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**55,973.—EXTINGUISHER FOR LAMPS.**—Charles E. Abbott, Boston, Mass.:

I claim the tube, c, with its lid or cover, d, and rack, e, or equivalent, operated by the toothed wheel, h, upon the rod, C, substantially as set forth.

**55,974.—PAPER AND CLOTH BOSOM.**—Charles Arnold, Chicago, Ill.:

I claim a bosom with cloth front and paper back, when secured together substantially as described and used for the purpose set forth.

**55,975.—OIL-CAN.**—James Ashton, Fall River, Mass.:

I claim the combination of an air inlet, I, I, supply-tube, T, T, driving-chamber, Y, Y, spiral-spring, S, shut-off rod, A, B, valve, V, and rod, C, D, all as applied to an oiler or oil-can, in the manner described and for the purposes set forth.

**55,976.—DROP-HAMMER.**—Jefferson Aughe, Dayton, Ohio:

I claim, 1st, The mode of connecting a die to the ponderous hammer, E, of a swaging machine, substantially as herein described and represented.

2d, The arrangement of the dies, F, F', the hammer, E, and bolt, G, substantially as described and for the purposes specified.

**55,977.—WATER-ELEVATOR.**—A. S. Babbitt, Keeseville, N. Y.:

I claim the arrangement of the wheels, D and B, the wheel, B, being provided with a hub upon which cams are formed, with the lever, A, which is also provided with cams to correspond with those upon the wheel when used with the springs, E, E', and collar, F, as and for the purposes specified.

**55,978.—CURTAIN FIXTURE.**—Henry O. Baker, New York City:

I claim the lever-button, in combination with the perforated side of the frame, substantially as and for the purposes herein set forth.

**55,979.—HAY-RAKER AND LOADER.**—Horace Baker, Cortland, N. Y.:

I claim, 1st, The rake-teeth, P<sub>2</sub>, in combination with two positively actuated endless aprons, W, W', revolving in opposite directions, and so placed in relation to each other that the cut grass raised over the teeth shall be seized between the aprons and elevated, substantially in the manner set forth.

2d, The standards, T, T', when so constructed that by their elasticity they shall maintain the aprons, W, W', face to face, and permit variations in the quality of grass carried between them, substantially as set forth.

3d, In combination with the endless aprons, W and W', I claim the guides, T<sub>2</sub> and T<sub>3</sub>, when attached to the standards, T, T', and so constructed as to carry the cut grass over and beyond the endless aprons, substantially as set forth.

4th, The driving-wheel, B, and cap-shaped wheel, C, constructed as described, in combination with the spur-wheels, G, H, and K, substantially as and for the purpose set forth.

5th, The shoe, y, in combination with the wheel, Y, and roller, x', arranged substantially as and for the purpose set forth.

6th, The combination of the teeth, P<sub>2</sub>, shaft, N, and rollers, P<sub>3</sub>, substantially as and for the purpose set forth.

**55,980.—WATER-ELEVATOR.**—J. C. Barrett, Stamford, Conn.:

I claim, 1st, The lazy tongs, B, in combination with the lever, D, provided with the rocker, E, all being arranged substantially as and for the purpose set forth.

2d, The pendant rod, J, provided with the cross-head, k, and attached to the lazy tongs, in connection with the lip, k, on the bucket, substantially as and for the purpose specified.

**55,981.—SASH-FASTENING.**—H. De Baum, Paterson, N. J.:

I claim the combination of the case, E, latch, D, and spring, c, operating with the rack, G, when constructed and arranged in the manner and for the purpose herein specified.

**55,982.—WASH-STAND.**—Alfred Bayley, Newark, N. J.:

I claim as a new article of manufacture a portable metallic wash-stand, constructed and its parts arranged substantially as described.

**55,983.—BEVERAGE.**—George Beck, Rochester, N. Y.:

I claim the production of a beverage by the mixture of wine or other similar fermented liquor with water, in the proportions set forth or thereabout, and the addition of sugar to produce a secondary fermentation, to be conducted and continued in a close vessel, so as to retain the gases produced thereby, for excluding the air and expelling the beverage in an effervescent state, substantially as and for the purpose herein specified.

**55,984.—PLOW.**—Solomon Beckett, Olive Branch, Ohio:

I claim, 1st, The sheathing plate, B, fitted and secured to "mold-board," A, of a plow, for the purpose above described and set forth.

2d, The sheathing plate, B, in combination with cutter, C.

**55,985.—CARRIAGE SPRING.**—B. M. Beckwith, Plattsburg, N. Y.:

I claim the boxes, F, applied to the hind axle and bolster of a buggy to admit of the attachment of the springs and permit their extremities to vibrate about the points of support, substantially as and for the objects specified.

**55,986.—WASHING MACHINE.**—Ormus D. Beebe, Beaver Dam, Wis.:

I claim, 1st, Securing the slats, c, e, within the tub, upon the

metallic bottom, by having them extend under or mitering with the sides, A, A, substantially as and for the purposes herein set forth.

2d, The combination of the metallic bottom with the slats, c, e, lying thereon, and mitered with the sides, as herein set forth.

**55,987.—CARRIAGE HINGE.**—George W. Beers, Bridgeport, Conn.:

I claim the plates, F and G, and the catch, F, constructed as described, in combination with the swinging arm of an ordinary concealed carriage door-hinge, substantially as described and for the purpose set forth.

**55,988.—IMPLEMENT FOR GROOVING THE MOUTHS OF GLASS BOTTLES.**—Edwin Bennett, Philadelphia, Pa.:

I claim the application to a glass-blower's bottle-clamp of the toothed wheels, C, E, the same being arranged and operated substantially as and for the purpose described.

**55,989.—CAR-COUPLING.**—William Bergmann, Philadelphia, Pa.:

I claim the castings, A and A', with their dogs, H, H', levers, F, F', and links, M, M', in combination with the within-described devices, or their equivalents, for operating the levers and securing the dogs, the whole being constructed and operating substantially as and for the purpose specified.

**55,990.—CRADLE AND CHAIR.**—Alois Berny, Williamsburg, N. Y.:

I claim a chair provided with a hinged additional seat, additional back, and hinged additional arm-pieces, said seat being made to swivel on its frame, D, and the arm-pieces being secured to each other, and to the seat, A, by catches, c, and screw, e, or other equivalent fastening, substantially as and for the purpose described.

**55,991.—CLOTHES-TONGS.**—John T. Bever, Bethel, Ill.:

I claim, as a new article of manufacture, the within-described clothes tongs, to wit, a pair of wooden tongs furnished at their ends with united wooden hemispheres, as described.

**55,992.—GRIP FOR CROSS-HEAD.**—William R. Bishop, Sherwood, Wis.:

I claim a grip composed of a metal body, A, and strip of leather, a, substantially as and for the purpose described.

**55,993.—CULTIVATOR.**—A. M. Black, Auburn, N. Y.:

I claim, 1st, The pole, a, having a cross-bar, A, rigidly secured thereto, and a frame-work composed of the plow-beams, B, B, with cross-beams, b, b', pivoted to the ends of said cross-bar, A, substantially in the manner and for the purpose specified.

2d, The cross-bar, A, plow-beams and frame, B, B, b, b', the adjustable prop, c, and lever, H, all arranged and operating in the manner and for the purpose set forth.

3d, The hook and eye bolts, f, f', which project from the inside of the plow-beams, B, B, and fasten the standards, m, m, to beams, B, B, the connecting-rod, K, eye and rod fastening in cross-piece, b.

**55,994.—GAS-PURIFIER.**—Richard C. Bocking, Indianapolis, Ind.:

I claim, 1st, The combination of the liquid reservoir, tube, B, and the wheel provided with vanes having reticulated surfaces, and revolving on a horizontal axis under the impulse of the entering gas, substantially as described.

2d, The mode of having the said wheel in orifices in the sides of the chamber, capped on the outside, as described.

3d, The combination with the series of reticulated vanes of the bands, supported on the vanes by the pins or equivalent means.

**55,995.—QUARTZ MILL.**—John T. Bonnell, Columbia, Cal.:

I claim the drum, C, provided with ratchets, D, D, and a pendant rod, A, with a weight or bob, o, attached, in combination with the spur-wheels, E, E, placed loosely on the shaft of drum, C, and provided with pawls, r, to engage with the ratchets, D, the above parts being used in connection with the pinions, l, l, on the shafts, J, J, which actuate the weight or pounder-rods, L, substantially as and for the purpose specified.

**55,996.—CHURN.**—Jacob Boyers, Orrville, Ohio:

I claim, 1st, The oblique shaft, C, as arranged in its connection with the dasher-shaft, D, by means of the curved plate, b, and staples, b', as to give an oblique or nearly rectilinear rotary motion, when operating substantially in the manner and for the purpose herein set forth.

2d, The retention of the rod of the oblique shaft, C, in its axis by the flexible rod, E, and pivot, c, as arranged and applied substantially in the manner and for the purpose as herein set forth.

3d, The movable slide-plate, F, strips, e, e, and bridge-plate, d, in its connection with the dasher-shaft, D, as arranged substantially in the manner and for the purpose as herein set forth.

4d, The retention of the rod of the oblique shaft, C, for retaining the slide-plate, F, when in operation, substantially in the manner as arranged and for the purpose as herein set forth.

5th, The disk, a', and air-tube, a, as arranged in combination with the lid, B, substantially in the manner and for the purpose as herein set forth.

**55,997.—COAL STOVE.**—Nathaniel A. Boynton, New York City:

I claim the combination of the flanged fire-chamber, B, cylinder, C, cylinder, D, with perforated bottom, K, forming an annular space, E, air flues, F, semi-circular flue, G, and exit flue, H, all arranged and operating in the manner and for the purpose herein described.

**55,998.—BEEHIVE.**—Joseph Bradt, La Porte, Ind.:

I claim the arrangement of the doors, B and E, flap, d, incline, plates, g, g, comb frames, F, and hinged cap, A, substantially as and for the purposes set forth.

**55,999.—PLOW.**—T. E. C. Brimly, Louisville, Ky.:

I claim a plow provided with a point, E, welded, rolled, or otherwise formed or permanently secured to a steel mold-board, with a hook or shoulder, b, at its under side to fit over the front end of the land-side of the plow, substantially as herein shown and described.

