

Recent American and Foreign Patents.

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

PRINTER'S FURNITURE.—In this invention a chase is used with side sticks having inclined planes upon one side, which are worked to clamp the types by other movable sticks, with counter inclines operated by screws, friction rollers being used between the inclined planes. It is the invention of W. H. Windsor of Little Rock, Ark.

HYDROCARBON VAPOR BURNER.—Thomas Ward and Henry C. Hunt, of Chicago, Ill.—In this burner, jets of vapor are deflected downwards by a concave flange, and, when again ignited, heat the body of the burner, which latter conducts the heat down to the reservoir, and vaporizes the liquid. The jets issue from apertures pierced through the bottom of a groove formed in the body of the burner, immediately below the concave flange. The groove serves to intensify and retain the heat.

HOT AIR FURNACE.—A new general arrangement of smoke passages, air pipes, openings, and covering domes, is employed to regulate and to produce more or less heat, and to economize fuel. Invented by James M. Blackman, of Decarrah, Iowa.

FEEDING BLAST FURNACES.—An improved valve arrangement is employed by the inventor, to distribute coal ore and fluxes more evenly than has heretofore been done. A V-shaped circular shell, consisting of two conical, bottomless cup-shaped vessels joined at the smallest ends, is made to fit the top or throat of the furnace. A valve apparatus of peculiar construction works at the bottom of this shell and in the throat of the furnace, to accomplish the objects above set forth. Patented by Leven S. Goodrich, of Waverly, Tenn.

WASHING MACHINE.—By means of a lever and a series of links or toggles, the inventor, John Brown, of West Manchester, Ohio, squeezes the clothes between pivoted beaters, working in a metallic tub heated by a suitable furnace.

WATER WHEEL.—This invention consists of improvements in a wheel patented in 1869, being a horizontal wheel taking water on one side and discharging on the other. It has for its object an improved arrangement and operation of the gates, and improved general arrangement of the parts of the wheel, which are claimed to add to the efficiency of such wheels. Invented by William J. Thompson, of Springfield, Mo.

BOBBIN WINDING MACHINE.—This invention provides certain devices in connection with the faller wire or guide and the driving mechanism for the band cylinders, so that under one adjustment the yarn may be wound in the required conical form upon cylindrical bobbins, and by another adjustment it may be wound on bobbins having conical bases. The combination is an ingenious and useful one, and increases the capacity of this class of machines. It is the invention of Warren A. Tolman, of Richmond, Ind.

ARBOR FOR SAWS AND GROOVING TOOLS.—Jacob Rand, of Boston, Mass., has invented an arbor for saws and grooving tools, by which it is designed to adapt arbors for holding tools for grooving, rabbeting, matching, sash-sticking, and beading, so that the one arbor table and driving gear may be utilized for various kinds of work, the tools only being changed. The neck of the arbor is made longer between the fixed collar and the screw threaded part, by which the clamping nut is applied, and when the saw is to be used, a long sleeve or washer is applied between the nut and the loose collar. The neck has a radial mortise through it next to the fixed collar for the application of grooving, beading, rabbeting, or other tools of like character, which are passed through the mortise and clamped against the fixed collar, by the clamping nut screwing directly against the loose collar, the washer being removed to compensate for the thickness of the tools. These tools vary considerably in width, so as not to fill the mortise in the neck; consequently a clamp screw is placed in the end of the arbor for holding the tools temporarily after being adjusted, and until the collar can be screwed up.

SCROLLS FOR OPERATING THE CARRIAGES OF SPINNING MULES.—This invention consists in a variable or adjustable scroll of peculiar construction on which the carriage-operating cord works over pins in the side of the wheel, which are adjustable towards or from the center at any part of the said wheel, which makes about one revolution for moving the carriage out or in. By shifting the pins at different points around the wheel towards or from the axis of the wheel, the carriage may be made to move fast or slow at any part of its movements out or in, as may be required by the nature of the work in hand. William Bond, of Windsorville, Conn., is the inventor of this improvement.

