Ohio.
- 100,363.—WOOD PAVEMENT.—L. H. Boole, New York city.
- 100,364.—SNAP-HOOK AND BUCKLE.—J. C. Brady and J. H. Brady, Corsica Borough, Pa.
- 100,365.—MANUFACTURE OF Madder DYES.—Thos. Bristow (assignor to Amasa Sprague), Cranston, R. I.
- 100,366.—TYPE-DISTRIBUTING MACHINE.—Orren L. Brown, Boston, Mass.
- 100,367.—ROTARY PAPER-CUTTING MACHINE.—Richard Vose, Philadelphia, Pa., administrator of Wm. Bullock, deceased. Antedated Feb. 23, 1870.

- 100,368.—MACHINE FOR PLANING AND SQUARING THE ENDS OF SEGMENTAL STEREOTYPE PLATES.—Richard Vose, Philadelphia, Pa., administrator of Wm. Bullock, deceased. Antedated Feb. 23, 1870.
- 100,369.—STOVE PIPE DAMPER AND VENTILATOR.—A. R. Burdick, Racine, Wis.
- 100,370.—SPRING WAGON SEAT.—Peter Burress, Braidwood, Ill.
- 100,371.—FLUTING MACHINE.—S. G. Cabell, Washington, D. C.
- 100,372.—CHIMNEY COWL.—E. P. H. Capron, Springfield, Ohio.
- 100,373.—SLIDING DOOR.—Jacob Capron, New York city.
- 100,374.—SHIELD FOR PITCHERS, ETC.—Franklin B. Carleton, Cambridge, Vt.
- 100,375.—CONFECTIONERY.—Lawson E. Chase, Watertown assignor to Chase & Co., Boston, Mass.
- 100,376.—MILK CAN.—John Cochran, Purdy's Station, N. Y.
- 100,377.—CARPET.—John Cochran, Jun., Malden, Mass.
- 100,378.—MACHINE FOR SAWING MARBLE.—R. S. Craig and A. H. Woodward, Dover, N. Y.
- 100,379.—GRAIN SEPARATOR.—Evan Davis, Almond, N. Y.
- 100,380.—SEASONING AND PRESERVING WOOD.—J. C. Day, Hackensack, N. J.
- 100,381.—HORSE COLLAR.—Arsene Ducastel, New York city.
- 100,382.—BARLEY FORK.—Frederick Dunn, Pulaski, N. Y.
- 100,383.—GANG PLOW.—George R. Duval, Salem, Oregon.
- 100,384.—HARNES RING.—Horace N. Eames, Newport, N. Y.
- 100,385.—SPRING BED BOTTOM.—Benjamin F. Ells, Dayton, Ohio.
- 100,386.—CAMP BEDSTEAD.—Charles Joseph Everickx, Paris, France.
- 100,387.—MACHINE FOR DRESSING LEATHER.—Edward Fitzhugh, Boston, Mass.
- 100,388.—DOOR SPRING.—Benjamin G. Fitzhugh (assignor to Jacob Byerly), Frederick, Md.
- 100,389.—HYDRANT.—Alexander S. Fort, Cincinnati, Ohio.
- 100,390.—JACK FOR MOVING THE CROSS-HEADS OF LOCOMOTIVES.—John S. Funk, Marysville, Pa.
- 100,391.—PAPER-CUTTING MACHINE.—Henry A. Gage, Manchester, N. H.
- 100,392.—SICKLE BAR.—Charles O. Gardiner, Springfield, Ohio.
- 100,393.—OIL CAN.—John D. Gray, Cincinnati, Ohio.
- 100,394.—CLAMPED MOLD FOR MAKING LEAD JOINTS IN PIPE CONNECTIONS.—Edward Gwyn, Tiffin, Ohio.
- 100,395.—DEVICE FOR REVERSING MOTION.—Charles F. Hadley, Chicopee, Mass., assignor to Ames Manufacturing Company.
- 100,396.—FRUIT JAR.—Joel Haines, West Middleburg, Ohio.
- 100,397.—COMBINED SPIDER, SKILLET, AND GRIDIRON.—Thomas Foster Hamilton, Geneseo, Ill.
- 100,398.—CAST METAL LAMP.—T. F. Hammer, Branford, Conn.
- 100,399.—PLATE-PRINTING REGISTER.—Joseph L. Harley, Washington, D. C.
- 100,400.—MACHINE FOR MAKING CAR SPRINGS.—Albert Hebard, Springfield, Mass.
- 100,401.—COMBINATION OF BILLIARD AND DINING TABLE.—Frederick E. Held, Chicago, Ill.
- 100,402.—PADLOCK.—Louis Hillebrand, Philadelphia, Pa.
- 100,403.—PADLOCK.—Louis Hillebrand, Philadelphia, Pa.
- 100,404.—STOVE FOR RAILROAD CARS.—M. T. Hitchcock (assignor to himself and J. W. Labaree), Springfield, Mass.
- 100,405.—FLUTING MACHINE.—Charles R. L. Holmes (assignor to George Hovey & Son), New York city.
- 100,406.—COAL STOVE.—Marcus L. Horton, Windsor, Vt.
- 100,407.—MACHINE FOR SEWING BOOKS.—Frederick Webster Howe, Providence, R. I., assignor to Henry G. Thompson, New York city, and Reune Martin, Orange, N. J.
- 100,408.—SPRING BED BOTTOM.—Tyler Howe (assignor to himself and Otis Howe), Cambridgeport, Mass.
