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48,502.—Converting Rotary into Reciprocating Motion.

—S. F. Ames, Stamford, Ky.:
I claim the combination and arrangement of rock shaft, A, the inclined plane wheel, B, the fly-wheel, C, shaft, D, and anti-friction rollers, a, a, constructed, arranged and operating as for the purpose herein described and set forth.

48,503.—Buckle.—Truman G. Bailey, Wassau, N. Y.:

I claim the jaws, C, D, with their inclined faces, C', D', and tongue or spur, G, arranged relatively to the inclosing strap, B, and parts, B, E and F, or their equivalents, substantially in the manner and for the purpose herein set forth.

48,504.—Hydrant.—William Bailey, Troy, N. Y.:

I claim the detachable valve chamber, E, with its discharge pipe, M, inlet valve-seat and screw opened inlet valve, A, in combination with the fixed supply pipe, O, united to the said valve chamber by male and female screws, N, and arranged in the hydrant box, Z, Fig. 4, substantially as herein described.

And I also claim the valves, A and B, and screw, C, all fast together, in combination with the stationary screwnut, D, valve chamber, E, inlet passage, F, discharge pipe, M, waste opening, I, and valve seats, G and J, as herein described.

48,505.—Socket for Hoe, Chisel, Etc.—Geo. Banister, Hartford, Vt.:

I claim the method of forming the shank or stem on the part to which the socket is to be attached, and of uniting it to a sheet-metal band or ferrule, so as to form an additional layer of metal to give the socket an increased thickness and strength near the bottom or smaller part thereof, substantially as herein shown and described.

48,506.—Artificial Fuel.—R. B. Bayard, Philadelphia, Pa.:

I claim the combination of petroleum or rock oil with vegetable fiber and coal dust in about the proportions herein specified.

48,507.—Egg-holder and Packer.—O. T. Bedell, New York City:

I claim an egg-holder and packer produced from a disk or plate, A, provided with or without a central hole, a, and with a series of pockets, B, each capable of holding an egg, substantially as herein set forth.

48,508.—Top for Muclage Bottle.—John W. Boughton, Appleton, Wis.:

I claim the combination of the compressible pad around the brush handle with the pressure cap, substantially as described and for the purposes set forth.

48,509.—Lubricating Material for Wool.—Henry Botemley, Camden, N. J.:

I claim the use for lubricating wool, preparatory to carding or spinning the same, of the secretion, extracted from the wool.

48,510.—Covering for the Head.—Thomas Bracher, New York City:

I claim as a new and improved article of manufacture a covering for the head made of open weave cloth, combined by adhesion with the material to form the outer surface of the hat, bonnet, etc., substantially as described and for the purposes specified.

48,511.—Sewing Machine.—E. F. Bradford and L. L. Barber, Boston, Mass.:

We claim, First, The thread feed, in combination with a hook or barb needle, either with or without an awl, substantially as described.

Second, The employment of the feed finger, B, in combination with a hook needle and awl, substantially as and for the purpose described.

Third, Arranging the end of the feed finger, B, so as to slide and act upon the double thread or loop, within a slot or hole in the sewing plate, and with its upper surface either just below or flush with the surface of the plate, substantially as and for the purpose described.

Fourth, The combination and arrangement of the finger, B, with the hook needle, F, and automatically rising presser foot, D, substantially as and for the purpose described.

48,512.—Sulky Plow.—James Brewer, Albany, N. Y.:

I claim, First, Making one of the standards, E, E', with the plow beam in its proper position, yielding to a certain degree, for the purpose of permitting the plow to pass obstructions which are in its line, and which are too hard to cut, substantially as and for the purpose specified.

Second, The combination with the plow beam of the rigid standard, F, yielding standard, G, screw bolt, O, and springs, P, substantially as and for the purposes specified.

Third, Hanging the plow beam of a sulky plow between two standards in such a manner that the operation of the plow is not affected by the passage of the supporting wheel over rough or uneven ground, as and for the purposes specified.

Fourth, In combination with the plow and its beam, G, herein described, of the generally adjustable castor wheel, H, when fastened to the rear of the plow beam, substantially as and for the purposes specified.

Fifth, Connecting the hound in the furrow side to the pole by means of a hinge, S, for the purpose of making it and the furrow wheel adjustable, as and for the purposes specified.

Sixth, The combination with the tooth lever, L, and plow beam, G, when capable of rotation within the standards, I, of the friction rolls, A, as and for the purposes specified.

Seventh, In combination with the plow beam, G, and tongue, P, the adjustable beast yoke, Q, for the purpose of cutting more or less land, as herein described.

48,513.—Breaching Hook for Vehicles.—Edwin Brown, Leominster, Mass.:

I claim, First, The construction of a breaching hook, by combining with a fixed standard a rigid hook swinging upon said standard, as described, so that the breaching strap shall be released by the displacement of the hook, substantially as herein described.

Second, In combination with a fixed standard and movable hook, I claim a spring actuating the hook, and located in relation to the hook and standard, as described.

48,514.—Dumb Bell.—D. P. Butler, Boston, Mass.:

I claim the series of movable shells held together and the spindle or handle by a half-joint on each set of shells, and a screw, G, passing through the center of each shell and into the spindle, substantially as set forth.

I also claim, The sectional handle, B, made in two parts, fitting upon and detachable from a central spindle, a.

Also, The employment of the rings, F, interposed between the handle and shells, for increasing the length of the handle, substantially as set forth.

48,515.—Machine for Boring Wells, Etc.—Malcolm Campbell and Job H. Cole, Philadelphia, Pa.:

We claim corrugating or otherwise indenting the contact surfaces of the lifting cam and drill stock, so that the lifting will be positive and without liability to slip, substantially as described.

We also claim hanging the lifting-cam shafts in adjustable and self-yielding boxes of bearings, as and for the purpose described.

We also claim, in combination with the drill stock and its lifting cams, the counterpoise, P, for aiding in raising the drill, when, from its extreme length, it becomes very heavy, and to equalize the force with which it falls, substantially as described.

48,516.—Machine for Making Sheet-metal Pans.—Chas. F. Chambers, Hutsenville, Ill.:

First, I claim the angling rollers, E, E', or their equivalents, placed at an suitable inclination, to press the sheet-metal from the center outward, as described and set forth.

Second, The set screws, m, m', and c, or their equivalents, for throwing the operating forms out of line with the remaining one, substantially as described.

Third, In this combination I claim the gage, O, when attached to the gate, D, for the purpose of regulating the depth of the pans, in the manner set forth.

48,517.—Pipe Coupling.—James Chambers, Boston, Mass.:

I claim a pipe-coupling, composed of two or more sections of a cylinder, having their contiguous edges provided with cleats or tenons, h, h', and fastened by keys, F, F', provided with dove-tail wedge-shaped mortise, m, or their equivalents, substantially as set forth and for the purpose described.

48,518.—Cast-iron Steam Generator.—John Chilcott, Brooklyn, N. Y. Antedated June 21, 1865:

I claim a steam generator, composed of tiers of arch-sided polygonal cast-iron water and steam tubes, arranged substantially as herein described, to form flues between the tiers.

48,519.—Machine for Stacking Straw.—D. M. Cochran and A. Gear, Richmond, Ind.:

We claim, First, The combination of a folding straw stacker, which is constructed of sections, with the hanging posts or beam, B, and rod, i, when these are used for confining and supporting the stacker in transportation or in operation, substantially as herein described.

Second, The combination of the guard or side boards, e', of the section, D, with an adjustable stacker, and the box, A, of a thrashing machine, substantially as described.

Third, A hinged or pivoted deflector, H, applied at the discharging end of the stacker, substantially as described.

Fourth, The hinged apron, H', in combination with a device or lever for detecting the straw from the wind at its point of discharge from the stacker, substantially as described.

Fifth, A folding sectional stacker, which is susceptible of being elevated or depressed without leaving wind openings at the side of the lowest section, and which is arranged and combined with the rear end of a thrashing machine in such manner that it can be folded beneath the same, substantially as described.

48,520.—Flour Sifter.—D. C. Colby, New York City:

I claim, First, The use of the shaft, B, provided with one or more rows of the strips, g and h, in combination with the box, A, and the sieve, J, and with or without the screen, m, substantially as described and for the purposes set forth.

Second, I claim the combination and arrangement of the box, A, the standards, D, D', the rod, k, and the strips, E and F, as and for the purposes set forth.

I claim the use of the V-shaped split ring, D, applied in combination with the head, A, and chuck, B, in the manner and for the purpose substantially as set forth.

[This invention consists in the employment or use of a split metal ring, V-shaped on its inner edge to fit into a corresponding screw at the inner ends of the wooden chucks and provided with a screw-thread on its circumference to screw into the metal head calculated to hold the chucks in such a manner that in order to attach a chuck to a metal head nothing is required but to furnish its inner end with a screw corresponding in size and shape to the V shaped splitting. A stud projecting from the inner circumference of one half the split ring and catching in a corresponding hole in the wood prevents the ring from slipping while the chuck is screwed on the metal head.]