GRAIN BINDER.—This invention relates to a new attachment for binding grain on the harvester immediately after it has been cut, and without any more attention than is necessary to throw the twisting and binding mechanism into and out of gear. A band gatherer and twister is used, which takes the straw from the sheaf and forms it into a band. This twister is a sliding carriage, which, by and during its longitudinal movement, first pulls the straw from the sheaf and then feeds it back during the winding of the band around the sheaf. The twister contains a rotary shaft which twists the straw into the band while pulling it from the sheaf. A pivoted cradle in which the sheaf is deposited during the entire band making and winding operation is also employed. This cradle holds the sheaf in line with the shaft of the twister while the band is being made, and carries it at right angles thereto to let the band be wound around the sheaf. The cradle is provided with a claw frame or pair of tongs for retaining and finally releasing the sheaf. The machine is the invention of Charles G. Dickinson, of Poughkeepsie, N. Y.

STOP MOTION FOR WARPING MACHINES.—This invention relates to improvements in stop motions for warping machines. It consists in a novel arrangement of apparatus for throwing off the belt shipper, to be set in action by a hook or detector of wire let fall when a thread breaks upon a revolving grooved roller. A novel construction of a friction ratchet wheel is applied to the roller for driving the warp beam, and used, together with a holding pawl, to be let fall upon it by the shipper lever at the same time that the latter is thrown off to arrest the said roller and warp beam as soon as may be after the belt is thrown off. Invented by Paul Wilson and James Hunter, of Manchester, N. H.

WATER COOLER.—Thomas J. James, Petersburg, Va.—This invention consists in an apparatus for cooling drinking water by means of a comparatively small quantity of ice placed in a separate chamber beneath the water reservoir, through which chamber passes a small pipe from the reservoir which conducts water through the ice chamber without discharging any water into the latter, said pipe emptying into a second reservoir below the ice chamber, the bottom of the latter forming the top of said second reservoir, and said bottom being of sheet metal, and in shape an inverted cone, from the apex of which the melted water from the ice drips into a pan beneath the lower reservoir; the water in the latter being cooled by contact with said conical bottom.

BROADCAST FERTILIZER DISTRIBUTOR.—James P. Machen, Centerville, Va.—This invention consists in a series of scrapers which rest on the upper part of a distributing cylinder of a broadcast sower, and are hinged to a bar at the side of the same, which scrapers clean the surface of the cylinder as the latter revolves, while, at the same time, they present but a very trifling obstacle to its rotation.

FEEDING MECHANISM FOR SEWING MACHINES.—A novel arrangement of toggle levers, etc., is employed to give a sudden upward movement, but only a gradual horizontal adjustment of the feed, so that the change from each horizontal stroke will be quite rapid and effective, while the stroke itself is quite gradual. This obviates the objections to a curvilinear motion of the feed, which prevents it from taking proper hold at the beginning and end of the stroke. Invented by Philip Diehl and Ludwig Oehring, of Chicago, Ill.

FORCE PUMP.—James A. Sinclair, Woodfield, Ohio.—This invention relates to a pump, in which a chamber of peculiar construction is placed within the well, above the surface of the water therein, for the purpose of receiving water therefrom, and in which a globular reservoir is employed, the same being placed outside the well, but connected with the chamber above-aid by means of a pipe.

LADDER STAND.—Daniel R. Burkholder, Plainfield, Pa.—This invention consists of a stand for holding a ladder of any height and at any inclination, by the foot solely, no support at the top being required, so that a ladder resting on this foot may be used for ascending into the air where there is no building, or for going up by the side of a wall that is too weak to sustain the weight of a ladder.

BROADCAST FERTILIZER DISTRIBUTOR.—James P. Machen, Centerville, Va.—This invention relates to sundry improvements in a machine, whereby fertilizers are distributed broadcast upon the land, said improvements having special reference to the combination of the distributor, cleaner, sieve, and stirrer; also to an arrangement whereby hard substances are ejected from the receiver without injury to the distributor, and to other arrangements, all of which tend to increase the efficiency of the machine.

SLIDE VALVE.—Joseph M. Coale, Baltimore, Md.—This invention has for its object to reduce the friction of the slide valves of steam engines to its minimum by the interposition of anti-friction rollers between the valve and a supporting bridge which prevents undue pressure of the valve upon its seat.