**56,000.—HAY RAKE.**—Hiram Brown, Cape Elizabeth, Maine:

I claim the combination and arrangement of the frame, A, connecting-rod, J, arm, C, and lugs or bands, D, attached to the tongue and head of a rake, as herein set forth, and operating as and for the purposes described.

**56,001.—WASHING MACHINE.**—William Burnham, Union City, Mich.:

I claim, 1st, The employment of a revolving tub, C, in combination with the fluted conical rollers, R, R, which rollers operate against the clothes by spring pressure, and are arranged relatively with and connected to the frame of the machine, substantially in the manner and for the purpose herein specified.

2d, The combination of the band, M, pulley, P, P<sub>1</sub>, and P<sub>2</sub>, with the machine frame and tub-shaft, D, substantially as and for the purpose set forth.

**56,002.—APPARATUS FOR RAISING BREAD.**—Ezra Buss, Springfield, Ohio:

I claim, 1st, A box or chamber, A, for receiving the dough to be raised, when provided with a close vessel filled with heated water for communicating a very gradual, continuous, dry heat to the atmosphere within the chamber, and arranged and operating substantially as herein specified.

I also claim locating the hot-water vessel, H, in a drawer, G, closed except at the top, and provided with apertures near the bottom, substantially as and for the purposes herein set forth.

I also claim providing the chamber with an opening, C, con-

trolled by a valve, c, for the purpose of admitting fresh air therein and of regulating the temperature inside, as herein described.

I also claim the opening, D, in the top controlled by a valve, d, for the purpose specified.

I also claim the use of a thermometer, a, in connection with the apparatus, arranged substantially as specified.

I also claim the use of the glass, b, in the door or side, for the purpose set forth.

**56,003.—LEEWAY INDICATOR FOR VESSELS.**—Thomas Byrne, New York City:

I claim an apparatus for indicating the leeway of a vessel, consisting of a graduated plate attached to an oscillating support, whether such support presents a plane conical or globular surface, and of an index-finger operated by a cord and a plummet or other equivalent device in the water, and vibrating on a fixed pivot with a double support, or on double hinges, substantially as and for the purpose set forth.

**56,004.—OILER.**—George J. Capewell, West Cheshire, Conn.:

I claim an oiler constructed with the tube, C, and the tube, D, in combination with the swivel joint, substantially as and for the purpose herein described.

**56,005.—TABLE-LEAF SUPPORT.**—L. R. Cavender, Eureka, Ill.:

I claim an improved table-leaf support formed by combining the pivoted arm, F, the spring, H, and cord, I, constructed and arranged substantially as herein described with each other and with the frame, A, of the table, for the purpose set forth.

**56,006.—FIRE-ESCAPE.**—J. A. Chambert, Ogdensburg, N. Y.:

I claim, 1st, The combination of the rollers, C, sectional ladder, E, hinged as described, and sliding-frame, D, substantially as and for the purpose set forth.

2d, The supports, B, with the flanges, F, in combination with the sectional ladder, E, and the gearing for elevating the same, the parts being severally constructed and arranged for use, substantially as and for the purpose set forth.

**56,007.—PEN AND PENCIL-HOLDER.**—James M. Clark, Jersey City, N. J.:

I claim the slotted tube, c, with its ring, i, in combination with the screw-tube, e, attached to the tube, b, and acting upon the pen-socket, a, introduced between the tubes, c and e, in the manner and for the purposes set forth.

**56,008.—BED-BUG PROTECTOR FOR BEDSTEADES.**—Samuel Clarke, New York City:

I claim, 1st, The combination of the cup, B, and ring, C, with its pendant flange, D, substantially in the manner represented and described.

2d, The pendant flange, D, in combination with the cup or guard, B, and support, A, and with the legs of a bedstead, substantially as and for the purpose specified.

**56,009.—CANE-STRIPPER AND KNIFE COMBINED.**—Robert Conarroe, Camden, Ohio:

I claim the cane-knife and stripper, consisting of a handled blade provided with a spring gripping jaw which is supported by the guard, E, and combined with the blade by means of the forked ends, w, substantially as described and represented.

**56,010.—COMBINED LAMP-CHIMNEY AND SHADE.**—Joseph H. Connelly, Wheeling, West Va.:

I claim the combination with the glass chimney, A, and metal top, B, of the shade or reflector, C, when provided with supporting points, c, c, c, and otherwise, constructed and applied as herein specified, to leave an air-space between it and the chimney, lessen the conduction of heat, permit its ready removal, and avoid confining the glass, substantially as set forth.

**56,011.—LAMP-SHADE SUPPORTER.**—Joseph H. Connelly, Wheeling, West Va.:

I claim a lamp-shade or screen, B, having a metallic rim, a, and a wire or other metal band, c, arranged substantially as set forth, in combination with a supporter consisting of the collar, D, and suspenders and hook, g, d, e, constructed and operating substantially as described, for the purpose of adapting the shade, B, to use with a common bulged chimney or a straight wide chimney, as set forth.

**56,012.—DRAFT ATTACHMENT.**—Charles W. Connelly, Rochester, N. Y.:

I claim, 1st, The adjustable bows, B, when attached to the front of the hames and used without tugs, substantially as and for the purposes set forth.

2d, In combination with the bows, B, the suspension straps, S, and the steadying straps, S.

3d, The swiveled clip, C, constructed and arranged as described and for the purposes set forth.

**56,013.—GONIOMETER.**—William W. Cooper, Washington, D. C.:

I claim an instrument constructed substantially as herein described, and which when made of pocket size, or any other size, serves for measuring vertical angles with great precision, by means of a spirit-level and graduation made along a spiral or zigzag, grooved to receive the free ends of the case which carries the spirit-level bulb.

**56,014.—SAFETY WATCH-POCKET.**—William W. Covell, New York City:

I claim a watch-protector formed of a case having a spring connected with the hinges by which it is held closed, and against the force of which it must be opened, and having loops upon the rear side by which it is to be attached to the interior side of the pocket, all substantially as described.

**56,015.—HEATING-STOVE.**—Daniel M. Cummings, Enfield, N. H.:

I claim the combination and arrangement of air-flues or passages, c, a, d, o, n, r, together or singly, with the fire-box or chamber of a stove constructed for heating purposes, substantially in the manner and for the purpose herein set forth.

I claim, also, the combination and arrangement of the direct air-flues, n, with the radiating flues, c, e, of a heating stove, A, substantially in the manner and for the purpose herein set forth.

**56,016.—HOOP-SKIRT.**—Theodore D. Day, New York City:

I claim, 1st, A spring forming the edges of the opening at the upper and front part of a skeleton skirt, for the purposes and as set forth.

2d, The edge-springs, e, in combination with the bustle-springs, h, b, the ends of said bustle-springs being connected to the edge-springs by hinges or otherwise, as specified.

3d, Attaching the ends of the edge-springs, e, to the upper body hoop or hoops, a, of the skeleton skirt, for the purpose and as set forth.

**56,017.—LOW-WATER DETECTOR.**—Jules Delery, Parish of St. Bernard, La.:

I claim the general arrangement of all the different parts composing my machine, and the combination of the device with the steam-boilers, in the manner and for the purpose described.

**56,018.—DUST-BRUSH AND BROOM.**—Andrew Dietz, New York City:

I claim the use and application of leather in the construction of brushes and brooms, substantially as and for the purposes set forth.

**56,019.—GATE.**—Chas. Dixon and S. H. Close, Port Byron, N. Y.:

We claim, 1st, The spur-wheel, G, shaft, E, and bevel-gear

wheel, H and K, constructed and arranged as described, in combination with each other, with the gate-post, M, and with the rear upright bar, A', of the gate, A, substantially as described and for the purpose set forth.

2d, The combination of the levers, S and T, and band or chain, R, with each other and with the spur-wheel, G, substantially as described and for the purpose set forth.

56,020.—SEWING MACHINE.—George L. Dulaney, Mechanicsburg, Pa. :  
I claim, 1st, The construction of a looping-hook formed of one individual piece of metal of the shape shown at f2, g2, g3, and so connecting said hook in such a manner directly on to the extremity of a rotating axle as to dispense with all secondary joints, rods, elbows, or crank-pieces, and so also that while its pivoted end, c2, moves within slot, g3, up and down, with reciprocating motion, the hooked or barbed end, g2, g3, moves in and describes parts of an ellipse, E, E, and also diagonal lines, R, R, as shown in Fig. 11, the action of said looping-hook being received direct from the end of a primary axle, the motions of both being around one common center, as shown and described.

2d, The manner or mode of constructing, combining, and arranging the cloth "feeding-wheel," r2, r3, r4, r5, so that the hub or center, q2, thereof revolves over and around a stationary sleeve, r2, within which sleeve rotates the driving axle, a2, a3, F, 1, and through which construction the action of a primary driving-wheel is communicated direct to said feeding-wheel, and by which combination and arrangement the looping-hook, f2, g2, g3, receives direct motion, and whereby great simplicity, compactness, and durability of construction are attained, substantially as and for the purposes set forth and described.

3d, The manner or mode of hanging or attaching the cloth feeding-wheel, r2, r3, r4, r5, to a jointed, hinged, or pivoted standard bracket, bearing, or an axle, W, V, so that said feeding-wheel may be cast off or turned outwardly to one side out of position, or from beneath the material, in the manner as shown by dotted lines in Fig. 1, as and for the purposes set forth and described.

4th, The construction and arrangement of the laterally working detached clutch devices, d3, d3, c3, c3, with the yoke-wires, f4, f4, g4, g4, and the vibrating-lever, x2, x2, y2, y2, as set forth and for the purpose specified.

5th, The peculiar construction and arrangement of the thread tension-wheel, m, m, l3, l3, and the detachable lifting and intermittently acting lever-clutch, n, n, h3, Figs. 1 and 2, or its equivalent, for the purpose substantially as set forth and described.

6th, The peculiar construction of the stationary spool-case holder, K2, K3, L2, L2, Figs. 2, 3, and 16, formed of two concave jaw-like pieces provided with (or without) the slot, n6, together with the latch or spool-case guard, n2, n2, Figs. 1, 2, 3, and 16, or its equivalent, as set forth and described and for the purpose specified.

7th, The detachable shield, n5, or its equivalent, in combination with the spool-case holder, for the purpose as set forth and described.

8th, I claim the construction of the inclosed spool-case (or its equivalent) Figs. 7, 8, and 9, together with the encompassing wire-fillet, formed as shown in Figs. 7 and 10, for the purpose substantially as set forth and described.