48,522.—Apparatus for Boiling and Evaporating Saccharine Liquids.—D. M. Cook, Mansfield, Ohio:

I claim, First, The construction of cellular or tubular boilers, substantially in the manner and for the purposes described.

Second, The combination of one or more perforated or imperforated tubes, with cellular or tubular boilers, substantially as and for the purposes described.

Third, Constructing a tubular or cellular boiler with finishing cells or chambers, substantially as described.

Fourth, The combination of two or more cellular or tubular boilers, arranged substantially as and for the purposes described.

Fifth, The combination of a lid or cover with a cellular or tubular boiler, substantially as described.

Sixth, The construction of a cellular boiler with a bottom plate, C, or its equivalent, substantially as described.

48,523.—Baling Press.—Waldo P. Craig, Milton, Ky.:

I claim, First, The tumbling box, H, substantially as described and set forth.

Second, The arrangement of tumbling box or trunk, H, trunnions, h, slots, e, and abutment, E', substantially as set forth.

Third, The combination of the U-formed clamp irons, M, M', tie bars, N, N', and grooved clamp boards or slabs, K, K', when constructed and employed as specified.

48,524.—Well Drill.—Amos Crandall, Great Bend, Pa.:

I claim the combination and arrangement of the drill, D, runner, R, shaft, S, and buckets, B, B', constructed and operating substantially as and for the purpose set forth.

48,525.—Egg Beater.—Moses G. Crane, Boston, Mass.:

I claim the combination of the rotary spindles, A, the series of curved wires or arms, a, a', and c, the pinions, B and B', and the central gear, C, the same being arranged so as to operate together, substantially as described.

48,526.—Smoother Iron.—John W. Currier, Holyoke, Mass.:

I claim the combination of the block, A, with the parts, B and C, and G, in a flat or smoothing iron for the purpose of holding the block, A, and forming a double air space around it, substantially as described.

48,527.—Segar.—Darius Davison, New York City, assignor to Oliver Davison, Lansingburg, N. Y.:

I claim, First, Forming the wrappers or cases of segars of two or more distinct pieces wound spirally around the spindle towards the cone-shaped end thereof, in reverse directions, one upon the other, and formed and finished at the cone-shaped end, substantially in the manner and for the purposes before described.

Second, Combined as a whole, I claim the making, forming and finishing segars, substantially as herein described.

48,528.—Corn Planter.—Frank Dean, Beloit, Wis.:

I claim the side, A, in combination with the roller, F, cone, E, and ring, H, arranged and operating substantially as described.

48,529.—Steam Engine.—B. Demming and D. Arcy Porter, Cleveland, Ohio:

We claim the valves, C, D, when arranged and operating in connection with four ports, in the manner and for the purpose before described.

Second, We claim the arrangement of the cam, L, and levers, H, K, in combination with the valves and valve rods, substantially as and for the purpose set forth.

48,530.—Trestle Bridge.—Andrew Derron, Patterson, N. J.:

I claim, First, Securing the cap-piece to the legs of a trestle to be used for bridges, etc., by means of one or more wedge-shaped pieces driven into the same from the under side thereof, substantially as herein described.

Second, The adjustable feet for the trestle-legs arranged upon the same, substantially as herein described and for the purposes specified.

[For an illustration and description of this invention see page 303, Vol. XII, of the SCIENTIFIC AMERICAN.]

48,531.—Screw Bolt for Fastening Railroad Chairs.—Richard James Dewhurst, New York City:

I claim the bolt with the screw part thereof formed substantially as described, as a new article of manufacture.

48,532.—Coal Breaker.—John A. Dickson, Scranton, Pa.:

I claim the construction of rings bearing teeth separated from each other by rings without teeth as above described and for the purposes herein pointed out.

48,533.—Hand-washing Device for one-armed Persons.—Gustave Dieterich, New York City:

I claim, First, A rubbing or washing surface composed of a sponge or other suitable porous substance fixed to a frame with an open or perforated bottom, substantially as and for the purpose above described.

Second, I also claim in combination the perforated plate for holding a sponge or other flexible material with a bed plate upon which it may be fitted by sliding in grooves or otherwise, substantially as described.

48,534.—Machine for the Manufacture of Aerated Bread.—John Dangleish, M. D., Reading, Eng., assignor to Steuben T. Bacon, Boston, Mass.:

I claim the process or method of operation, substantially as described.

48,535.—Hoop Cutting and Bending.—Jacob Dobbins, Litchfield, Mich.:

I claim the rotating knives, G, K, and guides, M, M', in combination with the rollers, H, N, for bending the hoops as they are cut, all substantially as and for the purpose set forth.

[This invention relates to a new and improved machine for cutting hoops for barrels, casks, etc., and it consists in the employment or use of two circular knives, arranged with guides and rollers, whereby the work may be done rapidly and in a perfect manner.]

48,536.—Metallic Cartridge Case.—Wm. C. Dodge, Washington, D. C.:

I claim a cartridge case for small arms composed of ductile metal, and coated or plated, internally, or both internally and externally, with tin or other suitable metal or alloy of metals, substantially as and for the purpose herein set forth.

48,537.—Clothes Dryer.—J. P. Dorman, Galesburg, Ill.:

I claim a series of bars, a and a', arranged parallel and at right angles to one another constituting two or more arms, B, B', substantially in the manner and for the purpose herein described.

Second, Arms, B, B, upright plate, D, bracelet plates, d, d, and hinged plate, b, so constructed and arranged as to be readily detached from the post when desired, substantially in the manner and for the purpose described.

48,538.—Machine for Bending Metal Plates.—John W. Esasby, Washington, D. C.:

I claim the combination of the patterns, E, E, adjustable bars, C, C, running transversely of the said patterns, the clamps, D, D, and bed plate, A, all constructed, arranged and operating in the manner and for the purposes specified.

48,539.—Self Inflator for Raising Sunken Vessels, Etc.—Temperance P. Edson, Cambridge, Ill.:

I claim the herein described inflator when constructed, applied and operating as and for the purpose set forth.

48,540.—Heat Radiator.—Alfred Edwards, Chicago, Ill.:

I claim the combination of the heating chamber, D, provided with inlet and outlet tubes, b, c, with the cylinder, B, and circular plate, C, arranged and operating as and for the purposes shown and specified.

48,541.—Propelling Wheel for River and Canal Boats.—Horace Fenton, Cleveland, Ohio:

I claim the adjustable wheel, A, arms E, and slots, g, in combination with gears, C, D, and friction rollers when arranged and operating jointly, substantially as and for the purpose set forth.

48,542.—Corner or Joint for Soapstone Stoves.—James H. Flagg, Perkinsville, Vt.:

I claim the corner piece of stoves for holding the sides of the stove and its flings together cast in one and the same piece, substantially as herein described.

[This invention relates to the construction of corner pieces for soapstone stoves, whereby a strong and firm stove is secured, and one which can be readily put together and taken apart, when so desired.]

48,543.—Escape Valve for Pumps.—Edward A. Floyd, Macomb, Ill.:

I claim the slide, D, constructed as shown and described, operated by the stem, F, and spring, u, as and for the purpose herein set forth.

48,544.—Shoemaker's Float.—J. W. Foard, San Francisco, Cal.:

First, Constructing shoemakers' floats so that the cutters are separate from the stock and are held therein by means of a clamping screw, substantially as above described.

Second, I also claim making the cutters, C, with double faces substantially as described.

[This invention consists in a new construction of shoemakers' floats for removing pegs and nails from the inner surfaces of the soles of boots and shoes. The cutting parts are made separate from the handles. They are also made with cutting surfaces of steel on both their faces, and also so attached to their handles as to be readily turned over or changed when one of said surfaces becomes dull.]

48,545.—Clothes Wringer.—H. G. Folger, Wadsworth, Ohio:

I claim the above described arrangement of the adjustable clamps, G, levers, L, pawls, h, arm, B, end pieces, A, bearings, b, springs, I, and brace, D, for the purposes set forth.

48,546.—Saw Gummer.—A. K. Foster, Hallettsville, Texas:

I claim the grindstone, D, with the adjustable bar, F, sliding bar H, and with the levers, J, K, and clamp or jaw, L, or their equivalents all arranged in connection with the saw, M, to operate substantially in the manner as and for the purpose herein set forth.

[This invention relates to a new and improved saw gumming machine of that class in which a grindstone is employed for performing the work. The invention consists in using in connection with a grindstone an adjustable and a sliding bar and levers one of which is provided with a jaw or clamp, and all the parts so arranged as to admit of the work being performed in an expeditious and perfect manner.]

