

**SAWING MACHINE.**—Jacob D. Culver, Bellmore, Ind.—This invention relates to a new and useful improvement in machines for sawing logs across the grain.

**GLOBE VALVE.**—George W. Reisinger, Harrisburgh, Pa.—This invention relates to a new and useful improvement in globe valves for steam, water, or other liquids, whereby the valve may be ground on its seat without removing the steam or water pressure.

**EXTENSION CURTAIN ROLLER.**—Thomas Van Wagoner, Newark, N. J.—The object of this invention is to furnish a window curtain roller, all prepared to put up, without sawing off an end or putting on a cord pulley one which any person (male or female) can put up without difficulty.

**SADIRON HEATER.**—John G. Redline, Lanark, Ill.—This invention relates to a new apparatus, which is to be applied to an ordinary stove, for the purpose of heating smoothing irons. The invention consists in the arrangement of a separate heater which has its own fire regulated by the draft of the stove, and which is provided with hinged slotted doors to receive and retain the irons to be heated.

**BEEHIVE.**—John Montgomery, Union City, Pa.—This invention has for its object to furnish a simple and convenient beehive, which shall be so constructed and arranged as to greatly facilitate the management of the bees, and which will, at the same time, protect the hive from the ingress of the moth.

**BREAD AND MEAT SLICER.**—J. Ensigner, L. Fertig, Dauphin, Tenn.—This invention has for its object to furnish a simple and convenient machine, by means of which bread, and other soft spongy substances, may be sliced evenly and uniformly, and which may be used with equal advantage for slicing dried beef and other hard substances.

**ATTACHING HOES AND OTHER TOOLS TO HANDLES.**—Giles T. Jobson, Macon, Ga.—This invention relates to new and useful improvements in tools for dressing plants, and consists in a peculiar combination in one tool of a hoe and rake, or other similar implement, the said hoe and rake or other implement being made separately, and each provided with a longitudinal section of a tubular shank, by which they are connected to the handle by a clamping ring.

**BRICK MOLD.**—Matthew Newlove, Burlington, Iowa.—This invention relates to improvements in molds for shaping and pressing brick, and consists of a mold box with movable bottoms or followers, connected to a bar extending along all the molds in the box, and connected to bell crank levers pivoted to fixed bearings on the box, and so arranged as to force the movable bottoms or followers through the mold boxes and discharge them when required for discharging the mold.

**WHEEL HATROW.**—A. L. P. Varian, Ripley, Miss.—This invention relates to improvements in harness, and consists of an arrangement of plane or dished disks on shafts inclined to the line of draft, and so arranged that the machine being drawn along the ground, so as to be supported on these disks, rolling on the ground will cause them to cut into the same and turn and pulverize it more or less, according to the dish or inclination of the said disks, any preferred number being arranged on the shaft, which is bent at the center so that one half the disks will throw one way and the other half the other, to counteract the side draft of each set.

**SAFETY RAILROAD TRUCK.**—C. R. Morris and H. R. Franklin, Bridgeport, Conn.—This invention consists in the attachment to the trucks, preferably between the wheels, of runners, or guards in the form of runners, with curves at each end which will rest on the ties, reaching across two or more and slide thereon when the cars are thrown off the track, in a manner calculated to greatly protect them against the disastrous results which now occur by the wheels going down between the ties.

**WASHING APPARATUS.**—John T. Grose, Upper Sandusky, Ohio.—This invention has for its object to furnish a simple, convenient, and efficient machine by which the clothes will be quickly and thoroughly washed by the circulation of steam and hot water, and which shall be so constructed as to allow the dirty water to be drawn off and replaced by clean hot water when desired.

**CULTIVATOR.**—B. F. Ward, Indian Springs, Ga.—This invention has for its object to furnish a simple, convenient, effective, and cheap machine designed more particularly for cultivating plants planted in hills and drills, but which may be used with great advantage for preparing the ground to receive the seed, and for covering seeds planted in hills and drills.

**MARKER FOR CARPENTERS, JOINERS, ETC.**—G. M. Nickason, Ellenville, N. Y.—This invention relates to a new device for marking the places on window blinds, sashes, etc., where mortises are to be cut, and has for its object to make the marking with such precision and accuracy that a large number of bars or planks can be prepared alike, when to be used for a number of equal sized shutters, sashes, or other articles.

**WINDOW JACK.**—S. P. Loomis, Philadelphia, Pa.—This invention has for its object to simplify the construction of window jacks and to allow the same to be readily folded together.