9th, Constructing a sewing-machine needle with short abrupt grooves, one edge of one (or both) of the grooves being indented or cut away immediately at the side of the eye, as shown at f5, Fig. 12, and by which form of construction any kink, knot, or inequality of thread is prevented from chafing, catching, or clogging between the needle and edge of the needle-puncture at the position where one thread overlays the other close to the edge of the needle, as herein described, and as for the purpose specified.

56,021.—OPERATING ORDNANCE.—James B. Eads, St. Louis, Mo. :  
I claim, 1st, The arrangement and combination of the trunnions, a, with the boxes, a', levers, a22, the support, c, screw-shaft, d, nut, e, and connections acting to permanently support the gun at d', and to raise and lower the same, substantially as set forth.

2d, The arrangement and combination of the trunnions, a, with the boxes, a', levers, a22, and guides, f, as shown in Figs. 1, 2, and 3, or their general equivalent combination of the trunnions, a, boxes, a', and circular slots, b, of Figs. 4 and 5, when used to produce a change in the axial direction of the gun, substantially as set forth.

3d, The combination and arrangement of the different parts mentioned in my foregoing first and second claims to produce a pendulous gun-motion about a horizontal axis lying in or near the face of the gun, as set forth.

56,022.—CULTIVATOR.—Thos. E. Ellett, Monmouth, Ill. :  
I claim, 1st, The combination of wheel, A, bar, P, and axles, G, G, with the ends at right angles, for the purpose substantially as described.

2d, The attachment of tongue with side movement, substantially as described.

3d, The bars, H, H, for supporting axle-boxes, F, and clevis, O, substantially as and for the purpose described.

4th, The rod, Z, for the purpose described.

5th, The combination of the axle, C, bars, H, H, wheel, A, and tongue, in a manner to produce side movement, for the purpose and substantially as described.

56,023.—HAY-LOADER.—Wm. H. Elliott, New York City :  
I claim, 1st, Joining the arm, c, d, e, to revolving base, b, by means of pivot-bearings, p, so that the arm may have a vertical movement, as described.

2d, The spring-clasp, h, in combination with the fork-handle, g, and cord, m', substantially as and for the purpose set forth.

56,024.—SHEEP-FEEDING RACK.—M. S. Every, Bridgewater, Mich. :  
I claim, 1st, The roof, c, c, hinged at the outer edges as described, so as to fall down and shut off access to the troughs whilst the latter are being filled with the feed, substantially as specified.

2d, The manner of pivoting the troughs so that they can be emptied, substantially as specified.

56,025.—SCRUBBING BRUSH.—B. Figer, Cleveland, Ohio :  
I claim the removable back or brush, C, in combination with the head, A, and screw-bolts, in the manner and for the purpose set forth.

56,026.—MANUFACTURE OF STEEL.—Anthony L. Fleury, Pittsburg, Pa. :  
I claim the processes herein described for the manufacture of bars, rails, or ingots, or steel like iron by treating wrought-iron with melted cast-iron and subjecting the product to the varied treatment of annealing, compressing, rolling, or hammering, substantially as set forth.

56,027.—DESULPHURIZING GOLD AND SILVER ORES.—Anthony L. Fleury, Pittsburg, Pa. :  
I claim, 1st, To treat sulphurets containing gold or silver in the way and for the purpose specified.

2d, The compound obtained, denominated as metalliferous coke, when prepared as above specified.

56,028.—TETHER.—C. L. Folsom, Upper Gilmanton, N. H. :  
I claim the construction and arrangement of the swivel-ring, G, and its swivel collar, a, and sleeve, b, substantially as and for the purpose herein specified.

56,029.—STEAM TRAP.—Albert M. Force, Norwich, Conn. :  
I claim, 1st, The cylinder having escape-port, G, piston, B, attached to a hollow stem or tube, C, connected with an expanding tube fixed at one end, when combined and arranged together substantially in the manner described, so as to operate as and for the purpose specified.

2d, So hanging the cylinder to the head-piece, that it can be moved laterally thereon, to adjust its escape-port to the piston, substantially as described.

3d, So constructing or forming the piston, B, that the steam within its chamber or cylinder will act upon both sides and thus balance the same, substantially as specified.

56,030.—CAR-BRAKE.—Neison R. Forrest, Auburn, N. Y. :  
I claim, 1st, The cam, C, placed on the axle of a railway car, for the purpose of actuating automatically a brake, substantially as described.

2d, The device for automatically stopping and releasing the hook, M, by means of a pulley, H, and levers, I and L, constructed and arranged substantially as set forth.

56,031.—WASHING MACHINE.—Gilbert S. Foster, Sullivan, Maine :  
I claim my improved washing machine, as composed of the washboard, the sectional rubber, the center bolt, and the spring, constructed, arranged, and combined substantially in manner and so as to operate as specified.

56,032.—CAR-SPRING.—Carlos French, Seymour, Conn. :  
I claim a car or other spring made of a steel plate previously folded into two, three, four, or more folds, and then bent into form around a mandrel or over a former, substantially as and for the purpose described.

56,033.—TOOL FOR CUTTING TWIST DRILLS.—Wm. Frost, Newark, N. J. :  
I claim a tool for cutting twist drills in which that surface or portion which cuts that side of the groove terminating in straight cutting lip shall have a curvature, and the tool be otherwise constructed substantially as described and indicated in Fig. 3 of the drawings.

56,034.—SHIP'S WINDLASS.—John S. Getchell, Machias, Maine :  
I claim the combination of the two sets of single or double pawls, L and M, and bent lever-stop, N, with each other, with the roller, H, and with the ratchet-wheels, G, of the windlass, B, substantially as herein described and for the purposes set forth.

56,035.—SCRUBBING BRUSH.—R. P. Gillett, Sparta, Wis. :  
I claim the combination of the frame, A, alternate layers of bristles, b, b, or their equivalents, and cross-blocks, c, screw-bolts, B, having nuts, D, and center cross-bar, C, when arranged together so as to operate in the manner and for the purpose described.

56,036.—CHURN.—Theophilus Gillmor, St. Louis, Mo. :  
I claim, 1st, The combination of the crank, connecting-rod and cylinder, substantially as described and for the purposes set forth.

2d, The combination and use of a strap-joint on the connecting-rod, E, with the crank, B3, when used to connect the churn cylinder, C, with the motive power, as set forth.

3d, The combination of the cylinder, C, with the head, C1, and scoop, C2, and with the radial bars inserted in grooves or facets, C3, substantially as described and set forth.

56,037.—WOOL-BURRING MACHINE.—C. L. Goddard, New York City :  
I claim the manner of constructing inner or skeleton cylinders for burring machines of thin bars or strips of metal inserted in slots in the heads on the shaft, substantially as and for the purpose described.

56,038.—CYLINDER FOR WOOL-BURRING AND CARDING MACHINES.—C. L. Goddard, New York City :  
I claim the manner of constructing cylinders for burring and carding machines of a series of wooden lugs secured to two heads on the shaft, and with radial bars inserted in grooves or facets cut into the periphery, substantially as and for the purpose described.

56,039.—GATE.—John H. Graves, Rochester, N. Y. :  
I claim the employment in connection with a sliding gate of the extension guide, c, running on rollers, d, f, and provided with sockets or depressions, i, k, l, for fitting over the said rollers, and closed by the reaction of a weight or spring, substantially as described.

I also claim in combination with the above forming the lower edge, d, of the guide, c, and the periphery of the roller, d, with the tongue and groove, g, h, substantially as and for the purpose specified.

I also claim the combination of the catch, q, and handles, r, r, with the projection, o, of the extension guide, when so arranged as to hold the gate from being raised and thrown back when closed, substantially as specified.

I also claim the special arrangement of the wire, w, with the sliding weight, v, cord, t, and pulleys, u, f, r, producing the reaction of the gate, as set forth.

56,040.—ROOFING CEMENT.—William Green, Cleveland, Ohio :  
I claim a cement or paint for roofing, or other purposes for which it may be adapted, composed of pulverized iron ore in combination with pulverized slate, stone, coal, coke, or either of them, the said substances being mixed with mineral or other oils, as herein specified, applied, and used, as set forth.

56,041.—RANGE AND FURNACE COMBINED.—William A. Greene, Troy, N. Y. :  
1st, In combination with the oven-furnace, P, P', and combustion-chamber, A, I claim the direct communication-flue, N, arranged in manner substantially and for the purposes as herein set forth.

2d, The removable partition plate or wall, D, or its equivalent device, arranged in manner substantially and for the purpose as herein specified.

3d, In combination with the removable partition plate, D, or its equivalent device, and the flue, C, I claim the arrangement of the boiler-hole plate, J, and the sliding doors, L, L, for the purpose of forming additional fire-chamber space, in manner substantially and for the purposes as herein set forth.

4th, In combination with the oven-furnace, P, P', and direct flue, N, I claim the arrangement of the dampers, b, and c, to operate with each other in manner and for the purpose as herein shown.

56,042.—CONSTRUCTION OF METAL WHEELS.—Ansee Haines, Pekin, Ill., and John Kirkman, Kickapoo, Ill. :  
We claim, 1st, The combination of a wrought-metal felloe ring or rings, formed of angle iron or angle steel of the shape substantially as shown, with wrought-metal spokes formed of angle iron or angle steel, of the shape substantially as shown, the said felloe ring or rings being encircled by a tree, and the said spokes being fastened by their outer ends to the flanch of the felloe ring or rings, and their inner ends cast into the metal hub, all substantially in the manner and for the purpose herein described.

2d, The manner substantially as herein described of constructing and applying removable thimbles, a, to the cast-metal hub of the wheel, for the purpose set forth.

56,043.—BRIDGE.—David Hammond, Canton, Ohio :  
I claim, 1st, The peculiar combinations of the double T-irons, b, b, and clamping-pieces, D or P, with bolts, M, M, and hole, N, substantially in the manner and for the purpose herein set forth.

2d, The peculiar combination of the covering-piece, H, the double T-irons, b, b, the securing-pieces, J, J, with bolt, e, and nut, k, thereon, substantially in the manner and for the purpose herein set forth.