48,547.—Piston Packing.—Andrew Fulton, Pittsburgh, Pa.:

I claim the construction of the packing of a piston so as to operate as herein described, by arranging undercut hard and soft metal rings, b, c, b, c, of the wedge form described upon a hub, A, and between heads, B, D, one of which is adjustable lengthwise of the rod, C, the said soft and hard metal rings being disposed in the order substantially as described and for the purpose set forth.

48,548.—Expanding Drill.—Franklin Cleason, Philadelphia, Pa.:

I claim the plate, C, provided with the oblique grooves, d, at opposite sides fitted within the stock, A, and adjusted by means of the nut, F, on the screw, o, of the shank, p, or an equivalent means, in connection with the cutters, D, D', fitted in the cylindrical part, B, of the stock and connected to the plate, C, by pins, g, fitting in grooves, d, substantially as and for the purpose set forth.

48,549.—Steam Engine.—William Golding, New Orleans, La.:

I claim the radius arm, G, applied in combination with the connecting rod, h, crosshead, a, link, F, and trunk, E, substantially in the manner and for the purpose herein shown and described.

[This invention consists in the application of a radius arm in combination with the connecting rod, crosshead and link connecting said crosshead with the trunk of a trunk engine in such a manner that by the action of said radius arm the vibrations of the link in the trunk is diminished and the diameter of the said trunk can be considerably reduced and at the same time the trunk is relieved of the friction and the cutting liable from the pressure of the connecting rod.]

48,550.—Washing Machine.—Ebenezer Gordon, Cedar Rapids, Iowa:

First, I claim the combination of the supporting frame, L, the rollers R, the semicircular, P, the rubbing bars, G, provided with exterior surfaces the cross bar, F, the journals, C, and slots, A, arranged as and for the purposes specified.

Second, I claim the combination and arrangement of the box, A, the removable supporting frame, I, the rollers, R, corrugated blocks, D, rubber, E G, and handle, H, operating as and for the purposes specified.

48,551.—Field Marker for Planting.—William Goltry, La Grange, Iowa:

I claim the combination of two or more runners or markers, A, A, with each other and with the connecting bars, B and C, by means of pivot pin, C', substantially in the manner and for the purpose herein set forth.

I also claim, in combination with the pivoted markers, A, A, and connecting levers, B C, the lever, D, pivoted to the bar, B, and operating substantially as herein described.

48,552.—Coating for Oil Vessels.—Stuart Gwynn, New York City:

I claim the new article of manufacture constituting a tight oil essel, lined or coated internally as described.

48,553.—Railway Car.—William Smith Hall, Quincy, Mass.:

I claim the employment of the ratchet mechanism, when operated to start the car by a chain winding upon a crank shaft or pulley, substantially as set forth.

Also the method of disengaging the pawl from the ratchet, substantially as shown.

Also combining with the starting apparatus a brake mechanism operated by foot, substantially as shown and described.

48,554.—Box, Ship, or Mast Scraper.—Chas. W. Harris, Philadelphia, Pa.:

I claim constructing a box scraper of the form substantially as described.

48,555.—Door Bolt.—Wm. H. Hart, New Britain, Conn.:

I claim making the barrel of a door shutter bolt of one piece of super metal, machined, formed and secured to the plate, d, substantially as described.

48,556.—Graduated Faucet Measure.—Geo. H. Henkle, Middletown, Ohio:

I claim, first, The frame, D E B, in combination with the measure, A, arranged and operating in the manner and for the purpose substantially as described.

Second, I also claim the faucet constructed in the manner described, in combination with the measure, A, to operate in the manner and for the purpose described.

48,557.—Combined Rake and Reel Attachment to Harvesters.—K. Hoffheins, Dover, Pa.:

I claim, first, Constructing a combined rake and reel so that the rake is independent in its revolutions of the reel upon a support which is mounted upon the hinged cutting apparatus of harvesting machines, substantially as herein described.

Second, The construction of the support, H, for the combined rake and reel, substantially as described.

Third, Securing the required motions for the rake by connecting it to a revolving ring or yoke, or coupling, and to a revolving wheel, J, which are arranged in different planes, and applied to a central shaft or axial support, substantially as described.

Fourth, The manner substantially as described of connecting the rake to its drawing wheel, J, by means of a spring bar, or its equivalent, for the purpose set forth.

Fifth, The arrangement of the four gear wheels, J, q p p', with the combined but independently revolving rake and reel, substantially as herein described.

Sixth, In a rake and reel combined, the rake revolving independently of the reel around the axis of the shaft which carries or drives the reel, I claim providing for stopping and starting the rake without disturbing the reel, and without stopping the machine or harvester, substantially in the manner herein described.

Seventh, The combination of the driver's seat of the harvester, independently revolving rake, independently revolving reel, and stopping and starting contrivance of the rake, substantially in the manner and for the purpose described.

Eighth, The combination of the extensible and flexible or jointed shaft, S, independent rake, and independent reel, substantially in the manner and for the purpose described.

Ninth, Connecting a rake which turns around the shaft, L, to opposite sides of the shaft, K, which serves as a hinge, on two sides of the shaft, L, for the rake to play up and down upon, and also as a coupling which permits the rake to revolve independently of the reel, substantially as herein described.

Tenth, The combination of an independently revolving rake and independently revolving reel, sliding clutch wheel, q, or its equivalent, and the hinging or coupling device, K, or its equivalent, substantially as and for the purpose herein described.

Eleventh, A rake which revolves or turns independently of the reel around the shaft, L, which drives or carries the reel during its entire circuit, substantially as and for the purpose described.

Twelfth, The arrangement, with an independently revolving rake and an independently revolving reel, of a contrivance for stopping and starting the rake without stopping the reel, substantially as described.

Thirteenth, Constructing a combined rake and reel in such manner that the rake and reel have independent motions of one another, although the rake moves around the shaft which carries or drives the reel, substantially as described.

Fourteenth, An independent revolving reel mounted upon a hinged cutting apparatus of a harvester, in combination with a revolving rake, substantially as described.

Fifteenth, The arrangement in a harvester of the independent reel, independent rake, hinged cutting apparatus, and stopping and starting apparatus, substantially as described.

Sixteenth, An independent reel and an independent rake combined, both revolving in a similar direction, but in different paths, about a common axis or shaft, substantially as herein described.

Seventeenth, The combination of an independent revolving rake, which is sustained at only one end, with an independent revolving reel or gatherer, which is also sustained at only one end, in such manner that the rake always maintains a position below the reel, substantially as described.

Eighteenth, The combination with a harvesting machine constructed with two driving wheels, a jointed cutting apparatus, an independently revolving rake, and an independently revolving reel—the reel and rake being mounted on the cutting apparatus—of an adjusting contrivance, which is so arranged that the driver, while riding on the machine, can adjust the cutting apparatus and the rake and reel, without stopping the machine, substantially as described.

Nineteenth, The combination of a hinged curved frame, hinged cutting apparatus, independent revolving rake and independent revolving reel, substantially as described.

Twentieth, The arrangement of the independently revolving rake and independently revolving reel upon a jointed cutting apparatus at a point forward of the axle, A, and to one side of the drive wheel, A1, substantially as and for the purpose described.

Twenty-first, The arrangement in a two-wheeled harvesting machine of a hinged supporting frame, C, a jointed cutting apparatus, a revolving reel of gatherer, and a rake with attachments or connections to the attendants of the machine, while riding thereon, can control its motions, substantially as herein described.

Twenty-second, Combining a rake and reel or gatherer in such manner that the former revolves around the axis of the latter, and also independently of it, and can be stopped and started at the will of the operator while he is riding upon the machine, substantially as described.

48,558.—Patlock.—Abraham Huffer and Nathaniel Sehner, Hagerstown, Md.:

We claim, first, A patlock provided with two bolts, one being employed to hold the hasp while the other fastens the first bolt, and constructed and arranged substantially in the manner and for the purposes set forth.

Second, We claim the use of the notch, b, in combination with

the staple, s, and spring, C and D, substantially in the manner and for the purposes set forth.

Third, We also claim the use of the hasp, or its equivalent, for moving the bolt laterally into the range of the key, substantially as specified.

48,559.—Apparatus for Separating Grease from Slush.—David H. Kaufman, Kokoma, Ind.:

I claim the combined apparatus as described, and described, consisting of the upper vat with its adjusting gate, the grated incline and the divided vat, I, L, with their communicating opening.

I further claim the vat, with its respective chambers, I, L, communicating at or near the bottom so as to act as a separator by allowing the lower or watery fluid to pass out of the chamber, which retains the grease.

48,560.—Forging Machine.—John C. Jewell, Boston, Mass.:

I claim, first, The stop, K, when arranged in connection with the hammers, G, to operate in the manner substantially as and for the purpose herein set forth.

Second, The knife or cutter, R, when arranged so as to be operated from the shaft, F, substantially as described.

Third, The device provided with the beveled projections, n, and used in connection with the pin, o, on the hub, p, of arbor, C, in combination with the sliding bar, Y, provided with the button, u, and fork, X, the pawl, v, the bar, W, connected with shaft, T, and the cam, X, on arbor, C, all arranged substantially as shown, for the purpose specified.