**PLOWING AND HARROWING MACHINE.**—Arthur Cunningham, Cincinnati, Ohio.—This invention relates to improvements in machines for plowing and harrowing, and consists in certain peculiar arrangements of connecting and operating devices, whereby a common plow and harrow are connected to a truck adapted for the operator to ride on, in a way by which he may govern the plow and harrow as required. The said plow and harrow are adjustably connected to the frame of the truck so as to vary their action.

**SCAFFOLD BRACKET.**—James Chattin, Marion, Iowa.—This invention relates to new and useful improvements in brackets for attachment to inclined roofs to support the scaffold braces, without the driving of nails through the shingles. It consists of a pair of clamp jaws, an eccentric or cam-shaped clamping dog or lever, and a spring, so arranged that the jaws may be readily and securely attached to the end of a shingle already nailed on, by raising the end of the said shingle, inserting it between the jaws, and turning the clamp dog to force the jaws together; the spring is used to force the jaws apart when the dog is turned down to release them, and to hold the cam dog in place.

**ELECTRIC PENDULUM CLOCK.**—Vitalis Himmer, New York city.—This invention relates to a new pendulum clock, which is operated by electricity in such manner that a very accurate and reliable time-keeper is produced which can readily be regulated, and which will not be affected by differences of temperature.

**AUTOMATIC TOY SAVINGS BANK.**—Wm. P. X. Smith, New York city.—This invention has for its object to furnish an improved toy savings bank for children, which shall be so constructed and arranged that when one part or figure of the device is pressed upon, a piece of money placed upon another part or figure may be thrown into the mouth of a third figure, which mouth opens at the proper time to receive it.

**MACHINE FOR CUTTING IRREGULAR FORMS.**—F. Keagey, Chambersburg, Pa.—This invention relates to improvements in machines for holding, adjusting, and feeding the pillars, balusters, or other articles to be dressed in irregular forms or plain sides on a table past a rotary cutter, by which the dressing is to be effected. The said invention consisting of a bed with centers for holding the blank, one of which is adjustable as to length, and provided with a dividing plate for adjusting the blank to the center; also a pattern for governing the action of the tool on the blank.

**EGG BOX.**—J. D. Michael, Baltimore, Md.—This invention relates to improvements in boxes for packing eggs for transportation and storage, and consists in providing packing boxes with tops, bottoms, and shelves or drawing boards capable of moving in or out of the same, and being attached at any point to confine the eggs spread evenly between them, so that they cannot move when the box is turned from side to side or otherwise handled. The said movable tops and bottoms are secured in their arrangement by bolts or rods passing through holes in the sides at or near the ends, and either through or above and below the said bottom.

**MANUFACTURING GINGER SNAPS, ETC.**—Daniel M. Holmes, Williamsburgh, N. Y.—This invention has for its object to furnish a simple, convenient, and effective machine by means of which ginger and other snaps may be made from soft dough, rapidly, conveniently, and accurately.

**SELF-LOADING TOY PISTOLS.**—Chester F. Smith, Torrington, Conn.—This invention relates to new and useful improvements in toy pistols, and consists in an arrangement in connection with the barrel and discharging spring of a magazine, which, being supplied with balls, will, on the spring being retracted and engaged with the trigger for firing, deliver a ball with the barrel in advance of the spring in readiness for discharging. It also consists in a novel arrangement of the trigger for holding the ball from rolling out of the barrel at the same time that it holds the spring back. Also in an arrangement of the spring with the supply passage from the magazine to permit the discharge of more than one ball at a time.

**RAZOR HONING MACHINE.**—William Brown, Thomaston, Conn.—This invention relates to new and useful improvements in machines for honing razors and other blades. It consists of a bed for supporting the blades placed on trunnions, and a hone placed on the underside of a suitable stock having a slide working through a guide in rear of the bed for supporting the blade, the front end of the stock being taken in the hand and worked back and forth, and also laterally, by a kind of circular motion, whereby the hone is made to rub the side of the razor which is maintained parallel with the oscillating trunnions.

**APPARATUS FOR DRAFTING CLOTHES.**—Ira J. Ordway, West Edmeston, N. Y.—This invention consists in combining with a main linear measuring stick for laying off dimensions of length of the subject ordering new clothes, other measuring sticks, perpendicular to the main stick, or inclined to it, and intended for the purpose of laying off dimensions of width, or of inclined or curved length.