56,044.—COMPOSITION OF MATTER FOR RENDERING PAINT FIRE-PROOF.—Joseph B. Harris, German-town, Ky. :  
I claim the combination of calcined schist, shell, or mineral coal, prepared as above described, with any kind of oil paint, to render the same unflammable or fire-proof, substantially as above set forth.

56,045.—STEAM-ENGINE VALVES, ETC.—R. Francis Hatfield, New York City :  
I claim, 1st, A rotary valve arranged to supply alternately the parts of two or four double-acting cylinders as required when the shaft-crank is placed at right angles to one another, substantially as shown and described.

2d, The rotary valve, L, Fig. 10, constructed with two or more wings as shown at Figs. 10, 14, and 21, in connection with the arrangement of the ports, 1, 2, 3, and 4, Figs. 9, 13, and 19, substantially as described and for the purpose specified.

3d, The crank-pin bosses, 1 and q, Fig. 24, in combination with the screw-bolts, p, p, and the screw-channel in the piece, q, substantially as described and for the purpose set forth.

4th, Arranging the upper part, r, Fig. 24, of the crank cross-head to serve as an offset, in combination with the supply wicks, u, u, u, substantially as shown.

5th, The combination of the above several improvements, as shown by the drawings.

56,046.—LEATHER-STRIP.—Hiram A. Hawkins, Virden, Ill. :  
I claim the strip, a, in combination with the sliding-lever, c, rollers, E and o, and spring, m, and the incline, n, when said parts are constructed and arranged to operate substantially as and for the purpose set forth.

56,047.—QUARTZ STAMP-MILL.—Alexander Herdlein, Egan Cañon, Nevada :  
I claim, 1st, The double-armed levers, F, in combination with the stampers, E, and cranks or other equivalent devices on the driving-shaft, constructed and operating substantially as and for the purpose described.

2d, The hinged tappets, L, in combination with the adjustable heads, G, levers, F, and stampers, E, constructed and operating substantially as and for the purpose set forth.

56,048.—MACHINE FOR FOLDING CLOTH.—William F. Heywood, Cumberland, R. I. :  
I claim, 1st, The spring nipping-jaws, E, E, in combination with the pendulum frame, C2, and operating together in the manner substantially as described.

2d, An elastic table, M, in combination with the pendulum frame, C2, substantially as described.

3d, Combining with the piece of cloth to be folded the belt-feeding apparatus herein described, operating as and for the purposes set forth.

56,049.—SAFETY POCKET.—William Hindhaugh, New York City :  
I claim the bolt, D, and spring-frame, B, in combination with the mouth of a pocket constructed and operating substantially as and for the purpose described.

56,050.—CHURN.—Edwin Hoyt, Stamford, Conn. :  
What I claim is a churn in which all the parts described and represented are arranged in the manner set forth.

56,051.—SOLDERING LAMP AND BLOW-PIPE.—John S. Hull, Cincinnati, Ohio :  
I claim the arrangement of the condensing pump on the outside of the reservoir, substantially as and for the purpose herein specified.

I also claim the employment of a cut-off valve, c, between the pump and the reservoir, for the purpose set forth.

I also claim the employment of a regulating and cut-off valve, E, between the reservoir and the gas-generator, as described.

I also claim a regulating valve, I, between the gas-generator, G, and the jet orifice, L, as herein set forth.

I also claim the employment of a gas-generating burner, supplied with gas produced by the gas-generator itself, together with the main supply, substantially as and for the purpose herein specified.

56,052.—GAS-HEATER FOR COOKING ETC.—John S. Hull, Cincinnati, Ohio :  
I claim the employment of atmospheric pressure to force the liquid to the burner, in combination with a self-generating gas-burner for cooking and heating purposes, so as to produce a blowing jet of flame at any distance from the reservoir, substantially as herein specified.

I also claim the gas-generating burner retort, M, constructed and operating substantially as described in combination with the condensing-pump and reservoir for forcing the oil to the "retort," for the purpose specified.

I also claim the air-valve, H, having a cork cushion, covered with buckskin, or its equivalent, when applied to the condensing-pump of the reservoir of a cooking apparatus supplied by the force of atmospheric pressure, substantially as described.

I also claim surrounding the pump with the case or tube, C, arranged in combination with the condensing-pump and reservoir of a cooking apparatus supplied by the force of atmospheric pressure, substantially as set forth.

I also claim the packing of asbestos around the stem of the jet-regulator, for the purpose herein set forth.

56,053.—HAND CORN-PLANTER.—D. Humphreys, Oskaloosa, Iowa :  
I claim the arrangement in a hand corn-planter of the compound slide, H, T, having the described slotted wings, J, J, and K, openings, b and l, v, and rod, h', in combination with the stud, f, for the plunger, F, on the openings, b, v, in the floor, B, as set forth.

56,054.—FIBROUS PACKING FOR STEAM-ENGINE.—J. L. Husband, Philadelphia, Pa. Antedated June 19, 1866 :  
I claim the manufacture of packing for steam-engines, as hereinbefore described and more specifically set forth, and desire to secure the same by letters-patent thereon.

56,055.—CIGAR PRESS.—Anthony Iske, Lancaster, Pa. :  
I claim the arrangement of my combined cases, A, B, constructed by alternate slats, o, y, and spaces meshing one into the other, substantially in the manner and for the purpose specified.

I also claim the use of clamping-irons, I, or their equivalent, for securing the pressure when removed from the press until the cigars have dried, substantially in the manner specified.

56,056.—MILK RACK.—Albert Jackson, Clifton Springs, N. Y. :  
I claim, 1st, The combination of the ring-guards, E, with the supporting-arms, D, and wire, F, substantially as described and for the purpose set forth.

2d, The combination of the tin-plate, C, or its equivalent, with the standard, B, substantially as described and for the purpose set forth.

56,057.—VISE.—Abiezer Jameson, Trenton, N. J. :  
I claim, 1st, The screw, E, with its convex collar or washer, adapted to the concave sliding washer, K, all substantially as and for the purpose described.

2d, The combination of the above with the washers, G and H, intervening between the collar, f, of the socket, F, and the fixed jaw, A, of the vise.

56,058.—TOOL FOR FINISHING AUGERS.—Russell Jennings, Deep River, Conn. :  
I claim a rotary wheel or burr having a beveled surface, a, at one side, and a semi-circular edge of periphery constructed to form a series of cutters, b, which have a radial or nearly radial position and extend from the inner edge of a to the outer edge of the same and entirely around the semi-circular periphery of

he wheel, in combination with the concave surface, c, at the opposite side of the wheel, substantially as and for the purpose herein set forth.

**56,059.—DRILL CHUCK.**—Frank G. Johnson, Brooklyn, N. Y.:

I claim, 1st, The double spring-jaws, A, B, made with the tapering hole, R, P, between them, in the manner and for the purpose substantially as described.  
2d, The combination of the said jaws, as described, with the said G, and its tapering-bottomed socket, L, by means of which different-sized drills are at once both centred and held at the back end and about midway of their length by simply screwing up the nuts, B, E, essentially in the manner and for the purposes set forth.

**56,060.—RAILROAD SWITCH.**—Robert V. Jones, Canton, Ohio:

I claim, 1st, The lever, B, bar, E, arms, a, a, crooked uprights, D, D, trestle, M, and switch-rod, C, arranged and used substantially as herein specified.  
2d, The pitman, H, and spring, K, working in the case, E, the same being locked by the spring, I, with plate, d, and key, g, said pitman being connected to the lever, B, the whole being constructed, arranged, and operating in the manner and for the purpose set forth.

**56,061.—DEVICE FOR PREVENTING HOGS FROM ROOTING.**—Whitcomb Judson, Galesburg, Ill.:

I claim the construction and application of the device on the top of the snout of a hog to prevent rooting, substantially in the manner as described.

**56,062.—MACHINE FOR MAKING NUTS.**—Edward Kaylor, Pittsburg, Pa.:

I claim, 1st, The combination of the side dies, F, F', so constructed as to incise the nut on all sides but not at the ends, the square punch, g, stationary eye-punch, h, and swage, f, fitting the cavity formed by the side dies, constructed and operating substantially as described, for the purpose of making nuts by cutting off a square blank, forcing it over a perforating punch, moulding it into shape, and finishing it with the blow of a hammer.  
2d, Finishing the nut after it has been perforated and moulded laterally into shape, and while still confined in the side dies, by means of the swage and hammer, substantially as herein-before described.

**56,063.—SPRINKLER AND DREDGE.**—M. Keep and S. K. Dummer, New York City:

We claim, 1st, The valve-stem, D, when provided with teeth, bars, flanges, or their equivalents, as and for the purposes herein described.  
2d, A combination of the valve-stem, D, when barbed or flanged or provided with their equivalents, cups, H, spring, G, cover, B, operating substantially and for the purposes herein described.

**56,064.—SOFA BEDSTEAD.**—John S. Kinyan, Webster City, Iowa:

I claim, 1st, The hinged bottom, A, A', in combination with the hinged head and foot-boards, B, B', C, C', all arranged to operate substantially as herein specified.  
2d, In combination with the above, I claim the catches, E, E, and recesses, F, F, substantially as described.

**56,065.—HORSE-SHOE.**—Peter A. La Frame, Elmira, N. Y.:

I claim the slotted shoe, B, when constructed with recesses in the upper face and elongated openings, D, in combination with the receiving plate, A, when constructed with a flange, C, on its inner edge.

**56,066.—Suspended.**

**56,067.—BROOM-HEAD.**—John H. Lightner, Shirleysburg, Pa.:

I claim, 1st, The toothed bars, I, constructed as described, in combination with the side-plate, B, and door or flap, H, of the broom-head, substantially as described and for the purpose set forth.

2d, The combination of the band, K, constructed and arranged as described, with the side-plate, B, and door or flap, H, substantially as described and for the purpose set forth.

3d, Hinging the door or flap, H, to the solid part of the side-plate, A, at the upper edge of the notch formed in said side-plate, substantially as described and for the purpose set forth.

4th, Securing the handle, E, to the cap, A, B, C, by the wire, G, passing through the notch, g', formed in the side of the said handle, E, substantially as described and for the purpose set forth.

**56,068.—TOILET SOAP.**—George H. Lincoln, Providence, R. I.:

I claim the improvement in soap described, consisting of a bar or cake of soap made up of soaps of different colors and arranged so as to exhibit an ineffaceable ornamental design or trade-mark in one or more contrasting colors, the article being substantially as specified.