Fourth, The horizontal movable or turning bed, A', with sliding trough, B', attached, operated from the rock shaft, O, through the medium of the obliquely slotted plate, i', rod, D', arranged substantially as and for the purpose set forth.

Fifth, The manner of operating the trough, B', for feeding the rod to the hammers, to wit, by means of the rack, C', attached to the side, by the pinion, d, gearing into rack, C', and the ratchet, e', into which a pawl, f', attached to lever, C', catches, the lever, C', being actuated from the rock shaft, O, and all arranged substantially as described.

48,561.—Laundry Water Heater. John Keane, New York City:

I claim, first, In water-heating apparatus, connecting the branch pipes, E, F, which lead to the tub, B, with the pipes, G and L, which convey the water to the fire by means of a horizontal pipe, D, which is divided by a diaphragm, as shown, and in whose ends the pipes, G and L, are capable of turning, substantially as and for the purpose above described.

Second, I also claim the combination with boiler, H, and the circulating pipes, G and L, of a plate, K, whereby the boiler can be used with a cooking stove or range, substantially as above described.

Third, I also claim combining the water-heating apparatus above described with a tub or other vessel, B, for laundry or culinary uses, substantially as above described.

(The object of this machine is to produce a washing machine worthy of a place in the laundry, both on account of the saving of labor and of the preservation of clothes. The box to contain the suds and clothes has an abrading surface on the inside of its front, against which the clothes are brought by a frame, capable of vertical and also of horizontal motion. The inventor has given the title of "Peerless" to his washing machine.)

48,562.—Hand Corn Planter.—Clement H. Kellogg, Elyria, Ohio:

I claim the seed-distributor, A, having apertures, c, c, c, converging from opposite directions, upward and diagonally to one common point of intersection, and thence upward perpendicularly to the upper surface of the block, in combination with sliding stop, D, and seeding slide, B, the whole being arranged in the manner substantially as described, and for the purpose of inserting the seed in two or more places in the soil.

48,563.—Oscillating Engine.—Wm. H. King, Philadelphia, Pa.:

I claim, first, The arrangement of the channel, S S' and T, through the trunnion, H, substantially in the manner described and shown.

Second, Arranging the steam chest relatively to the trunnion, H, and piston, A, substantially as set forth.

Third, The construction and arrangement of the valve gear herebefore described, in combination with the steam chest, substantially as herein set forth.

48,564.—Artificial Fuel.—Chas. Korff, New York City:

I claim the production of artificial coal out of mineral coal dust, by combining the same with animal blood and water, substantially in the manner and for the purpose above described.

48,565.—Piano-forte Action.—Frederick Koth, New York City:

I claim the arrangement of the jack, G, lever, H, spring, S, and stop, n, attached to the key, A, in combination with the adjustable stop, N, and operating on the hammer butt in the manner and for the purpose substantially as described.

48,566.—Seeding Machine.—Casper Krogh, Kroghville, Wis.:

I claim the arrangement of the adjustable corrugated apron, H, beneath the hopper of a grain drill, substantially as and for the purposes herein shown and specified.

48,567.—Medicine for the Cure of Erysipelas.—H. A. Lamb, Portland, Me.:

I claim the compound of ingredients mixed in the proportions and for the purpose described.

48,568.—Paper File.—Gustave Lautenschlager, New York City:

I claim the application of a series of folding wires, b, to a common rod, A, in combination with a suitable frame, B, constructed and operating substantially as and for the purpose set forth.

(This invention consists in the application to a central stem or axis of a series of looped wires, in combination with a folding frame, in such a manner that each wire is capable of receiving and holding its own paper, and all the wires swivel on the central stem, so that they fold one over the other, and when the frames are closed the papers are situated one above the other in a convenient position for the reader. Each paper can be conveniently removed without disturbing the others; and, furthermore, the papers are not injured or torn by passing needles through them, or by points or other devices generally employed in paper files of the ordinary construction.)

48,569.—Buckle.—B. S. Lawson, New York City:

First, In buckles for fastening skates, and for other uses, placing the journals of the tongue in openings in the frame of the buckle, of such form as that said journals can be shifted from their bearings, substantially as described.

Second, I also claim so constructing a buckle as that its tongue can be loosened from the strap by lifting the hinder end of the buckle, substantially as described.

48,570.—Fruit Dryer.—David Lippy, Mansfield, Ohio:

First, I claim a series of drawers, F, provided with slatted bottoms, c, and dampers, C, and arranged with dampers, H, at their sides, substantially as and for the purpose specified.

Second, The furnace, B, having two plates, C D, above it, one of which, D, is provided with a register, E, all being arranged in connection with the drawers and dampers, to operate as and for the purpose set forth.

Third, The ventilators, I, applied to the building, A, and used in connection with the furnace drawers and dampers, substantially as and for the purpose set forth.

Fourth, The combination of the furnace drawers, dampers and ventilators, all arranged within a building, to operate in the manner substantially as and for the purpose described.

(This invention relates to a new and improved device for drying fruit, and it consists in a novel arrangement of a furnace, damper and drawers, whereby fruit may be dried expeditiously and with but a small expenditure of fuel.)

48,571.—Flour Sifter.—Harvey Locke, Boston, Mass.:

I claim my improved sifting apparatus, having its wings or scrapers, G G, constructed and applied to the arms, F b b, and so as to operate with the sieve, in the manner as set forth.

48,572.—Flour Sifter.—S. C. Maine, Boston, Mass.:

I claim a sifter, or sifter, composed of independent sections or parts, placed one within the other, and operating substantially as and for the purpose set forth.

I also claim, in combination with the above, the cover, E, operating substantially as set forth and for the purpose described.

48,573.—Grain Dryer.—Sylvester Marsh, Chicago, Ill.:

I claim the general construction and arrangement of the grain-drying apparatus, substantially as herein described; that is to say, forming the grain receivers or chambers of a cylindrical-conical form, in combination with central induct and education pipes, arranged circumferentially in the manner and for the purpose set forth.

Second, In combination with cylindrical-conical grain receivers or chambers, I claim forming the underside of cone lining plates to equally distribute the grain and insure uniform discharge through the pipes.

Third, I claim the arrangement of the central column or radiator or smoke-stack, in combination with concentric drying chambers and inclosures, substantially in the manner and for the purpose set forth.

Fourth, I claim the combination of the discharge pipes or openings, with hinged valve-traps, arranged for operation in the manner and for the purpose set forth.

Fifth, I claim the method herein described of regulating the temperature of the ascending currents by means of a blast of air down upon the furnace, substantially in the manner and for the purpose set forth.

48,574.—Endless Chain Propeller.—Angus McDonald, Mattawan, Mich.:

First, I claim as an improvement in propellers the combination of the twist wire links, D E, buckets, F, and thimbles, G, as and for the purposes specified.

Second, The connecting of the links, D E, of said chains together, by means of the eyes, c, protected by metal strips, d, and the metal bars, composed of the parts, f, g, as set forth.

Third, The arms, B, provided with chairs, H, at their ends, having projections, h, in connection with the thimble, G, in the links, E, of the chains, substantially as and for the purpose specified.

(This invention consists in the employment or use of endless chains of buckets, peculiarly constructed, and arranged to work over the ends of arms attached readily to rotating shafts, whereby a very durable propeller is obtained, especially for boats of light draught.)

48,575.—Cultivator.—H. S. Mead, Gloversville, N. Y.:

I claim the oblique rotating toothed shaft, F, fitted at the lower ends of pendants attached to the frame, A, of the machine, and arranged to operate in the manner substantially as and for the purpose herein set forth.

(This invention relates to a new and useful machine for cultivating and hoeing the soil, and it consists in the employment or use of two shafts placed in an oblique position relatively with each other, provided with teeth, and operated from the shaft or axle of the wheels on which the machine is mounted, whereby the earth may be cast either toward or from the plants, weeds thereby eradicated, and the soil pulverized and lightened up to promote the growth of the plants.)

48,576.—Washing Machine.—S. P. Mecay, Kilborn, Ohio:

I claim the spring, H, connected to the slides, G, in which the ends of the shaft, F, are fitted in combination with the link, E, and the arm, D, of the head, C, all being arranged substantially as shown, with a lever, J, or its equivalent, for operating the head, for the purpose set forth.

48,577.—Rotary Engine. Truman Merriam and James Cushing, Waterloo Village, Wis.:

First, We claim the arrangement of the cylinders and pistons upon a revolving drum on a shaft, in combination with a face-plate and ports, and adapted to circular apertures in a stationary steam chest, so that a constant pressure of action steam may be alternately applied to the piston, thereby increasing the leverage and speed, as herein set forth and described.

Second, We claim the two semicircles, in combination with friction trucks on a cross-had, by which, in connection with the movement of a common piston, rotary motion and power are obtained, as herein set forth and described.