- 100,409.—WASH BOILER.—T. G. Hughes, Elysian, Minn.
- 100,410.—BROILER.—Abraham C. Hull (assignor to himself and J. C. Cameron), St. Louis, Mo.
- 100,411.—STEAM GENERATOR.—W. H. Ivens, Trenton, N. J.
- 100,412.—CHURN.—J. N. Jacobs, Crittenden, Ky.
- 100,413.—TIN-WORKERS' TONGS.—John Dawson James, Jun., Washington, D. C., assignor to himself, Adolf Boe, and Jacob D. C. Outwater, Newark, N. J.
- 100,414.—MACHINE FOR SEAMING METAL ROOFS.—John Dawson James, Jun., Washington, D. C., assignor to himself, Adolf Boe, and Jacob D. C. Outwater, Newark, N. J.
- 100,415.—AERIAL CAR. A.—P. Keith, Easton, Mass.
- 100,416.—SCHOOL DESK AND SEAT.—Wm. H. Kline, Eaton, Ohio.
- 100,417.—CURRY COMB.—Lucien Knapp, Woodhaven, N. Y.
- 100,418.—CISTERN FILTER.—Patrick Laughlin, Danville, Ky.
- 100,419.—RUDDER COLLAR.—Sewall Leach (assignor to himself, J. D. Leach, and Sabin Hutchings), Penobscot, Me. Antedated February 19, 1870.
- 100,420.—FUNNEL.—Wm. E. Ledman, Bridgeport, Del.
- 100,421.—ASH SIFTER.—Francis X. Lipp, Baltimore, Md.
- 100,422.—CHIMNEY COWL.—Miles Lockhart, Douglas, Isle of Man.
- 100,423.—SMOOTHING IRON.—George W. C. Lovell, Clarksville, Tenn.
- 100,424.—KILN FOR ANNEALING GLASS.—Thomas Lowry, Pittsburgh, Pa.
- 100,425.—CLOTH-MEASURING APPARATUS.—Samuel B. Luckett, Corydon, Ind.
- 100,426.—DRIVEN-WELL STRAINER.—Charles E. Macomber and Corydon E. Whelpley, Minneapolis, Minn.
- 100,427.—BASE-BURNING STOVE.—Wm. Magill, Port Deposit, Md.
- 100,428.—COLLECTING WASTE SPIRITS FROM BREWERIES AND BARS.—Arthur Maginnis and William McCormick, Philadelphia, Pa.
- 100,429.—VENTILATOR FOR WINDOWS.—Sebeus C. Maine, Boston, Mass.
- 100,430.—FOLDING IRONING TABLE.—James H. Mallory, La Porte, Ind.
- 100,431.—FENCE.—John McConnell, Tyro, Ohio.
- 100,432.—MANUFACTURE OF ILLUMINATING GAS FROM COAL AND OTHER MATERIALS.—George McKenzie, Glasgow, Scotland.
- 100,433.—COMPOUND FOR THE MANUFACTURE OF ILLUMINATING GAS.—George McKenzie, Glasgow, Scotland.
- 100,434.—GRAIN FAN.—James McPhail, Charles City, Iowa.
- 100,435.—MANUFACTURE OF HARD RUBBER.—John B. Newbrough, New York city.
- 100,436.—MANUFACTURE OF COMBINED CLOTH AND PAPER FABRIC.—James H. Newton, Holyoke, Mass.
- 100,437.—LUBRICATOR.—Thomas J. Nottingham, Cincinnati, Ohio.
- 100,438.—CLOTHES-LINE FASTENER.—Harrison Ogborn, Richmond, Ind. Antedated February 25, 1870.
- 100,439.—MEDICAL COMPOUND FROM GLOBE FLOWER.—John S. Pemberton, Atlanta, Ga.
- 100,440.—AUGER FOR BORING SQUARE HOLES.—Alfred T. Ferrine, Louisville, Ky., assignor to himself and William C. Chase, Providence, R. I.
- 100,441.—GRAIN CLEANER.—Chauncey Perry and James E. Wheat, Rochester, N. Y. Antedated February 26, 1870.
- 100,442.—CIRCUIT-CLOSER FOR ELECTRO-MAGNETIC RAILROAD SIGNALS.—A. Warner Platt, New York city.
- 100,443.—STEAM GENERATOR.—Henry A. V. Post, Cincinnati, Ohio, assignor to himself, James H. Shelton, and James T. Sterling.
- 100,444.—SPRING SEAT FOR WAGONS.—Wm. Pruett, Duquoin, Ill.
- 100,445.—COFFIN HANDLE.—James S. Ray, East Haddam, Conn.
- 100,446.—EXTENSION TABLE.—Wm. Reichenbach and Frederick Roschaintzky, Chicago, Ill.
- 100,447.—NAIL-CUTTING MACHINE.—Philemon Richards, Philadelphia, Pa.
- 100,448.—COVERING THE ENDS OF RUBBER HOSE.—John P. Rieder and James R. Bird, Brooklyn, N. Y., assignors to "The New York Rubber Company."
- 100,449.—DEVICE FOR SECURING UNIFORM MOTION IN PUMP ENGINES.—Wm. H. Roberts, Mauch Chunk, Pa.
- 100,450.—LAMP SHADE.—Wm. Robinson, Spring Valley, N. Y. Antedated February 23, 1870.
- 100,451.—STAY-BRACE FOR TRUNKS.—Jules Roch, Rochester, N. Y.