**56,069.—LOCK FOR MAIL-BAGS AND CARPET-SACKS.**—John B. Logan, Thorntown, Ind.:

I claim, 1st, The combination of the slide-bolts, B, C, D, and stops, e, c, slotted sliding bar, E, of the jaw, A, operating with the catches, f, g, h, of the jaw, A', constructed and arranged in the manner and for the purpose herein specified.  
2d, The combination of the plate, G, and sliding bar, F, plates, F, F, and jaws, A, A', the plate having suitable holes, I, to receive the shackles of a padlock, and preventing the withdrawal of the bolts unless the padlock is removed, arranged in the manner herein represented and described.

**56,070.—STEAM GAUGE.**—Joshua Lowe, New York City:

I claim, 1st, The inverted cup, C, working in the annular chamber, D, in combination with a series of weights of gradually increasing size, and with a suitable index, all constructed and operating substantially as and for the purpose described.  
2d, Arranging the walls of the annular chamber, D, as and for the purpose set forth.

**56,071.—DOOR KEY-FASTENER.**—Samuel Macferran, Philadelphia, Pa.:

I claim, 1st, Constructing the fastener, E, with the hooks, e, e, substantially in the manner herein-before described and for the purpose specified.  
2d, The combination of the fastener, E, with the slide, F, by means of the eye, a, of the former, substantially as described and for the purpose specified.

**56,072.—MEDICAL COMPOUND.**—Lucinda Marmaduke, Shelbyville, Mo.:

I claim the compounding of said herbs or vegetables, as above described.

**56,073.—WAGON SPRING.**—Charles S. Martin, Milwaukee, Wis.:

I claim constructing the springs of vehicles of solid blocks of india-rubber, in the form of the frustrum of a cone or pyramid, or having only an opening sufficient for the passage of a bolt through them, substantially as set forth.

**56,074.—WAGON SPRING.**—Charles S. Martin, Milwaukee, Wis.:

I claim, 1st, Springs, M, inclosed within cylinder, K, substantially as and for the purpose described.  
2d, Springs, Q, in combination with bolster, C, bar, D, bolts, I, and cups, F, substantially as described.

**56,075.—MEDICINE FOR HOG CHOLERA.**—John L. Mason, Jefferson, Ky.:

I claim a combination of the components above-named in the proportion above set forth (or of any other components when combined resulting in a compound with similar properties), which components or combined compound is a prevention and cure of the disease popularly known as hog cholera.

**56,076.—SEED-PLANTER.**—Ives W. McGaffey, Chicago, Ill.:

I claim, 1st, The seed-distributing cylinder, having holes or cups in its periphery, with screws fitted into the cups for adjusting their capacity, and set-screw at the side to hold them in place, when adjusted in connection with the shifting-slide, N, constructed and operated in the manner and for the purpose substantially as specified.

2d, The adjustable cog or tooth-gears, g and h, for regulating and controlling the seeding device while the machine is moving over the field, constructed and operated substantially as and for the purpose specified.

3d, In combination with the adjustable toothed or cog-gear, g and h, and seeding device, I claim a revolving pointer or marker, P, for marking or indicating the position of the hills in automatic check-row planting.

4th, Constructing a brush for seed planting machines with cap, bolt, and nut for holding the bristles, in the manner specified, or its equivalent.

5th, The detachable spur or rod-cutter, r, fitted to the heel of the runner, in the manner and for the purpose specified.

6th, The oscillating plate, W, provided with the sockets for the lever, y, and having the arm, W, provided with the segmental rack, arranged to operate in combination with the pinion, y, on shaft, K, substantially as and for the purpose set forth.

**56,077.—HARNESS-MOTION OF LOOMS.**—W. W. McGregor, Dedham, Mass.:

I claim the combination or mechanism, substantially as described, for operating the harness-carriers, the same consisting of two sets of levers, a, b, the connecting-rods, g, the vibratory arms, f, and the lifter, D, and its rotary cranked wheel, S, with its crank-pin, r.

I also claim the combination of the rest-frame, T, or its equivalent, with the mechanism or combination, substantially as described, for operating the harness-carriers.

I also claim the combination of the stop-bar, y, and the series of studs or catches, z, with the rest-frame, E, the harness-carriers, and their operative mechanism, substantially as described.

I also claim the combination of the slot, u, and adjustable crank-pin, r, and the adjustable rest-frame, E, with the harness-carriers, and the mechanism for operating them, substantially as described.

I also claim the application of the slotted curved arm, l, to the remainder of the lifter, D, so as to be adjustable with respect to the same, substantially as and for the purposes specified.

**56,078.—COMPOSITION FOR COATING SHIPS.**—Charles R. Milks, Waterford, N. Y.:

I claim a composition of matter compounded from the herein-named ingredients or their chemical equivalents, substantially in the manner and for the purposes set forth.

**56,079.—BOTTLE-STOPPER.**—T. W. Mirick, Boston, Mass.:

I claim in combination with the frusto-conical stopple, a, wire, c, hinge, d, and latch, e, the wire, e, when bent into two parts, each passing through the stopple, and thus serving both to hold the stopple down and to prevent any sidewise tipping movement.

**56,080.—SASH-FASTENING.**—R. E. Monaghan, West Chester, Pa.:

I claim the application of alternating inclined planes attached to both sides of window-sash, doors, gates, and other perpendicular slides, and the use of wheels or rollers and springs operating on both sides of the sash, doors, gates, and other perpendicular slides, and acting as braces to support the sash, doors, gates, and other perpendicular slides, for the purposes above set forth and described.

**56,081.—WOVEN BAG.**—Charles Moore, Trenton, N. J.:

I claim, 1st, As my invention and improvement in bags or sacks, increasing the filling or weight of the cloth gradually from the place of tying near the top to the bottom, to make the bag thickest, heaviest, and strongest where it is subject to the greatest strain and the most wear, substantially as described.

2d, In combination with a bag woven gradually thicker from the place of tying to the bottom, I claim the thick welt or edge around the mouth or open end of the bag, formed substantially as described, for the purpose set forth.

**56,082.—CLOTHES-SPRINKLER.**—Herbert A. Morse, Canton, Mass.:

I claim in a clothes-sprinkler constructed as described and provided with the opening, D, the combination and arrangement of the flange, C, substantially as described and for the purposes set forth.

**56,083.—SIFTER AND STRAINER.**—James M. Muhley, Cambridge, Mass.:

I claim the combination and arrangement of the curved metallic beaters and the changeable sliding sieves and strainers, and the devices for securing them in position, as described, for the purpose specified.

**56,084.—CAR SPRING.**—William R. Nichols, Philadelphia, Pa.:

I claim, 1st, A car-spring constructed of a series of elliptical plates of steel, each of which is complete in itself, and of such size that, being arranged concentrically, they shall fit snugly upon one another, substantially in the manner set forth.

2d, In combination with the above-described form of springs, I claim the case, D, cap, E, and rods, C, when constructed and arranged for use, substantially in the manner and for the purpose set forth.

**56,085.—CAR-COUPLING.**—James A. Niman, Mansfield, Ohio:

I claim the combination of a pair of draw-bars, each constructed with a swinging-pin, A, an oscillating-bar, B, a link-bell, Q, Q, a link-holder, D, D, and bolt, C, substantially as described, and each provided with a coupling link, as and for the purpose described.

**56,086.—ROW-LOCK.**—Joseph W. Norcross, Middletown, Conn.:

I claim, 1st, The bed-plate, D, with cylindrical sockets or studs, E, in combination with the plate, C, and bed-plate, A, constructed and operating substantially as and for the purpose described.

2d, The wooden thole-pins, F, in combination with the segmental metal sockets, E, constructed and operating substantially as and for the purpose described.

3d, The latch, h, and lugs, c, d, in combination with the plates, C, D, and studs or sockets, E, constructed and operating substantially as and for the purpose described.

**56,087.—TACKLE-BLOCK SHEAVE.**—Joseph W. Norcross, Middletown, Conn.:

I claim a sheave composed of a metal pulley, B, and wooden cheeks, as a new article of manufacture, when composed of the shoulders, d, or the rim, a, to support the cheeks, C, and the projections or spurs, e, on the rim, to retain the cheeks in position, substantially as described.

**56,088.—HARROW.**—Oscar D. Padrick, Shelbyville, Ind.:

I claim the application of hinged harrow carrying-arms, C, C, to a rigid triangular harrow frame, A, in combination with the extensible braces, D, D, which are provided with means for fastening them together, substantially as described.

**56,089.—SHEET-METAL WATER-WHEEL.**—Rees Palmer, West Chester, Pa.:

I claim, in combination with the sheet-metal band, A, supported by the arms, D, as described, the sheet-metal buckets, B, when the said buckets are constructed and applied to the said band, in the manner and for the purpose described.

**56,090.—TUYERE.**—James Patterson, New York City:

I claim the combination of the rod, G, with its catch, e, the rods, E, F, and perforated conical valve, D, arranged relatively with the hollow base, A, and the fire-bed, B, with the conical flange, s, constructed and operating in the manner and for the purpose herein specified.

**56,091.—DOUGH-KNEADER, MEAT-POUNDER, ETC.**—Philander Perry, Charlestown, Mass.:

I claim, 1st, The spring, K, in combination with the jointed lever-pillar and platform, when constructed and used substantially as described.

2d, The dovetailed groove for the purpose of holding the tools in connection with the movable lever and platform, all constructed and used substantially as described.

3d, The whole machine, being the combination of the above tools, viz., the beef-tenderer, potato-masher, meat-chopper, pastry-roller, and dough-kneader, or either of them, with the double-jointed lever, pillar, and platform, when constructed and used substantially as described.

**56,092.—LAMP-CHIMNEY, BOTTLE, OR CAN-CLEANER.**—C. M. Pond, Oberlin, Ohio:

I claim the adjustable rubber, A, and handle, B, when combined substantially as and for the purpose described.

**56,093.—MOWING MACHINE.**—Calvin Reed, Springfield, Ohio:

I claim, 1st, The cam-wheel, E, in combination with the rock-shaft, h, for operating the sickle-bar, D, when arranged as shown and described.

2d, Connecting the sliding-lever, p, to the shoe, K, by means of the bolt, i, and spiral rod, t, when said parts are arranged to operate as herein described.

3d, The combination of the levers, y and p, with the pivoted or hinged shoe, K, arranged and operating as and for the purpose set forth.