Third, We claim the steam chest, with an oscillating joint, in such peculiar arrangement and adapted to a face plate as will admit steam to cylinder and permit the chest to revolve one quarter, and thereby reverse the motion of the engine, as herein set forth and described.

48,578.—Apparatus for Lining Hides.—Saml. J. Miller, Albert B. Barnett and Wm. H. Study, Economy, Ind.:

First, We claim the employment of rotating hide racks in the process of lining hides, substantially as described.

Second, Applying hide racks to a shaft in such manner that they can be adjusted and set at different distances apart to adapt them to hide of varying sizes, substantially as described.

Third, The use of rotating hide racks, in conjunction with a supporting frame, which is susceptible of being elevated or depressed, substantially as described.

Fourth, A lining rack, which is constructed with a concave bottom and provided with hide racks, substantially as described.

48,579.—Hoisting Machine.—William Miller, Cincinnati, Ohio:

I claim, first, An elevator platform having a single worm wheel, F, which meshes within two or more opposite worm rocks, B B, substantially as set forth.

Second, An elevator platform supported by rollers, G, or their equivalents, on a single worm wheel, F, resting in worm rocks, B B, substantially as set forth.

48,580.—Process for Making Sugar.—Thomas Moore, Bloomington, Ill.:

I claim the within described process of treating saccharine juices and sirups of the sorgho and imphe canes, by first treating the juice with a tannate made of white oak bark, or other equivalent, while cold, and raising it to a certain point by a gradual heat, for the purpose of rendering insoluble, in order to remove certain silicious or starchy matters contained therein, then mixing with it a weak ley for further defecation, then boiling to the point of crystallization, substantially in the manner and for the purpose specified.

I also claim distinctly the use of a liquor made of oak bark, or other equivalent material, in connection with a ley of wood ashes, or other equivalent, as an effectual agent for the defecation of sorgho and imphe juices and sirups, substantially as and for the purposes specified.

(The object of this invention is to remove from the juice of sugar cane or other saccharine liquid all the acid parts which may be mixed with it, before and during the process of boiling, and also to facilitate the crystallization of the sugar after the juice has been boiled down to the requisite consistency.)

48,581.—Excavator.—Jason C. Osgood, Troy, N. Y.:

I claim the combination of the toothed chain friction wheel, C, with the friction wheel, F, the belt chain, and toothed wheel, B, and toothed shire wheel, A, for the purposes as herein set forth.

48,582.—Dust Pan and Brush.—Charles H. Parker and Grindley Burnham, Waltham, Mass.:

I claim a dust pan and brush combined, substantially in the manner herein shown and described.

(This invention consists in the combination of a dust pan and dust brush, the latter being inserted in the handle of the former, which is made hollow and sufficiently large to receive the same within it, and from which the brush can be withdrawn at any moment for use.

The advantage of having these articles combined is apparent. They are necessarily such articles as belong together, and by having them combined in this way much trouble and vexation in looking for one which has been mislaid to use with the other will be avoided.

48,583.—Paint for Ships' Bottoms.—David Parkhurst, Gloucester, Mass.:

I claim the composition prepared substantially as hereinbefore set forth and for the purpose specified.

48,584.—Heating Oil Wells by Electricity.—George T. Parry and William S. Warner, Philadelphia, Pa.;

First, We claim employing the heating power of electricity for the purpose of liquifying and accelerating the flow of oil from oil wells, substantially as described.

Second, enclosing the circuit interrupter or electrical heater within a tight chamber, substantially as herein described.

48,585.—Oil Can.—John M. Perkins and Mark W. House, Cleveland, Ohio:

We claim forming passages with corrugated metal plate or plates, substantially as described and for the purpose set forth.

48,586.—Head Rest for Railroad Car Seats.—William R. Phelps, New York City:

I claim the improved head rest herein described, to be attached to car seats, etc., the same consisting of a movable and adjustable head rest frame, in combination with a frame susceptible of being attached to or removed from the seat at pleasure, arranged and operating together, substantially as specified.

48,587.—Broom or Brush Head.—John Edward Phillips, Philadelphia, Pa.:

I claim the metal frame, A, as shown in Fig. 2, whether molded and cast in one piece of metal, or stamped and pressed in one piece of sheet metal having bars, on two or more of which the loops, c, c, are formed to receive the handle, and thereby clamp the filling, as and for the purposes described.

Also, the spring metal c, c, and its equivalent, made as described, and to be placed on the filling below the frame, as and for the purpose described.

[This invention consists in a novel construction of brooms, brushes and like articles, which are made by aggregating and confining numerous strands of fibrous or other suitable material, so as to make a mass or body whose unconfined ends make the wearing surface of the article.]

48,588.—Beer Faucet.—Louis Poh, Buffalo, N. Y.:

I claim the combination of the key, C, plunger, C', plunger barrel, E, and discharge nozzle, B, when arranged and operating in the manner and for the purposes described.

48,589.—Machine for Printing Checks.—Joseph Pollak, Chicago, Ill.:

I claim the device for printing numbers on checks, as herein described, which can be constructed so that it may be attached to scales, or otherwise, where such printing is required.

48,590.—Seeding Machine and Cultivator Combined.—O. M. Pond, Independence, Iowa:

I claim, First, The arrangement of described devices for joining the tongue and reach together, and securing said joint in place as may be required in raising and lowering said tongue and reach, in combination with the cultivator apparatus, in the manner and for the purposes set forth.

Second, I claim hinging the beams of the cultivator teeth to the rod, J, as described, in combination with the bar, K, when the said bar is attached as set forth, and operating as and for the purpose herein specified.

48,591.—Machine for Scraping Roads and Clearing Gutters.—Nathaniel Potter, East Hamburg, N. Y.:

I claim the manner of constructing the scrapers, as described, so that they may be used either for clearing gutters at the sides of roads, or for smoothing roads and filling ruts; this I claim in combination with the cutters attached to the center piece, and other portions of the machine necessary for the purpose specified.

48,592.—Hood for Cook Stoves.—Fitch Raymond and August Miller, Cleveland, Ohio:

We claim, First, Hinging the sections, A and B, together in the manner described, when used in their relation to the stove, B, stove pipe, C, tubes, d, d', and valve, e, as and for the purpose set forth.

Second, We claim the adjustable cap, A, and rods, H, in combination with the valve, e, and opening, d, as and for the purpose set forth.

48,593.—Fan Blower.—Charles G. Sargent, Graniteville, Mass.:

I claim, in combination with a fan case substantially as described, a series of fan wings or blades, inclining outward and backward, and revolving in said case, in the manner and for the purpose substantially as described.

I also claim, in combination with the inclined wings or blades of a revolving fan substantially as herein described, the stationary inclined arms or vanes in the fan case, for the purpose substantially as described.

48,594.—Bolt Cutter.—Erhard Schlenker, Buffalo, N. Y.:

I claim a bolt cutter, with the die carrying disk, D, and handle, C, attached, when all are combined, arranged and operated as and for the purposes specified.

48,595.—Basket.—Theron Sherry, Newark, N. J.:

I claim folding baskets constructed in the manner and for the purpose herein set forth.

48,596.—Washing Machine.—Hamilton E. Smith, Cincinnati, Ohio:

I claim, First, The combined cover and washboard, G, constructed and applied as herein specified.

Second, The combination of the heads, B, B', slots, C, ribs, D, rods, E, and water passages, b, c, c', arranged and operating as set forth.

48,597.—Straw Cutter.—Basil Spencer, Lewisburg, Pa.:

I claim the arrangement and combination of the bars, F, with their pivots, K, crank shafts, I, and J, as connected with the rake head, L, and feeding rollers, M, and arm, Y, and operating lever, W, when arranged and combined as herein described and for the purposes set forth.

48,598.—Sausage Filler.—O. W. Stowe, Plantsville, Conn.:

I claim the case, A, composed of a section of a hollow sphere, a, or of the suitable form and a cone, b, in connection with a piston, disk, D, placed obliquely on the shaft, B, and a piston, C, all arranged to operate in the manner substantially as and for the purpose herein set forth.

[This invention consists in the employment or use of a case constructed or cast in the form of a portion of a sphere and a cone and furnished with a rotary piston and a rotary slotted disk in or through which the piston works the disk rotating in an oblique plane in the hopper whereby a very compact and efficient implement is obtained for filling sausages, and for other purposes.]

48,599.—Packing for Artesian Wells.—Samuel Swartz, Buffalo, N. Y.:

First, I claim the spring packing and wedges when constructed and arranged substantially as herein set forth.

Second, I claim the wedges in combination with the spiral springs and lower ring for the purpose set forth.

Third, I claim the chain or its equivalent connected with the rod and pulley as arranged with an adjustable packing, substantially as shown and described.

48,600.—Horse Power.—J. B. Sweetland, Pontiac, Mich.:

I claim the arrangement of the triangular frame, A, the metallic bed plate, E and F, the master wheel, C, and the shaft, D, the several parts being constructed and used together as and for the purpose herein specified.