**MOLE TRAP.**—W. C. Akers, Petersburg, Va.—This invention consists of a weight provided with prongs, and moving in a guideway in a vertical frame, at the top of which it is held by a lever, retained by a catch, from under which catch the lever is thrust by the action of a vertical rod, jointed at its bottom to the end of a second lever, called the earth trigger, which is raised by the mole burrowing under it, the disconnection of the upper lever from the catch being followed by a fall of the spiked weight upon the animal.

**PORTABLE RAILWAY.**—J. K. Glenn, New York city.—This invention relates to a new running gear for vehicles of all classes, such as are used for transporting goods or conveying passengers through cities or from one place to another, and is peculiarly adapted for soft or swampy ground.

**PROPELLING VESSELS.**—Alfred Colburn Loud, San Francisco, Cal.—This invention relates to an improved device for propelling vessels, whereby increased speed as well as other advantages are obtained. The invention consists in mounting upon a horizontal shaft, two or more disk wheels at an angle varying from a right angle, fifteen degrees (more or less), so that the inner faces of such wheels or disks shall approach or meet each other upon one side and diverge from each other on the other side, the two or more disks forming (when thus secured to the shaft) a single wheel, which in general outline is in the form of a wedge. Propellers constructed in this manner are mounted on the paddle wheel shaft in place of the ordinary paddle-wheels.

**STEAM PUMP.**—Samuel Williston, James Sutherland, and Joseph Winslow Winslow, East Hampton, Mass.—The principal features of novelty are the use of secondary valves with their respective passages, arranged in combination with the main valve and the steam piston, to perform their three-fold functions of exhausting from one end of the main valve, admitting steam to the other end, and to hold it therein. The next improvement is packing the main and secondary valves by means of a small steam cylinder arranged in a recess, and provided with steam passages and steam space at the bottom of the recess. The steam piston is packed by means of a segmental ring and secondary spring ring. Steam is admitted to the interior of the piston through passages, and made to act on a valve arranged in rear of or behind the secondary spring. The pump cylinder is open at both ends and is inclosed in a case or envelope which is divided at the middle into two compartments. The water supply pipe and also the discharge valve are each provided with a set of slack valves communicating with the two compartments of the casing.

**MARINERS' COMPASS.**—Demetrius Bittle Strouse, Salem, Va.—This invention consists of a combination of three or more systems of magnetized needles or bars attached to one or more axes and arranged in different horizontal planes.

**KNITTING MACHINE.**—Mark Lamar Roberts, New Brunswick, N. J., and Fergus Peniston, New York city.—This invention relates to improvements in knitting machines, whereby it is designed to provide a machine capable of knitting plain tubular fabrics, such as bags for holding grain, hose for conveying water, or stockings, socks, and other similar articles of wearing apparel, to be operated either by hand or power, and which may be readily changed from the condition of a circular cam knitting machine for knitting plain tubular goods, in which condition it may be operated with great rapidity, to the condition of a family machine which may be used either for making tubular goods at a slower rate or articles of wearing apparel.

**MANUFACTURE OF FELTED FABRICS, AND WEARING APPAREL AND OTHER ARTICLES FROM THE SAME.**—John Falconer, New York city.—The first part of this invention relates to an improved method of laying the fibers for bats, felts, waddings, and other similar goods so that they may be crossed and interlaced in all directions, for the purpose of causing them to adhere more firmly together, and thereby produce fabrics of durable quality. The second part of the invention consists in forming seamless articles of wearing apparel and other articles from the fabric above described. This fabric is especially adapted for this purpose by reason of the interweaving of the fibers.

**BRICK MACHINE.**—Peter Haydon, Pittsburgh, Pa.—This invention relates to a new and improved machine for molding and pressing bricks, and it consists of an improved means for conveying the clay from the crushing mill to the press boxes, and also in a novel and improved construction and arrangement of parts for molding and compressing clay and discharging the same after being compressed.

**STEAM BOILER.**—J. E. Culver, Hudson City, N. J.—This invention relates to a new method of utilizing the heat force created in a steam boiler, and consists in the employment of a steam engine and an atmospheric engine for that purpose.

NEW BOOKS AND PUBLICATIONS.

**HYDRAULIC MOTORS.** Translated from the French Cours De Mecanique Appliquee par M. Bresse Professeur de Mecanique a l'Ecole des Ponts et Chaussees. By F. A. Mahan, Lieutenant U. S. Corps of Engineers. Revised by D. H. Mahan, LL.D., Professor of Civil Engineering, etc., United States Military Academy. New York: John Wiley & Son, 2 Clinton Hall, Astor Place.