**56,094.—REFRIGERATOR.**—Charles B. Rees and J. D. Tevis, Philadelphia, Pa.:

We claim, 1st, Retaining the drippings from the ice in vertical and horizontal pipes, for the purpose specified and described.

2d, An adjusting carrying-block, for adjusting the height of the ice in the vertical pipes, substantially as shown.

3d, The vertical pipes, F, and the horizontal pipe, E, combined and arranged and rotated either on one or both sides of the refrigerator, as specified and described.

4th, The vertical pipes, F, and the horizontal pipe, E, and the grip-pan, D, combined and arranged and placed either on one or both sides of the refrigerator, substantially as shown.

**56,095.—MACHINERY FOR TAPPING NUTS.**—David Reese, Newburg, Ohio:

I claim, 1st, The standards, b, sheaves, J, and weights, h, in combination with the mandrels, J, pinion, r, gear, H, and braces, I, arranged and operating in the manner and for the purpose set forth.

2d, The arrangement of the trough, C, revolving arms, E, E, and shaft, D, in combination with the gears, D' and e', and weighted stop, L, operating in the manner and for the purpose set forth.

3d, The stop, L, in combination with the revolving frame, K, as and for the purpose set forth.

**56,096.—AUTOMATIC BOILER-FENDER.**—G. A. Riedel, Philadelphia, Pa.:

I claim, 1st, The two reservoirs, F and F', in combination with a chest, A, valves, B and B', and ports, pipes, and passages, substantially as described, the whole being applied to a steam boiler, and operating substantially as set forth.

2d, In combination with the two vibrating reservoirs, I claim the weight, H, so arranged and operating as to prevent the tendency of one reservoir to balance the other.

3d, The arrangement substantially as described, of the tank, Q, and the injector, for the purpose specified.

**56,097.—EVAPORATOR.**—J. F. Riggs, St. Joseph, Mo.:

I claim, 1st, A cast-iron transverse current evaporator, when made sectional, as to be able to increase the size of the pan by the insertion of one or more sections, substantially as and for the purpose described.

2d, Suspending a skimming apparatus over the pan by an elastic contrivance, for the purposes described.

3d, The sections, A, A, A, the connecting-rods, B, B, the lugs, C, C, C, substantially as and for the purposes described.

4th, The nuts, C, C, C, the connecting bolts, h, h, the screws, h, h, substantially as and for the purposes described.

5th, A seam trough inclining from the ends towards the center with an opening covered with any suitable strainer, substantially as and for the purposes described.

6th, The socket, O, O, the elastic springs, T, T, the chains, t, t, the handles, s, s, the grooves, U, U, the sliding gates, V, V, and the hooks, X, X, X, substantially as and for the purposes described.

**56,098.—WATER-BOX FOR TUYERES.**—George M. Robinson, New Wilmington, Pa.:

I claim the water-box, h, with tuyere-pipe, g, passing through it, when constructed and arranged as described, the box being open on top and projecting outside of the back-wall or chimney for the purpose herein-before set forth.

**56,099.—CUTLERY.**—William W. Robinson, Itupon, Wis.:

I claim constructing and attaching the blades and handles of knives and forks in such manner that the handle, composed of any suitable material, shall be secured between the convex, C, and to the flange, E, substantially in the manner set forth.

**56,100.—SAW-GUMMER.**—Phillip Roche, Binghamton, N. Y.:

I claim the combination and arrangement of the adjustable lever, B, sliding-block, D, eccentric lever, C, and indicator, H, substantially as described and for the purposes set forth.

**56,101.—PUMP.**—J. M. Roebuck and W. R. Reese, Donaldson, Pa.:

We claim in a pump the removable case, C, divided by partitions substantially as described, and furnished with valves and openings, as set forth, for the purpose of being readily repaired or renewed without disturbing the rest of the machinery, as set forth.

**56,102.—CULTIVATOR.**—John S. and Ira Rewell, Beaver Dam, Wis.:

We claim the combination of the slotted beam, A, shank, B, brace-bar, C, and bolt, D, when the parts are constructed and arranged to operate as and for the purposes herein specified.

**56,103.—CHURN.**—Jacob T. Rust, Oquaka Junction, Ill.:

I claim constructing, arranging, and operating the dashers, L, M, in the manner and for the purposes herein specified.

**56,104.—COMBINED INKSTAND, WAFER OR SAND-BOX, CALENDAR, LETTER AND ENVELOPE HOLDER, AND PEN-RACK.**—George Schmidt, New York City:

I claim the combination of inkstand, wafer or sand box, calendar, letter and envelope holder, and pen-rack, substantially as herein shown and described.

**56,105.—FAUCET.**—Conrad Schullian New York City:

I claim operating the air-valve or vent of a faucet by the action of the handle which serves to open and close the plug, substantially as and for the purpose set forth.

**56,106.—MUSICAL INSTRUMENT.**—Daniel Schuyler, Buffalo, N. Y.:

I claim a combination of valves and air-chambers so constructed and arranged that by blowing the wind through the air-chambers or drawing the wind back and out of the air-chambers the wind will in both cases pass through the reeds in one and the same direction, substantially for the purpose set forth.

**56,107.—CARBON-OIL FIRE-TESTER.**—George E. Shaw, Pittsburg, Pa.:

I claim, 1st, The water-bath, D, with its double casing, F, and top, E, as described, and the pipe, C, for the purpose of obtaining heat from the bottom only, as set forth.  
2d, The combination of the two thermometers, A and N, with the water-bath, D, and oil-cup, H, for the purpose specified.  
3d, The shield, P, with its notch, Q.  
4th, The combination of the pivoted lever fire-brand holder, R, with the ring and rod, S, and the spring, T, arranged as described and acting as specified.

**56,108.—QUARTZ-CRUSHER.**—Thomas J. Shaw, Philadelphia, Pa.:

I claim the employment of metal balls secured by chains to a revolving wheel, the whole constructed and operating for the purpose described.

**56,109.—CHIMNEY-CAP.**—J. Herbert Shedd and Benjamin Worcester, Waltham, Mass.:

We claim, 1st, The combination of a fixed cover above a flue, with a movable shield so adjusted as to be made by the force of the wind to close the opening between the flue and the cover on the windward side while the leeward side is left open.  
2d, The construction and arrangement of the base, B, with its spherical surface, K, and of the cap, C, with its curved under surface and projection, M, substantially as described.  
3d, The ring, J, with the tunnel-shaped jets, N, N, in combination with the base, B, and cap, C, substantially as described.

**56,110.—WASHING AND WRINGING MACHINE.**—W. S. Shoemaker, Greenwood, Md.:

I claim, 1st, The hinged shelf in combination with the wash-tub and the rollers, substantially as and for the purpose described.  
2d, The hand-lever, J, in combination with the hinged shelf-rollers and wash-tub, substantially as and for the purpose described.  
3d, The combination of the two squeezing-rollers, B, B', stretching-roller, D, rubber-belt, G, and hinged shelf, G', substantially as and for the purpose described.

**56,111.—LIFTING-JACK.**—Luther Smith Rochester, Minn.:

I claim, 1st, The catch, G, actuated by the spiral spring, G', in combination with the jack-bar, H.  
2d, The arrangement of a lifting-jack having the stock, A, bar, B, lever, D, stamp, E, catch, G, and spiral spring, G', the parts being constructed and combined substantially as and for the purpose set forth.

**56,112.—BUTTER-WORKER AND MOLD.**—T. D. Smith, Independence, Ohio:

I claim the arm, F, pivoted or hinged at K, and lever, H, pivoted or hinged at N, in combination with the frame, A, mold, P, and stamp, L, arranged as and for the purpose set forth.

**56,113.—CAR SPITTOON.**—Willison G. Smith, Carlisle, Pa.:

In combination with the sides of an inserted box of any shape, even with the floor of the car, I claim the adjustable lid and bottom connected by the bolt and sliding in the guides, as described.

**56,114.—NAIL AND TACK.**—Rachel Speer, Passaic, N. J.:

I claim making nails and tacks with bodies formed of double cones, or having conical outlines on opposite sides thereof, substantially as described.

**56,115.—CHURN.**—Otis W. Stanford, Lebanon, Ohio:

I claim the combination of the standard, C, catch, D, c. pulleys, E, G, and driver, g, constituting a detachable propelling device and arranged to operate in connection with dasher, K, L, substantially as and for the purposes set forth.

**56,116.—TREATING GAS FOR ILLUMINATION AND OTHER PURPOSES.**—Levi Stevens, Fitchburg, Mass.:

I claim, 1st, The combination of two or more gas-meter wheels, propelled by gas or other power, for the purpose of carbonizing atmospheric air and super-carbonizing ordinary illuminating gas, so that when combined and mixed the whole will become an illuminating gas, substantially in the manner and for the purpose described.  
2d, The combination of two or more gas-meter wheels, propelled by gas or other power, with a chain elevator, and all with a tank or reservoir for holding hydro-carbon and for receiving and mixing super-carbonized gas and carbonized atmospheric air for the production of an illuminating gas, in the manner and for the purposes described.  
3d, The combination of two or more gas-meter wheels, propelled by gas or other power, with a chain elevator, a, and the receiver, C, and all with the reservoir, A, in such manner that the gasoline or other hydro-carbon may be kept at the desired height in the cases of the gas-meter wheels, in the manner and for the purposes described.

**56,117.—SHIP'S TABLE.**—Isaac H. Stoddard, Amenia, N. Y. Antedated June 30, 1866:

I claim the arrangement of the tables (C), with the rods (F), (G), and (H), and with the arm, g, and weight, E, substantially as and for the purpose herein set forth.

**56,118.—MEANS FOR DRIVING PADDLE-WHEELS.**—Joseph M. Story, Cincinnati, Ohio:

I claim applying the power to the paddle-wheels of boats near the periphery of the same by means of friction-wheels and levers in the manner and for the purpose substantially as herein set forth.

**56,119.—BROOM-HEAD.**—William D. Stroud, Oshkosh, Wis.:

I claim a broom-head made of flexible bands connected by a rigid strip with an open space between the bands and an open space around the handle, as described, in combination with the rigid binders, D, T, and handle, C, the whole being constructed and operated substantially in the manner and for the purpose set forth.