48,601.—Skates.—Owen W. Taft, New York City:

First, I claim the application to a skate of a heating attachment substantially such as herein described or any equivalent thereof for the purposes set forth.

Second, Making the foot plate detachable, substantially as and for the purpose specified.

Third, The hook catches, d, and forked stud, f, in combination with the foot plate, C, heater, E, springs, e, and spring, g, constructed and operating substantially as and for the purpose set forth.

48,602.—Device for Fastening Lock Key.—James R. Tempest, Philadelphia, Pa.:

I claim the disk, c, in combination with the ratchet teeth, c, on the key, c, and the spring pawl, D, on the face of the lock case, A, B, the several parts being constructed and arranged to operate together substantially as and for the purpose described.

48,603.—Grain Separator.—Julius Tomlinson, Newburgh, Wis.:

First, I claim securing the pendants, C, C, and standards, D, D, of the screen frame, B, to the framing, A, by means of screws, a, passing through oblong vertical slots, b, in the pendants and standards, and into the framing to admit of the varying of the inclination of the screen frame, substantially as shown and described.

Second, The screens, E, formed with beveled lower edges provided with a flange or lip, d, and with spouts, E, and arranged or disposed within the frame, B, and with a blast, G, to operate in the manner substantially as and for the purpose set forth.

Third, The inclined feed spout, N, provided with a bottom, J, having perforations of different sizes, substantially as and for the purpose set forth.

Fourth, The introduction of a lever either straight or bent between the eccentric and the sieve frame, the straight lever to have a movable fulcrum and the bent lever to be operated by a movable eccentric, substantially as and for the purpose set forth.

48,604.—Rotary Pump.—Philip Umholtz, Tremont, Pa.:

I claim the combination of the casing, A, and its plate, B, and pin, K, with the rotary cylinder, C, vibrating valve, G, spring, L, and stopper, J, substantially as described and represented.

48,605.—Drilling Artesian Wells.—Salmon J. Wadsworth, Buffalo, N. Y.:

I claim the well with its rod, c, in combination with the wheel, A, cam, B, and rope, x, in the manner and for the purpose described.

48,606.—Grain Rake.—Eli G. Warner, Union Township, Ohio:

I claim the construction of the rake with feet, and long teeth braced to the handle in such a manner as to form a platform on which the grain will lay raised or of the stubble ready for the hands of the binder as above described.

48,607.—Thermal Motor.—George I. Washburn, Worcester, Mass.:

I claim, First, Utilizing the expansive and contractile force derived from variations of temperature in tubes or bars of metal so as to produce a regular recurrent or continuous motion, the said force being applied through the intervention of a malispring or resulting from the regularly recurrent artificial application of heat to said bar or tube.

Second, Utilizing the expansive force resulting from the increase of temperature of a confined body of air, to compress a spring from which a regularly recurring or continuous motion is obtained.

Third, Utilizing the expansive force resulting from the artificially produced increase of temperature of a confined body of air which is subjected to the variations of temperature without the accession of fresh air, excepting sufficient to supply the waste.

Fourth, I claim the double fork-shaped bars, M' M' K, or their equivalent embracing a central bar, N', of a different exhaustive power to which they are mutually attached at or near their extremities, by which the expansive power resulting therefrom may be almost doubled within a given length and by which according to the relative expansibility of the tongs and the embraced portion it may be made to contract or expand longitudinally by increase of temperature.

Fifth, I claim the levers, B, B', multiplying wheels or pulleys, A, A', and expansive rods, L, L', the whole being arranged to operate in the manner and for the purposes herein specified.

Sixth, I claim a series of multiplying levers, G, I, operating in connection with the levers, B, B', and expansive rods, E, E', in any manner substantially as described.

Seventh, I claim the connecting wires or cords, C, C, etc., H, J, formed of metal or other material and employed in combination with the multiplying wheels and levers, substantially as and for the purposes explained.

48,608.—Wire Straightening Machine.—George I. Washburn, Worcester, Mass.:

I claim causing the wire to rotate upon its own axis as it passes between the straightening points, in any manner, substantially as set forth.

Second, As an improvement in machines for straightening wire, I claim the combination of the reel, C, vole, D, and wheels L, L', L', L', arranged and operating substantially as and for the purposes set forth.

48,609.—Drill.—R. G. Wells, Plummer, Pa.:

I claim forming the drill with the diagonal edge, b, and diagonally opposite straight corners, a, a, and alternate beveled corners, c, c, substantially as and for the purposes herein specified.

48,610.—Buckae.—Peregrine White, Dixmont Center, Me.:

I claim the improved buckle consisting of the eccentric roller, C, one or more spurs, b, a frame or loop, A, and a cross bar, B, arranged and combined substantially in manner and so as to operate as specified.

48,611.—Slide Valve.—James A. Woodbury, Boston, Mass.:

I claim, First, Constructing the valves, D, D, independently of each other and with a space between them so that they may be free to expand or contract between the vertical parallel port walls, C, C, substantially as and for the purpose described.

Second, Connecting the valves, D, D, by means of the bar, G, or its equivalent, substantially as and for the purpose described.

48,612.—Self Centering Chuck or Holder.—Thomas H. Worrall, Lawrence, Mass.:

I claim the projections, d, or their equivalents extending from the ends of the jaws, c, and operating in combination with cross pieces, f, or their equivalents and with the cap, C, substantially as and for the purpose herein set forth.

Second, The adjustable tips, g, in combination with the jaws, c, cap, C, and mandrel, A, constructed and operating substantially as and for the purpose described.

Third, The differential screws, d, e, applied in combination with the thimble, D, cap, C, jaws, c, and mandrel, A, substantially as and for the purposes specified.

[In this chuck or holder the jaws are provided with projections extending through slot in the longitudinally sliding cap and provided with rigid or adjustable tips or screws in such a manner that the jaws are compelled to move in and out with the cap and a positive motion is imparted to said jaws in either direction. If adjustable tips are applied to the jaws, the chuck can be used or holding articles of a large or small diameter eccentrically or concentrically with the spindle to which the chuck or holder may be attached. The longitudinal motion of the cap may be produced by the screws or different pitch whereby the power with which the jaws are caused to gripe the articles to be held between them, can be increased to any desired extent.]

48,613.—Water Wheel.—Gilman F. Wright, Graniteville, Mass.:

I claim, in combination with a scroll water way, D, the ring gate or curb, C, the stationary guide, B, and the wheel, B, the whole being constructed, arranged and operated in the manner and for the purposes substantially as herein described and represented.

48,614.—Boot and Shoe.—F. D. Ballou, Abington, Mass., assignor to Alfred B. Ely, Boston, Mass.:

I claim the new article of manufacture, constituting a boot or shoe, substantially in the manner described.

48,615.—Mode of Extracting Drills from Wells.—Jacob Beyer (assignor to himself and John E. Smith), Buffalo, N. Y.:

I claim, First, Operating the gripping tongs, A, A, by the reversing or secondary levers, C, C, and rope, D, in the manner and for the purposes described.

Second, The combination of the upper ring, E, and operating cord, F, with the tapering gripping tongs, for the purposes and substantially as described.

Third, The combination of the lower ring, E', with the tapering gripping tongs and stop bar, G, operating as and for the purposes described.

48,616.—Cultivator and Potato-digger Combined.—Moses and John W. Chandler, East Corinth, Maine, assignor to themselves and Anthony and Wilson R. Woodard, Bangor, Maine:

First, We claim the oblique blades or cultivators, E, E, in combination with the shares, G, G, and screens, F, F, all arranged to operate substantially as and for the purposes set forth.

Second, We also claim the shares, G, G, and screens, F, F, arranged with a space, k, between them, to admit of the passage or escape of obstructions from the shares and screens, as set forth.

48,617.—Car Coupling.—Wm. C. Clark, Portland, Maine, assignor to himself, W. D. Richards, Lynn, Mass., and Wm. H. Skinner, Lexington, Mass.:

I claim the combination of the arm, d, and its socket, h, with the link pin, C, and the bunter bar, the whole being arranged and so as to operate substantially as specified.

I also claim the above-described arrangement or application of the spring which with the socket, h, that is, so as to operate with the head of the arm, d, in manner and under circumstances substantially as specified.

48,618.—Horse-shoe.—George Custer (assignor to himself, Charles Toll and John Paxton), Monroe, Mich.:

I claim corrugating or otherwise roughening the countersink or crease at and around the nail hole, so that when the head of the nail is driven against them there shall be a more perfect contact of metal between them, substantially as and for the purpose described.

I also claim forming a shoulder between the inclined sides of the countersink or crease in a horse-shoe and the nail-hole, as and for the purpose substantially as described.