FIREPLACE FENDERS.—This improvement consists simply in the attachment of casters to fenders, by means of screw threaded shanks extending up through ears, the shank having nuts screwed thereon. It is the invention of Charles C. Alger, of Pittsburgh, Pa.

REVOLVING URN STAND.—This invention provides a convenient and tasteful revolving stand for hot water urn, spices, sugar glasses, spoons, etc., used in preparing mixed drinks in bar rooms. Patented by William John Evans, of New York city.

CUPS FOR BOBBIN WINDING MACHINES.—John W. Vaughan, of New York city, has made in this invention an attempt to obviate the friction on the side walls of the slots of the glass cups on bobbin winding machines. He does this, he says, successfully, by so mounting the cups that they have freedom to be moved by the thread. He says in his specification: "I have found, in practice, that when mounted in this way they are kept in such rapid vibration as to agitate the air and induce currents, which, acting against the cups, take away the heat, so that I have no difficulty in winding the most highly colored threads which, up to this time, it has been exceedingly difficult, if not impossible, to wind without scorching or greatly damaging them by heat."

TOBACCO PIPE.—William G. Ruge, of Holstein, Mo.—This invention consists in making the bowl of a tobacco pipe reversible, so that when a charge of tobacco is nearly smoked out, the bowl may be again charged, and then reversed, so that the fire may ignite the new charge.

CULINARY BOILER.—This is a device for keeping cooked food warm, as long as requisite. It consists of a vessel designed to hold hot water, and to be set upon the top of a stove, while it has upper compartments, in which the articles to be kept warm are placed. Invented by Frederick Meyer, of New York city.

COMBINED VISE AND ANVIL.—This is a novel combination of a vise and anvil. The vise is made in the usual manner of a bench vise, and let into a dovetail in the butt end of the anvil, where it is held by a suitable bolt. Harvey V. Brown, of Warren, Ill., is the inventor.

CLAMP FOR THILL COUPLINGS.—William Boyd, of Hartford, N. Y.—The object of this invention is to provide a simple and convenient implement for drawing the eye of a thill iron into place, in a thill coupling, against the elasticity of the rubber used to deaden the sound, so that the coupling bolt can be readily inserted. The inventor accomplishes the end sought, by means of a lever with adjustable claws, which in use are hooked upon the eye of the thill iron, the lever having pivoted to it a slotted bar, which engages the rear end of the clip yoke.

BAGATELLE.—The general principle, or character, which distinguishes this parlor bagatelle from others hitherto known to the public, consists in combining gravity with muscular power, to act as antagonistic forces; the one impelling against the action of the other until the muscular power is spent, when gravity moves it until arrested. This is accomplished by inclining the table at an angle to a horizontal plane. A tensionspring is applied to a piston that propels the ball, whereby the desired quantity of force may be given and graduated by the eye. Central cups, of course, prevent the approach of the balls to the cups except in one direction, and create difficulty in counting at these points. Gates in front of the courts break the force of the momentum acquired by the ball in descending the declivity. Invented by Montague Redgrave, of Cincinnati, Ohio.

APPARATUS FOR ILLUSTRATING TRIGONOMETRY.—This is an instrument containing all the parts used in plane trigonometry, scaled alike, and so constructed that as the secant moves around the quadrant, and settles at any degree, and the other parts are placed in their relative positions, their scales announce the lengths of all, and, compared with the theory as taught in standard works, give the same results, thus showing to the eye what causes these changes of proportion, thereby fixing the theory in the mind. The instrument is made so that the limbs will slide on the radii, and the secant will turn on the center, and that a suitable connection of the secant with the co-tangent will be made, where they traverse each other, that will admit of the turning of the one and the sliding of the other, and extensions of the sine and co-sine, connected together at the ends which meet at the junction of the sine and co-sine. They are confined to the latter by clips, which admit of their sliding freely. The scale on it is nine parts to the inch, each part being eleven and one ninth hundredths; hence, by using it by attaching to any place on the sides, any decimal can be obtained. The parts are all scaled on one edge, as on the sides, and each limb is marked positive for that quadrant, but negative for the other; that is, on sine, secant, and tangent of the quadrant shown, is marked, on opposite sides, the co-sine, co-secant, co-tangent, and *vice versa*, so that a positive line on one quadrant may be negative on the other, and so on around the circle. This instrument assists in explaining the expressions used in the text books, and does by actual work what is claimed for imaginary lines. By the use of the secant line and radius, it determines latitude and departure of any course and distances, as the traverse table of the standard works, and these sides show to the learner what is meant by the expressions "Dist.," "Lat.," "Dept.," and "Degree of the tables." It can also be used in measuring lines to inaccessible objects, and getting heights of any altitude, and the degrees of any ascent, by using the instrument as a theodolite, or for getting railroad curves of any radius or degree. In the hands of the student of mathematics, all the theory is obtained for transit and chain work, the secant representing the line of vision or direction of lines, the radii the points of the compass, and the scaling the distances required. Those familiar with trigonometry will, by comparing this description with the figures usually employed to illustrate definitions, be able to comprehend the use and operation of the instrument. Edwin A. Hickman, inventor, Independence, Mo.