**56,120.—HYDRAULIC ENGINE.**—Homer H. Stuart, Jamaica, N. Y.:

I claim the valve with its passages as shown, when operated by the eccentrically grooved plate in connection with the guide-pin and connecting-bar, substantially as described.

**56,121.—PROCESS FOR REFINING OIL.**—E. G. Sutherland, San Francisco, Cal.:

I claim the within-described process for extracting and refining oil from whales and other marine animals and fishes, all substantially as described and for the purposes set forth.

**56,122.—CORN CULTIVATOR.**—C. W. Taliaferro, Keithsburg, Ill.:

I claim, 1st, The particular manner of constructing the frame of the machine, to wit, of two parallel bars, A, connected by semi-circular metallic bars, B, with the axles, E, fitted between or having their bearings in said bars, substantially as shown and for the purpose set forth.  
2d, The connecting of the plow-beams, F, F, to the axles, E, by having the latter formed with slats, A, to receive clevises, a, at the front ends of the beams, with pins, b, passing through the angles and clevises, substantially as and for the purpose specified.

**56,123.—PAPER GAUGE FOR PRINTING-PRESSES.**—J. Warren Thyng, Salem, Mass.:

I claim the combination and arrangement of the graduated grooved bar, B, attached to the edge of the platen, the adjusting clamps, C, C, C, and gauge-rods, F, F, G, substantially as and for the purpose herein specified.

**56,124.—NUT.**—Levi Till, Sandusky, Ohio:

I claim so securing a washer to a screw or other nut that, while it can freely turn on the face of the nut, it cannot become disengaged therefrom, substantially in the manner described.

**56,125.—BINOCULAR EYE-PIECE FOR MICROSCOPES.**—Robert B. Tolles, Canastota, N. Y.:

I claim the construction of an eye-piece in such a manner that the division of the optical pencil necessary to give binocular vision of an object is effected in the eye-piece itself, restricting my claim, however, to that form of a binocular eye-piece, in which two real or virtual images of the object are formed in the eye-piece, after such division of the pencil has taken place.

**56,126.—FIXTURE FOR RATCHET-WHEELS FOR LAMPS.**—Howell Popping, Marion, N. Y., and Merritt Gally, Auburn, N. Y.:

We claim the application of a spring to the shaft of the ratchet-wheels of a lamp-top, pressing the wheels against the wick, in combination with slots in the sides of the lamp-top, allowing the movement of said shaft for different degrees of compression, substantially as herein set forth.

**56,127.—BEEHIVE.**—James Wash, Mount Sterling, Ill.:

I claim the combination of the rats, C, trunk, D, door, e, tube, E, and leg, g, table, A, and hive, B, constructed and arranged in the manner and for the purpose herein specified.

**56,128.—MOSQUITO-BAR.**—Chauncey L. S. Walker, Newark, N. J.:

I claim the frame adjustable by the slots, a, and screws, e, in combination with the wire-cloth upon both parts of the frame, as herein specified.

**56,129.—RECIPROCATING PUMP.**—D. M. Weston, Boston, Mass.:

I claim the cushions or springs, C, C, made of rubber or other elastic material, or their equivalents, so placed as to form part of the connection between the piston of a pump and the driving-gear, substantially as above described and for the purpose of relieving the pump and machinery from jar or concussion.

**56,130.—CONDENSER.**—Norman W. Wheeler, Brooklyn, N. Y.:

1st, In an apparatus for surface condensation or refrigeration, I claim producing the desired result by directing the refrigerating fluids into the refrigerating vessels in such a way that they shall flow against the strata on the inner surfaces thereof, which cling to such surfaces under the influence of centrifugal forces, when such vessels are prevented from filling with liquid, substantially as above described.  
2d, In an apparatus for surface condensation or refrigeration, I claim facilitating the object sought by directing the substances to be condensed or cooled into inclosed spaces, surrounding the refrigerating vessels in such a way that they will not infringe primarily against the principal refrigerating surfaces, but against the inclosing surfaces under the influence of centrifugal force, substantially as and for the purpose above set forth.

3d, In an apparatus for surface condensation or refrigeration, I claim the mode herein described of preventing the refrigerating liquid from accumulating in the interior of the refrigerating vessels, to wit, by means of injecting air into such vessels by mechanical means, substantially in the manner above described.

**56,131.—KEROSENE-BURNER.**—Luther C. White, Waterbury, Conn.:

I claim combining the deflector, H, constructed substantially as described, with the wick-tube, cap, and shell, when the same shall be combined substantially as shown for the purposes specified.

**56,132.—BED-SPRING.**—Nelson B. White, South Dedham, Mass.:

I claim the arrangement and application of the overlapping clamps, C, C, made as described with the slat, B, the base, A, of the spring and the projection, a, to enter such slat, the whole being substantially as and for the purpose set forth.

**56,133.—SPINNING MULE.**—Robert Wilde, Philadelphia, Pa.:

I claim the sliding-rod, F, levers, F, G, and H, and the weight, D, or its equivalent, the same being constructed, arranged, and applied so as to operate substantially as and for the purpose described.

**56,134.—HORSE-SHOE.**—Albert S. Wilkinson, Pawtucket, R. I.:

I claim the clip, B, in combination with the bar, A, calk, C, rivets, f, f, and keys, e, d, the whole being constructed and operated substantially in the manner and for the purpose set forth.

**56,135.—STEAM GAUGE.**—Charles A. Wilson, Cincinnati, Ohio:

I claim the diaphragm, A, for steam-pressure gauges, when constructed with my intersecting corrugations, as and for the purpose set forth.

**56,136.—GRAIN-COOLER.**—George D. Woodworth, Chicago, Ill.:

I claim the new and useful mode of preventing grain and other material from being heated while in process of grinding, as herein set forth, and particularly the following:—  
1. Covering the eye of the stone to prevent the escape of the air, substantially as set forth.  
2. The construction and arrangement of an air-tube, in the manner above set forth.  
3. The construction of a pipe made flexible in whole or in part by loose joints, or otherwise, in order that it may adjust itself to the vibrations of the stone.  
4. The construction of a false eye of wood bolted in some oily substance, to furnish a durable and substantial bearing for the lower end of the tube or cylinder.  
5. The construction of a door in the cover of the stone, to remove any obstruction collecting therein.

**56,137.—TUBULAR WELL.**—W. G. Wright, Hornellsville, N. Y.:

I claim the use of hemp or any suitable fibrous filtering material, as described.

**56,138.—SAWING MACHINE.**—T. L. Yates, Utica, N. Y.:

I claim the combination of the roller, E, arm, F, slotted bent-arm, G, applied and operating with the gauging and feeding saw, in the manner and for the purpose herein specified.

**56,139.—SAFETY POCKET.**—Charles H. Bagley, assignor to C. E. Mason and P. S. Bartlett, Elgin, Ill.:

I claim, 1st, Providing the plate, A, with the spring, B, substantially as and for the purpose specified.  
2d, The combination of the button or shed, E, with the plate, A, and spring, B, substantially as specified.

**56,140.—METHOD OF PREPARING COTTON-SEED FOR PLANTING.**—William Blessing, Jeffersonville, Ohio, assignor to himself and Horatio B. Maynard, Washington, Ohio:

I claim the mode of preparing cotton-seed for planting by the application of muckage, sand, and flour, or their equivalents, substantially as and for the purposes set forth.

**56,141.—TOOL FOR TURNING OR PLANING.**—Theodore Cooper, Warwick, R. I., assignor to himself and Thomas Phillips, Providence, R. I.:

I claim the holder, A, cutter, B, clamp, C, and key, D, arranged substantially as described for the purposes specified.

**56,142.—SAW.**—J. E. Emerson, assignor to The American Saw Company, Trenton, N. J.:

I claim constructing the teeth of a saw with recesses in such a manner that they may be attached to projections from the saw-plate, substantially in the manner herein shown and described.

**56,143.—APPARATUS FOR PRODUCING AND BURNING THE GASES FROM PETROLEUM AND WATER.**—Alva J. Griffin, Lowell, Mass., assignor to himself and William T. Vose, Newtonville, Mass.:

I claim, 1st, Constructing the chamber, A, with a longitudinal partition, K, and lateral ribs, H, elevated and depressed at alternate ends, substantially in the manner and for the purpose set forth.  
2d, In combination with the chamber, A, divided into two compartments by a central partition, I claim the pipes, D and E, when constructed and arranged in relation to the chamber, A, and to one another, as and for the purpose set forth.

**56,144.—KNIFE FOR REMOVING HAIR FROM HIDES.**—Barzilla Harrington, assignor to himself and J. L. Newton, Boston, Mass.:

I claim a short hair knife with its form of blade, b, its rib, c, and its guard, d, combined and arranged substantially as and for the purpose above set forth.

**56,145.—HEAD-BLOCK FOR SAW-MILLS.**—C. Leffingwell, Clarksburg, Ohio, assignor to himself, H. Blandy, and F. J. L. Blandy, Zanesville, Ohio:

I claim, 1st, The pawl-blocks, C, G, F, H, I, when constructed and arranged substantially as herein described and for the purpose set forth.  
2d, The combination of the lever, K, rod, M, rods, N and O, rods, R and U, levers, P and T, rods, S and V, and movable racks, E, by means of which the knees of the head-blocks are worked with each other and with the movable pawls, F, substantially as described and for the purpose set forth.

**56,146.—CLASP FOR THE BOTTOM HOOPS OF SKIRTS.**—Luther W. McFarland, assignor to Frederick S. Otis, Brooklyn, N. Y.:

I claim the bottom clasp formed with teeth, as specified, for attaching the tape to the hoop and protecting said tape, as set forth.

**56,147.—WRENCH.**—A. M. Olds, New York City, assignor to himself and Albert Manvel, Elizabethport, N. J.:

I claim, 1st, So combining and arranging the spring-tooth, D, jaw, C, and shank, B, that the tooth will grip or bind against the bottom of the mortise of the shank and retain the said tooth in position without serrations in the shank, substantially as described.  
2d, The mortise, b, in combination with the shank, B, spring-tooth, D, and jaw, C, constructed and operating substantially as and for the purpose described.

**56,148.—COAL-STOVE.**—J. W. Paige, Corning, N. Y., assignor to himself and J. L. Paige, Rochester, N. Y.:

I claim, 1st, The arrangement of the concentrating-plate, E, in combination with the fire-pot, P, and the outer case of the stove, substantially as shown and described and for the purposes set forth.  
2d, The arrangement of the radiating-plate, F, in relation to the concentrating-plate, E, substantially for the purposes specified.