48,619.—Beater Press.—P. K. Dederick (assignor to L. and P. K. Dederick), Albany, N. Y.:

I claim, First, The employment and use in a beater press of toggle levers with the lower ends of the fulcrum levers permanently located on a plane even with or above the top of the bale, when said levers are connected by the rod, H, H, and bars, I, I, the whole being so constructed as not to interfere with the relieving of the bale endwise when pressed.

Second, The frames, O, forming a direct and substantial connection between the fulcrum bars, U, and the beater as head block, and the suspended plates, N, attached to the frame, O, in the manner and for the purpose described.

Third, The fastenings for the doors, composed of the rollers, S, connected to the frame of the press by means of links, V, and provided with the eccentrics, T, T, and handles, U, substantially as set forth.

Fourth, The relieving plates, X, X, arranged with the bars, Z, shafts, Z', having eccentrics, A', on them, and connected with the following bars, C, to operate in the manner substantially as and for the purpose set forth.

Fifth, The follower, suspended by the bars, G, G, to the upper ends of the toggle levers, J, J, in combination with the beater, C, used as a fixed head while the bale is being pressed.

[This invention relates to a new and improved beater press, and it consists in a novel and improved construction and arrangement of the parts, whereby it is believed that the operations of beating and compressing substances for baling may be performed with greater facility than usual. It refers to a press of that class in which levers are employed for operating the follower.]

48,620.—Hydrometer.—William Edson (assignor to Shedd & Edson), Boston, Mass.:

I claim, First, The combination of indices in such a manner that when one is placed at the height of the mercury in a dry-bulb thermometer, a second placed at the height of the mercury in a wet-bulb thermometer, a third point will indicate on a scale the proportion of moisture in the atmosphere, substantially as and for the purpose set forth.

Second, A diagram of lines, so combined with a scale of figures, and so constructed or drawn as to indicate the relative humidity of the air, the dew point, and the absolute amount of moisture, either in the air, or in any other gas, by an index whose position is regulated by adjustment to the height of the mercury in wet and dry-bulb thermometers, substantially as and for the purpose set forth.

48,621.—Beating Device for Baling Press.—Loyal C. Field (assignor to himself, Joseph P. Frost and W. S. Holloway), Galesburg, Ill.:

I claim closing the doors automatically just previous to the liberation and fall of the beater, and opening them afterwards in full by means of the horse power, by mechanism substantially as herein described and for the purposes specified.

I also claim the connecting of the doors, J, J, to pulleys, M, on a shaft, N, by means of chains, ropes or cords, L, the lever, P, connected to a pulley, Q, on shaft, N, by a chain, cord or strap, R, when said parts are used in connection with a raising and falling beater, B, and a horse power or other motor, all arranged to operate substantially as and for the purpose set forth.

48,622.—Magazine Fire-arm.—Joshua Gray, Medford, Mass., assignor to himself and E. H. Eldridge, Boston, Mass., W. G. Langdon, Malden, Mass., and S. S. Bucklin, Providence, R. I.:

I claim, First, So shaping the opening, L, in the magazine that it will be impossible to insert a carriage wrong end first, substantially as described.

Second, The slot or stop, J, and a pin or stop, I, or their equivalents, to prevent the inner tube, D, from ever coming out of the magazine, C, substantially as described.

48,623.—Horse-shoe.—J. Wilson Hodges (assignor to himself and P. DeMurguionds), Baltimore, Md.:

I claim the attachable and removable following bar, C, provided with calks, and secured in the groove of the shoe by means substantially as described.

I claim, Second, The blank bar, E, adapted to occupy the groove, B, in the absence of the following bar, and secured in a similar manner within the groove.

48,624.—Hand Stamp.—Horace Holt, Brooklyn, N. Y., assignor to Wm. W. Secombe, New York City:

I claim, First, The type-carrying head, F, constructed with cavities, d, d', for the reception of the ink ribbon, and attached to its stem, D, by a clamping groove, and set screw or adjustment device, to admit of turning it on its axis, all substantially as herein shown and described, and for the purposes specified.

Second, The nick, J, segmental slot, J, and spring, k, in the type plate, G, to operate in combination with the screws or studs, i, i, in the head, F, substantially as and for the purpose set forth.

48,625.—Process for Lining Oil Barrels.—Charles B. Hutchinson (assignor to himself and J. H. Woodruff, Auburn, N. Y.:

I claim the within described process for applying solutions to the interior of casks, barrels, etc., to render them tight, so as to avoid the loss of their contents by leakage and evaporation, to wit, by bating and drying the interior of the cask or barrel and opening the pores of the wood, by hot air, forced into the same through the medium of a pump, or its equivalent, and then applying the solution to the interior of the cask or barrel, and forcing it into the open pores, cracks and crevices by hot air under pressure, substantially as set forth.

48,626.—Curling Iron.—H. D. Jennings, Hion, N. Y., assignor to Bernard Lavery, Waterford, N. Y.:

I claim a curling iron constructed and made in two parts, consisting of a sheath and core, each having a separate handle, substantially as and for the purpose herein described.

48,627.—Cultivator.—John Lacey (assignor to Conrad Furst and David Bradley, Chicago, Ill.:

I claim, First, Connecting the movable parts of a mounted cultivator with the wheels and a tie by the horizontal swinging bars or rods, J, substantially as shown and described.

Second, Pivoting the seat lever, K, to the axle by means of the post, M, or its equivalent, and to the movable parts of a cultivator, so as to adjust the weight of such movable parts, and cause the reaction of the force applied to move them to operate in the same direction as the direct force, all being substantially arranged and constructed as and for the purposes set forth and specified.

48,628.—Evaporator.—F. M. Love (assignor to himself and Samuel C. Love), Waldron, Ind.:

I claim the combination of the turnace, A, with the valves, c, c, c, and c, the graduations with plates, B, B, B, and f, the boxes, C, C, C, C, and D, the partitions, d, d, d, and doors, k, and the pipes, O, O, O, all or as many of each of the above mentioned boxes, plates, valves, rods, or partitions and graduations as may be desired, arranged and operating substantially as and for the purpose shown and described.

48,629.—Horse Rake.—Robert J. Robeson (assignor to himself and Jared W. Mills), Chicago, Ill.:

I claim, First, The employment of the hinged or adjustable fulcrum, F, provided with the slot, i, arranged and operating substantially as and for the purposes herein specified, and shown.

Second, I claim the combination of the lever, E, provided with

the rod or rest, e. and the hinged arm or fulcrum, F, provided with the slot, l. as and for the purposes specified.

Third, I claim the combination of the rake, D, the levers, E, and arms, M, the lever, l, n, and hinged fulcrum, F, all arranged and operating substantially as and for the purpose specified and shown.

48,630.—Hinge.—Nathaniel Sehner (assignor to himself and Abraham Huffer), Hagerstown, Md. :

I claim fastening or locking a hinge or butt by means of a spring or springs and an eccentric, constructed and operated substantially in the manner and for the purpose set forth.

48,631.—Pantry.—Job Shattuck, Brookline, N. H., assignor to himself and John S. Proctor, Mason, N. H. :

I claim a movable pantry constructed substantially as and for the purpose above described and stated.

48,632.—Lamp Shade.—Cornelius St. John, Boston, Mass., assignor to O. M. Southwick, Woonsocket, R. I. :

I claim as my invention the combination of the pyramidal lamp shade, A, and the series of reflectors, C C and c, arranged and applied to it, substantially as and so as to operate as specified.

I also claim the pyramidal shade, as made with the heat-resisting and reflecting lining and the adjustable reflectors, arranged substantially as specified.

48,633.—Die for Making Augurs.—Edward H. Tracy (assignor to The Eagle Augur and Skate-manufacturing Company), Meriden, Conn. :

I claim the construction of the respective parts of the die which perform the operation set forth, substantially in the manner described.

48,634.—Substitute for Rosin.—Daniel T. Wilson, Harrisburg, Pa., assignor to himself and Reuben Hoffheins, Dover, Pa. :

I claim the use of coal tar, prepared substantially as described, as a substitute for rosin, for the purposes set forth.

48,635.—Lamp.—Charles Boschan, Josef Bindtner and William Caffon, Vienna, Austria :

We claim, first, making the exterior of the lamps in sections, M M, so that they may be taken apart for the purpose of removing or replacing the oil cup or reservoir, which is separate from the said exterior of the lamp, substantially as described.

We also claim, in combination with the sectional exterior of the lamp, M M', and a removable and replaceable cup or oil reservoir in the place of the wick tube and cap or burner on the external section, and attaching the oil cup, with the wick tube projecting therein, by a screw from the under and inner side thereof to the said outer and upper section, substantially as described.

48,636.—Preserving Wood from Decay, Etc.—Alexander Hamar, Hungary, Austria, assignor to John C. Fremont, New York City :

I claim preserving wood from decay, insects and other destructive agents by means of a solution prepared substantially as herein described, and applied in the manner herein set forth.

48,637 (dated June 13, 1865, previously omitted).—Flour Sifter.—Howard Tilden, Boston, Mass. :

I claim as my improvement in sifters for flour, sauce, etc., the rollers, or their equivalents, for mashing the lumps, in combination with the scrapers, substantially as described.