WASHING MACHINE.—This invention consists in a roller, or shaft, covered with sponge, and a fluted or ribbed roller arranged together in a case, or tub for passing the clothes between them, the fluted or ribbed roller being so arranged as to compress the sponge at the same time that it presses the clothes upon it, in such a manner that the water is forced through the clothes in a way claimed to be very efficient in cleaning them. Invented by Nathan Booth, of Cheshire, Conn.

TASSELS.—This invention relates to that class of tassels which has the blocks made of glass. They have heretofore been made in a number of parts, or sections, held together by a metal tube inserted through them, and strung, like beads, upon a string passing through the tube. These sections, and the flanged metal tube that holds them together, make them very expensive to the manufacturer, and, of course, correspondingly so to the public. Again, the perforations necessary to be made in them, and the joints between the sections, are receptacles for dirt. In order to clean them, they must, each time, be taken apart, and each piece cleaned by itself. Again, moisture penetrates the joints and rusts the metal tube. This invention overcomes these objections by making this ornamental block weight of solid glass. Invented by James Norman, of Brooklyn, N. Y.

RAILROAD CAR STARTER.—An arrangement of gears and shifting apparatus with one of the axles and a spring, causes the spring to arrest the car, the spring being stretched by the winding of a cord or chain on a drum, and when starting, the gears being properly shifted, the power thus stored up is

expended to set the car in motion. Arthur Amory, of New York city, is the inventor.

WAGON AXLE.—Combined wrought and cast metal journals are made by casting an outer wearing surface upon an inner wrought iron extension of the axle, by which a hard-chilled wearing surface strengthened by a wrought iron core to protect it against breaking, is obtained. An arrangement of the cast metal part for bracing the wrought iron part at the junction with the cast metal by the wood part of the axle when wood, is also employed. The extension of the wrought or rolled iron part of an axle may comprise the iron part of a combined iron and wood axle, or the whole of an iron axle for light wagons. This extension is made smaller than the hole in the wheel and an outer wearing part is cast around it for the axle, and chilled in the casting to form a more durable journal than the soft iron would, and a stronger one than cast iron alone. A collar is formed on the cast metal part, and extended along the wrought metal some distance, for strengthening the latter, and in case a wood piece, such as is common in heavy wagons is used, a groove is made in the upper side of the extension with a slanting bottom, and the wood piece is fitted thereby for bracing the wrought iron part. The extension is provided with spurs for locking the cast metal on it. John and Peter Herrmann, of Tell City, Ind., are the inventors.

APPLICATIONS FOR EXTENSION OF PATENTS.

CORN SHELLER.—Andrew Dillman, of Joliet, Ill., has petitioned for an extension of the above patent. Day of hearing, August 23, 1871.

MOWING MACHINE.—George C. Dolph, West Anover, Ohio, has petitioned for an extension of the above patent. Day of hearing, August 23, 1871.

CHAIN MACHINE.—Lauriston Towne, Providence, R. I., has petitioned for an extension of the above patent. Day of hearing, October 4, 1871.

Value of Extended Patents.