**56,149.—GEAR-CUTTER.**—Edward Parker, assignor to himself and Julius Hotchkiss, Middletown, Conn.:

I claim the jointed bracket, G, in combination with the bed-plate, F, slide, E, with head, D, or D', and arbor, A, constructed substantially as and for the purpose described.

**56,150.—QUARTZ-CRUSHER.**—S. B. Pike, assignor to himself and Robert H. Vance, San Francisco, Cal.:

I claim, 1st, The use of the guides, L, L, when arranged as described, to insure the passage of all the ore under the rollers, substantially as herein specified and for the purpose set forth.  
2d, The employment of the horizontal bar, H, hub, I, and slotted boxes, K, K, or their equivalents, for the purpose of allowing the rollers, F, F, to accommodate themselves to the varying amount of ore on the revolving plate, B, and die, C, substantially as described and for the purposes set forth.  
3d, The gutter, D, operated by the binders, Y, Y, and keys, X, X, in combination with the revolving plate, B, B, rollers, F, F, guides, L, L, annular die, C, and scrapers, when constructed to operate in the manner specified and for the purposes set forth.

**56,151.—SHELLAC VARNISH.**—Lewis A. Smith, assignor to himself and George Burrows, Cincinnati, Ohio:

I claim, as a new article of manufacture, a varnish compounded of shellac and bicarbonate of soda, in any suitable proportions, substantially as set forth.

**56,152.—MACHINE FOR MAKING METAL TUBES.**—P. L. Weimer, Lebanon, Pa., assignor to the Aurora Iron Co., Lebanon, Pa.:

I claim, 1st, The arrangement of the bending rollers, d, d, e, e, and f, f, in a machine which is constructed and operated substantially as and for the purpose described.  
2d, While not claiming broadly by the bending-rollers, b, b, and the bending-rollers, c, c, I do claim these rollers in combination with the bending-rollers, d, and the rollers, e, e, or f, f, all arranged and operating substantially in the manner described and for the purposes set forth.

**56,153.—CHURN.**—George L. Witsil, Philadelphia, Pa., assignor to himself, John W. Olcott, and Warren S. Smith, New York City:

I claim the combination in the dash-rod of a churn of a lower hollow section, b, and an upper spirally grooved solid section, a, c, the former serving to admit a supply of fresh air, while the latter receives a tooth, e, by which the dash-rod is rotated as it is moved up and down by the swivel-handle, G, or other device, substantially as described.



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The improvement illustrated in the engraving claims to be superior to the hives in common use. Its advantages are, rendering the hive proof against the disastrous and sudden changes of temperature, and the ravages of the bee moth, furnishing a superior breeding chamber, and facilitating the removal of the comb and honey.

The engraving represents the hive partly in elevation and partly in section. It is built of frame work, the uprights and horizontals connected at the corners, to which are nailed, both inside and outside, laths, leaving an airspace between; these laths are coated with plaster, making a perfectly air-tight box in connection with the top. The bottom has, extending around the sides, a moth guard, A, in section, like an inverted U, having the inner leg the

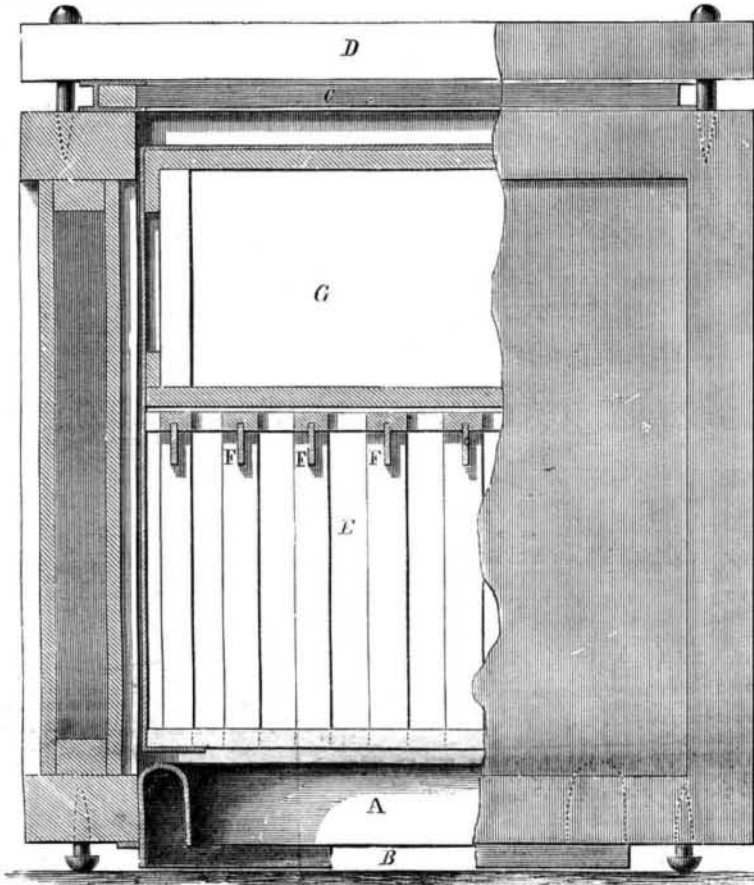
shortest. At B is the door, and the inner surface of the guard is smeared with lard, or some other substance of similar consistency, which effectually prevents the entrance of the moth. The top of the hive is secured by means of a raised rim, C, sheathed with tin, which projects above the rim, and on which the cover, D, shuts down and is fastened by screws.

Strips of leather or rubber may be interposed between the rim and the cover. The brood or comb box, E, is made of thin slats of wood, except the bottom, which is open, and covered with paper pasted on all sides but the top and bottom. This is furnished with strips of tin, F, let in to the top of the uprights and dipped in wax, as an inducement to the bees in forming the comb. By this means each comb is separated, and the strips of comb will always be vertical and distinct. The honey box fits into the space, G, and is of similar construction to the brood box, except that the sides are formed by uprights at the corners, while the top and bottom are of slats. The sides of the box are composed of paper. The

apertures between the top slats of the lower box, and the bottom slats of the upper, afford egress from the lower and ingress to the upper box. By this arrangement it will be seen that the two thicknesses of mor-

tar on the sides inclosing an air space, the hermetical sealing of the top, and the paper sides of the inside boxes, insure a uniform temperature at all times. The comb, and the comb box itself, can be easily divided by a chisel-shaped knife, corresponding in width of blade with the width of the box, and the comb be thus easily removed.

Patented Feb. 13, 1866. For further information

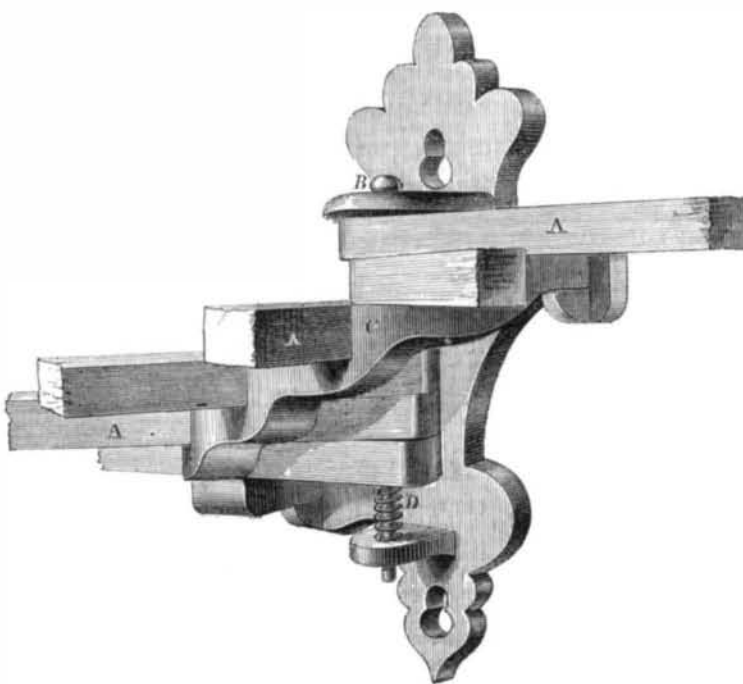


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**HOTCHKISS'S TOWEL RACK.**

space it occupies when spread, renders this neat improvement a very useful article. Its structure and operation can be readily understood by the engraving. It is designed to be secured to the wall by

screws, and when not in use the bars, A, are swung back out of the way. By simply moving them on a common pivot, B, the bars can be extended at varying angles and are supported by the ledges, C, and held in place by the spiral spring, D.

Patented May 15, 1866. For further information address M. D. Hotchkiss, Sheboygan Falls, Wis

**THE SEWING MACHINE AND THE SHOE MANUFACTURE.**

A recent number of the *Shoe and Leather Reporter* contains an article on the results of the application of the sewing machine to shoemaking. While allowing for celerity and facility of production, it insists that the quality of the work is inferior to that produced by the old hand-sewing. It says:—

"The sole-sewing machine has no strength of tension, no power of 'pull,' if we may so express it, and added to this defect, is the very faulty distribution or incorporation of wax with the thread, which, it appears, is a part of the business of the machine to attend to. Little or no wax is applied. This sole-sewing machine necessitates another defect. The upper has to be nailed to the inner sole. In a week after wearing, these nails begin to work through the shoe, and cut the stocking, and generally in thirty days, if there has been wet walking, the outer sole rips, although scarcely worn, and the shoe is ruined; for no ordinary shoe repairer can well re-sew a machine-sewed sole. He must own just such a machine to do it, and not one shoemaker, so called, in a thousand, can afford it."

Another difficulty in making the sewing machine equal the work of the human hand, is the necessity of having the thread much smaller than the perforation of the needle. In sewing leather, especially, the thread should completely fill the space made through its substance by the needle. This can be done only by drawing, or tension, which the *Reporter* thinks the sole-sewing machine is incapable of exerting to a sufficient extent. It is certain, whatever may be the reason, that machine-sewed shoes are much inferior to those sewed by hand by an honest and conscientious workman. The prejudice against them is strong and increasing. It appears that an improvement is needed in these shoe machines which will enable them to compete with hand labor in the durability and value of their work as they now do in the rapidity of execution. Let our inventors look to this matter.



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