This is a treatise of the mathematical kind which may prove a valuable college text-book but is by far too abstruse for the general reader. The mathematical formulæ are ingeniously rendered more difficult and perplexing by the profuse use of Greek letters. Why this practice is of late so generally on the increase is a still greater puzzle to common sense. There are good reasons why a Greek letter may be adopted as a symbol which shall be accepted the world over as meaning always one thing, as, for instance, the ratio of the radius of a circle to its circumference; but why they should be used in algebraic instruction in preference to the much shorter and more convenient Roman letters, is to us an enigma; unless a vain display of apparent profundity is aimed at. The work in hand is undoubtedly valuable, notwithstanding the fault we have pointed out, but the readers who have the requisite mathematical knowledge to read it with advantage, are few in comparison to all who would like a book on the same subject treated in a less ambitious style.

ASSOCIATION MONTHLY

Is the title of the new journal started under the auspices of the Young Men's Christian Association of this city. It is edited by R. C. Morse, and gives promise of being an interesting and valuable means of instruction to thousands of young men who enter into sympathy with this Association and its objects. Terms, \$1.00 per year.

THE COURT CIRCLES OF THE REPUBLIC.

Such is the title of Mrs. Ellet's new book now going through the press of the Hartford (Conn.) Publishing Company. This fine work is to contain steel engravings of some of our notable ladies, accompanied by cleverly written sketches. It is a subscription work, and agents are wanted to dispose of it throughout the State.

We are in receipt of the first numbers of "Nature," a new weekly illustrated journal of science, published by Macmillan & Co., London and New York. It is devoted to rather abstract scientific discussions and the record of scientific events. This new journal will be apt to find favor among the professed scientists of the day, but will hardly become a popular journal in the broadest sense. It is printed in excellent style.

ONE of the best of our exchanges is the "Commercial Bulletin," published by Curtis, Gould & Co., 129 Washington street, Boston. As a business and commercial paper it occupies a prominent position among American journals, and the high literary character of its general reading and its reliability as a guide in commercial matters are widely acknowledged.

THE RICHMOND AND LOUISVILLE MEDICAL JOURNAL is still under the direction of E. S. Gaillard, M.D., Louisville, Ky. It is a very able work and has a fine list of contributors, including several well known New York physicians. Monthly. \$5.00 per annum.

APPLICATIONS FOR EXTENSION OF PATENTS.

**SPRING PLATFORM FOR RAILROAD CARS.**—Charles H. Lewis, of Malden Mass., has petitioned for an extension of the above patent. Day of hearing March 9, 1870.

**WATER METER.**—Andrew J. Sweeney, Boston, Mass., has petitioned for an extension of the above patent. Day of hearing March 9, 1870.

**PREPARING PHOSPHORIC ACID AS A SUBSTITUTE FOR OTHER SOLID ACIDS.**—E. N. Horsford, Cambridge, Mass., has petitioned for the extension of the above patent. Day of hearing, April 6, 1870.

Official List of Patents.

Issued by the United States Patent Office.

FOR THE WEEK ENDING JAN. 4, 1870.

Reported Officially for the Scientific American

SCHEDULE OF PATENT OFFICE FEES:

On each caveat.....	\$10
On filing each application for a Patent (seventeen years).....	\$15
On filing each original Patent.....	\$20
On appeal to Commission of Patents.....	\$20
On application for Reissue.....	\$20
On application for Extension of Patent.....	\$20
On granting the Extension.....	\$20
On filing a Disclaimer.....	\$10
On an application for Design (three and a half years).....	\$10
On an application for Design (seven years).....	\$15
On an application for Design (fourteen years).....	\$20
In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.	