Did patentees realize the fact that their inventions are likely to be more productive of profit during the seven years of extension than the first full term for which their patents were granted, we think more would avail themselves of the extension privilege. Patents granted prior to 1861 may be extended for seven years, for the benefit of the inventor, or of his heirs in case of the decease of the former, by due application to the Patent Office, ninety days before the termination of the patent. The extended time inures to the benefit of the inventor, the assignees under the first term having no rights under the extension, except by special agreement. The Government fees for an extension is \$100, and it is necessary that good professional service be obtained to conduct the business before the Patent Office. Full information as to extensions may be had by addressing

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Official List of Patents.

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FOR THE WEEK ENDING JUNE 6, 1871.

Reported Officially for the Scientific American.

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- 115,555.—BOLT HEADER.—J. R. Abbe, Providence, R. I.
- 115,556.—WHIP SOCKET.—W. R. Allen, Stockton, N. J.
- 115,557.—GAS METER.—A. W. Almquist, F. W. Ofeldt, New York.
- 115,558.—SHOOTING IRON.—W. A. Andrews, Columbus, Ohio.
- 115,559.—FURNACE.—J. P. Arey, Georgetown, Colorado.
- 115,560.—FLY BRUSH.—H. E. Aughinbaugh, Harrisburgh, Pa.
- 115,561.—SEPARATOR.—A. H. Balch, W. D. E. Nelson, Montreal, Canada.
- 115,562.—CARBURETING ATR.—J. F. Barker, Springfield, Mass.
- 115,563.—SWAGE.—Elezar Bless, Indianapolis, Ind.
- 115,564.—DRYING SALT.—G. C. Briggs, Boston, Mass.
- 115,565.—CLEANING PRIVIES.—H. C. Bull, New Orleans, La.
- 115,566.—BOOT AND SHOE.—D. H. Campbell, Scotland, and E. Woodward, Charlestown, Mass.
- 115,567.—SHOE PEG.—D. H. Campbell, Scotland, and E. Woodward, Charlestown, Mass.
- 115,568.—HOE.—J. S. Carroll, Covington, Ga.
- 115,569.—MOLDING GLASS.—D. Challinor, Birmingham, Pa.
- 115,570.—VARNISH.—C. V. Chapin, Collinsville, Conn.
- 115,571.—SHEARS.—John Christy, Clyde, Ohio.
- 115,572.—EVAPORATING LIQUIDS.—G. Clark, Buffalo, N. Y.
- 115,573.—PURIFYING BRINE.—G. Clark, Buffalo, N. Y.
- 115,574.—EYE GLASS.—Isaac Clements, Fort Ann, N. Y.
- 115,575.—SWAGE.—B. Coddington, La Fayette, Ind.
- 115,576.—GAMES.—G. A. Coffin, Cincinnati, Ohio.
- 115,577.—VALVE.—W. A. Cogswell, Rochester, N. Y.
- 115,578.—WATER WHEEL.—A. D. Cole, Toronto, Canada.
- 115,579.—MEAT CUTTER.—F. Covert, Farmer Village, N. Y.
- 115,580.—EARTH CLOSET.—R. A. Cowell, Cleveland, Ohio.
- 115,581.—BOOT HEEL.—A. O. Crane, Boston, Mass.
- 115,582.—SCREW DRIVER.—J. P. Curtiss, New Britain, Conn.
- 115,583.—WAGON SEAT.—J. A. and W. F. Dann, New Haven, Ct.
- 115,584.—OAR.—Nelson Davenport, Troy, N. Y.
- 115,585.—CORK SCREW.—Walter Dickson, Albany, N. Y.
- 115,586.—GAS RETORT.—C. F. Dieterich, A. Schussler, New York.
- 115,587.—CUTTER.—R. H. Dorn, Port Henry, N. Y.
- 115,588.—METAL PIPE.—J. T. Fanning, Norwich, Conn.
- 115,589.—CONVERTING MOTION.—L. S. Fithian, Brooklyn, N. Y.
- 115,590.—GRATE.—D. A. Flood, D. W. Brown, Woodbridge, N. J.
- 115,591.—GAS MACHINE.—T. B. Fogarty, Brooklyn, N. Y.
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