REISSUES.

2,018.—Loom.—Christopher Duckworth, Mount Carmel, Conn. Patented June 28, 1853 :

First, I claim a power loom, which is provided with many-celled shuttle boxes, the movements of which are automatically controlled in such manner that the cells of the boxes can be skipped over any desired shuttle thrown from any box in the combination, according to the character or figure to be woven, substantially as described.

Second, Providing for operating many-celled shuttle boxes, so as to bring an y desired shuttle into action, by means of palls, ratchets, and reversible tappets, in combination with pattern surfaces, which will control the figure to be woven, substantially as described.

Third, The use of tappets, which receive both a rotary and an oscillatory motion from a pattern or pattern's in combination with many-chambered shuttle boxes, substantially as described.

2,019.—Loom.—Christopher Duckworth, Mount Carmel, Conn. Patented June 28, 1853 :

First, Giving an alternate movement to shuttle boxes in a vertical plane, by means of palls, reversible tappets, and a contrivance which will automatically control the movements of said palls, substantially as described.

Second, Giving an alternate movement to shuttle boxes in a horizontal plane, by means of palls, reversible tappets, and a contrivance which will automatically control the movements of said palls, substantially as described.

Third, Giving an alternate diagonal movement to shuttle boxes by means of palls, reversible tappets, and a contrivance which will automatically control the movements of said palls, substantially as described.

Fourth, The combination of reversible tappets, with shuttle boxes, which are so applied to the loom that they will admit of being moved either laterally, vertically or diagonally, substantially as described.

Fifth, Giving an intermittent, oscillating or rotary movement to a shuttle-box actuator, by means of palls and ratchet wheels, which are controlled by a cam surface, t, or its equivalent, substantially as described.

Sixth, The use of tappets, which receive a forward and backward movement, or a continuous rotary movement, in combination with many-chambered shuttle boxes at both ends of the lathe, which boxes are connected together by a lever, G, and operated simultaneously by means of said tappets, substantially as described.

Seventh, Giving a reciprocating movement to many-chambered shuttle boxes of looms, by means of contrivances which are controlled automatically in such manner that the boxes are moved a greater or less distance by a single vibration of the lathe, so as to throw the shuttle in regular order or to skip a shuttle, according to the figure which it is desired to weave, substantially as described.

2,020.—Self-acting Pulley Brake.—John Jochum, Brooklyn, N. Y. Patented Nov. 29, 1864 :

I claim a tackle block containing one or more sheaves, and provided with one or more spherical wedges, E, and springs, F, constructed and operating substantially as and for the purposes set forth.

2,021.—Furnace for Decomposing and Desulphurizing Ores.—Robert Spencer, New York City. Patented Nov. 8, 1864 :

First, I claim in a kiln or furnace for reducing quartz rock by heating and plunging the rock into a liquid bath, an arrangement by which the rock when highly heated may be precipitated at once from the furnace directly into the bath, substantially as described.

Second, In a kiln or furnace for reducing the ores of the precious metal, I claim the use of a hood and usual appliances for the condensation and preservation of sulphur or of the fine particles of the precious metals, substantially as hereinbefore described.

2,022.—Method of Decomposing and Desulphurizing Ores.—Robert Spencer, New York City. Patented Nov. 8, 1864 :

First, The above-described process of removing sulphur from quartz rock, and rendering such rock pulverulent by long continued and high heat, and subsequent sudden precipitation into a liquid bath.

Second, I also claim reducing the ores of the precious metals when imbedded in rock in combination with sulphur, without the necessity of previously breaking the rock into nodules by heating and quenching, substantially as above described.

Third, I also claim the effectual separation of the precious metals from quartz rock and sulphur, without the necessity of a second heating of the granulated quartz, by heating and quenching, substantially as described above.

Fourth, I also claim the use of a bath for quenching the heated rock, consisting of water impregnated with ingredients that act chemically upon the rock, for the purpose of softening it and preparing it for the action of the grinding apparatus.

2,023.—Coal Stove.—Philo P. Stewart, Troy, N. Y. Patented April 23, 1863 :

First, I claim the combination of the cylinder or box, c, with the surrounding air-distributing chamber, s, and with the fire-brick, d, containing apertures, all constructed and arranged in the manner

substantially as and for the purposes herein described and set forth.

Second, I also claim the perforated plate, m, and cold air chamber, k, in combination with the said door, w, having therein the wire cage or its equivalent, and with the surrounding air-distributing chamber, s, in the manner and for the purposes herein described and set forth.

Third, I also claim the perforated plate, m, and cold air chamber, k, or its equivalent, in combination with the door, w, having therein the cold air chamber, z, constructed, arranged and combined in the manner and for the purposes substantially as herein described and set forth.

Fourth, I also claim the employment of the air distributing chamber, s, opening at its lower end into the ash drawer or chamber, g, and immediately between the fire brick or inner linings, d, of the fire chamber and the outer casing or box, c, surrounding the said air chamber, and having lugs or iron pins cast thereon, and each arranged and combined in the manner substantially as herein described and set forth.

2,024.—Machine for Incising Button Holes and Embossing and Printing Articles of Wearing Apparel.—Samuel S. Stone, Troy, N. Y. Patented Aug. 23, 1864 :

First, I claim two oblong male button-hole punches and two corresponding female punch-receiving dies, combined and arranged and made adjustable so as to punch two oblong button holes endwise, or nearly so, to each other at one operation and at various distances apart, substantially as herein set forth.

Second, I also claim two oblong male button-hole punches and two corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch two oblong button holes apart from each other at one operation and in various directions, substantially as herein set forth.

Third, I also claim two oblong male button-hole punches and two corresponding punch-receiving dies, combined and made adjustable so as to punch two oblong button holes at one operation, and in various directions and at different distances apart, substantially as herein set forth.

Fourth, I also claim two oblong male button-hole punches and two corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch two oblong button holes crosswise, or nearly so, to each other, at one operation, and at various distances apart, substantially as herein set forth.

Fifth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at one operation, and the end button holes in various directions, substantially as herein set forth.

Sixth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at various distances apart, substantially as herein set forth.

Seventh, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the end button holes in various directions, substantially as herein set forth.

Eighth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at various distances from a line joining the two end ones, substantially as herein set forth.

Ninth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at various distances from a line joining the two end ones, substantially as herein set forth.

Tenth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at one operation, and the central button hole at different distances from a line joining the two end ones, and the two end button holes at various distances apart, substantially as herein set forth.

Eleventh, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the end button holes in various directions, and the central button hole at different distances from a line joining the two end ones, substantially as herein described.

Twelfth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at one operation, and the end button holes in various directions and at different distances apart, and the central button hole at various distances from a line joining the two end ones, substantially as herein set forth.

Thirteenth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the central button hole in different directions in respect to and at various distances from a line joining the two end button holes, substantially as herein described.

Fourteenth, I also claim three oblong male button-hole punches and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the end button holes at different distances from a line joining the two end ones, substantially as herein described.

Fifteenth, I also claim an imitation stitching stamp, E, with an impression bed, F, therefor, and one or more male button-hole punch or punches, with corresponding punch-receiving die or dies, all combined and arranged, substantially as herein described.

Sixteenth, I also claim a type block, E, of letters or figures, or letters and figures, with an impression bed therefor and two end or end and central male button-hole punches, adjustable to different positions, with corresponding adjustable punch-receiving dies, all combined and arranged substantially as herein described.

Seventeenth, I also claim an imitation stitching stamp, E, and a type-block, F, with impression beds therefor, and one or more button-hole punch or punches, with a corresponding punch-receiving die or dies, all combined and arranged substantially as herein described.

Eighteenth, I also claim guides or stops, G, or end and ends and central oblong male button-hole punches and corresponding female punch-receiving dies, all combined and arranged substantially as herein described.

2,025.—Apparatus for Sizing and Finishing Skirt Wire.—Ichabod Washburn and P. L. Moen, Worcester, Mass., assignees by mesne assignments of Chesney & Brown. Patented Oct. 13, 1863 :

I claim, in sizing and finishing covered wire or other covered strips in a continuous operation, causing the wire to pass through a stretch bath, and thence back and forth over rolls or heated cylinders, and in contact with a polisher, in the manner substantially as hereinbefore described.

DESIGNS.

2,107.—Soldiers' Memorial.—John C. Andrews, Woodstock, Me.

2,108.—Medallion of Abraham Lincoln.—Adolph Leconte, New York City.

2,109 to 2,132, inclusive.—Carpet Patterns.—Henry G. Thompson, New York City, assignor to Hartford Carpet Company, Hartford, Conn. (24 Patents.)

2,133.—Carpet Pattern.—James Hutchinson, Newark, N. J., assignor to W. and J. Sloane, New York City.

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[See Judge Holt's letter on another page.]

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