For copy of Claim of any Patent issued within 30 years..... \$1  
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 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  
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- 98,460.—ASPHALT PAVEMENT.—Carl P. Alsing, New York city.
- 98,461.—MACHINE FOR MAKING NETS.—Benj. Arnold, East Greenwich, R. I.
- 98,462.—GAS MACHINE.—S. R. Ball, Hyde Park, Ill.
- 98,463.—CHILD'S CHAIR AND TABLE.—P. G. Beckley, Newark, N. J. Antedated December 22, 1869.
- 98,464.—WATER INDICATOR FOR STEAM GENERATORS.—W. G. Bell, Pittsburgh, Pa. Antedated Dec. 30, 1869.
- 98,465.—EXTENSION TABLE.—William John Boda, Dayton, Ohio.
- 98,466.—COMPOSITION FOR DYEING AND COLORING LEATHER, HIDES, AND SKINS.—Charles Bond, New York city.
- 98,467.—CATTLE STANCHION.—N. W. Boody, Westbrook, Me.
- 98,468.—COACH LAMP BRACKET.—Thos. Boudren, Bridgeport, Conn.
- 98,469.—CHANDELIER.—Thomas Buckley, New York city.
- 98,470.—DRYER.—A. W. Cox and Wm. Gause, Indianapolis, Ind.
- 98,471.—CULTIVATOR.—B. S. Cox, Paulsborough, N. J. Antedated Dec. 22, 1869.
- 98,472.—SWITCH STAND FOR RAILWAYS.—N. N. Dale, Plymouth, Ind.
- 98,473.—CARRIAGE AXLE.—David Dalzell, South Egremont, Mass.
- 98,474.—ICE SLED.—Levi Darozir (assignor to himself and N. Nalette, Worcester, Mass.
- 98,475.—SPOKE SHAVE.—Joshua Davies, Muskegon, Mich.
- 98,476.—GARMENT HANGER AND SIZE TICKET HOLDER COMBINED.—Isaac Deaky and T. A. Jennings, Seneca Falls, N. Y. Antedated Dec. 24, 1869.
- 98,477.—ASH SIFTER, LEACH, AND SMOKE HOUSE.—D. W. Doan, Rochester, N. Y.
- 98,478.—AUTOMATIC VACCINATING INSTRUMENT.—Chas. H. Eccleston, Oxford, N. Y. Antedated Dec. 24, 1869.
- 98,479.—PAPER CLIPS.—G. W. Emerson, Chicago, Ill.
- 98,480.—CAST-IRON PAVEMENT.—Alonzo Farar, Longwood, Mass.
- 98,481.—SPRINKLING POT.—Warren L. Fish, Springfield, Mass.
- 98,482.—ROTARY PUMP.—J. T. Foster, New York city.
- 98,483.—STERRING PROPELLER.—F. G. Fowler, Norwalk, Conn.
- 98,484.—LAMP CHIMNEY.—S. W. Fowler, Brooklyn, N. Y.
- 98,485.—COVER FOR SEWING MACHINE.—E. F. French, New York city.
- 98,486.—HAY SPREADER.—C. R. Frink, Norwich, N. Y.
- 98,487.—MANURE DRAG.—Wm. Geahr (assignor to himself and George Duchman), East Earl township, Pa.
- 98,488.—GUARD FOR CARRIAGE STEPS.—R. H. Goodwin, Boston, and G. L. Gamage, Lynn, Mass., and E. J. P. Goodwin, Manchester, N. H.
- 98,489.—BURGLAR ALARM.—Hiram Green, Norwalk, Conn.
- 98,490.—SECTIONAL STEAM GENERATOR.—John Griffith, G. W. Wundram, and T. M. Muller, New York city.
- 98,491.—MACHINE FOR MAKING ROPE.—B. S. Hale and J. B. Hale, Lowell, Mass.
- 98,492.—REIN HOLDER.—Jones Harding, Detroit, Mich.
- 98,493.—MODE OF SECURING LASH IN FLY NET.—Moses Heitman, Lebanon, Pa.
- 98,494.—BOLT WORK AND DOORS FOR SAFES.—J. C. Hintz, Cincinnati, Ohio, assignor to Charles Diebold and Jacob Kienzle.
- 98,495.—BRICK MACHINE.—J. S. Hobbs and L. R. Elder, West Falmouth, Maine.
- 98,496.—FURNACE FOR DEOXIDIZING IRON ORE.—Abram W. Honsinger, Rome, N. Y.
- 98,497.—DRILLING, RIVETING, AND WATCH JEWELING APPARATUS.—C. Hopkins, Philadelphia, Pa. Antedated December 30, 1869.
- 98,498.—ARRANGEMENT OF THE PENDULUM IN CALENDAR CLOCKS.—H. B. Horton (assignor to himself and Herry Platts), Ithaca, N. Y.
- 98,499.—THRILL COUPLING.—Bennet Hotchkiss, Fair Haven, assignor to himself and W. J. Clark & Co., Southington, Conn.
- 98,500.—KNITTING MACHINE.—Henry A. House, Bridgeport, Conn.
- 98,501.—LEAD PIPE COUPLING.—Jacob Hoyt, New York city. assignor to J. O. Morse, Englewood, N. J.
- 98,502.—BOX FOR COFFEE, SPICES, ETC.—H. W. Hutchins, Livermore Falls, Me.
- 98,503.—SAND CHAMBER FOR WELL PUMPS.—E. C. Johnson, Williamsport, Pa. Antedated Dec. 24, 1869.