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40,317.—Scraper.—Horatio Andrews, Fredonia, N. Y.: I claim the journal boxes, c, at the bottom of the box, A, in combination with the crank axle, C, and wheels, B, constructed and operating in the manner and for the purpose substantially as set forth. Also, the employment or use of the draught-pole, E, with a forked end, d', and hook, f, in combination with the box, A, chain, c, and double tree, D, all arranged and operating as and for the purpose specified.

[The object of this invention is to produce a scraper which is simple, light, easily handled, which can be used on rough or stony ground as well as on level, smooth land, and which can be readily loaded and unloaded.]

40,318.—Semi-liquid Wax for Sewing Thread.—Isaac Banister, Newark, N. J.: I claim the compound semi-liquid wax, when made substantially in the manner and for the purpose herein above specified.

40,319.—Breast Pump.—J. H. Beadle, New York City: I claim, first, The employment or use of the elastic hemisphere, E, in combination with the flanged disk, D, and cup, A, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, The valve, e, constructed of a strip of oiled silk or other suitable material and operating in combination with the diaphragm, E, and cup, A, in the manner and for the purpose set forth.

Third, The chamber, d, in the disk, D, arranged to contain some oiled cotton and to protect the valve, e, substantially in the manner specified.

40,320.—Slide for Extension Tables.—J. F. Birchard, Milwaukee, Wis.: I claim the combination of the bars, B, when double-grooved as shown, with the slides, A, when made with separate adjustable grooved bars, a, and pieces, b, b, and adjusting bolts, c', all in the manner herein shown and described.

40,321.—Naval Architecture.—John Bowdlear, Roxbury, Mass.: I claim, first, The constructing a ships' bottom with the series of peculiarly-shaped grooves or channels and ridges or folds as described, said grooves being made by machinery substantially as way from the amidships to the stem and stern, respectively as set forth.

I also claim constructing the ribs of a vessel with the curved portion, f, and series of projecting folds, g, g, &c., for the purpose of receiving and serving as a backing to a grooved or furrowed covering or sheathing as described.

40,322.—Machine for Separating from the Stalk and Twisting Woody Fibers.—H. W. Bowen, Providence, R. I.: I claim a combination consisting of the following elements or their mechanical equivalents, viz:—

First, Machinery for holding and revolving the stalk with an intermittent motion.

Second, Machinery for raising the end of a fiber in order that such may be seized by the fingers or mechanism by which such fibers to be stripped from the stalk.

Third, Machinery for seizing the fiber and stripping it from the stalk.

Fourth, Machinery for twisting the fiber or fibers, the whole being to operate together, substantially as hereinbefore described.

And furthermore, I claim a combination consisting not only of the above-mentioned elements, but machinery substantially as specified, for drawing the fiber or fibers in manner and with respect to the twister as hereinbefore explained.

40,323.—Beehives.—Levi Brown, Pontiac, N. Y.: I claim, first, The arrangement of adjustable shutters, D, in the bee entrance, C, in combination with the holes, b, substantially as and for the purpose specified.

Second, The hollow opaque button, g, in combination with the ventilating opening, f, substantially as set forth.

Third, The overhanging parts or extensions b', of the top and bottom parts of the frame arranged relatively to the notched bars and to the sides of the hive, substantially as and for the purpose herein set forth.

40,324.—Dial Telegraphs.—C. T. Chester, New York City: I claim, first, The circuit breaker in combination with a train of clock work, whereby it is actuated, and a balance wheel whereby its uniform action is secured, substantially as described.

Second, The combination of the needle of a dial telegraph with a circuit breaker actuated by clock work and regulated by a balance-wheel, substantially as described.

Third, The combination of dial keys with a circuit-breaker driven by clock work and regulated by a balance wheel, substantially as described.

Fourth, I claim in combination with the needle of a dial telegraph, the shifting escapement wheel, constantly connected with and actuated by a train of clock work, when arranged to shift from the armature lever pallet of the receiving magnet to the pallet of a balance wheel, controlling and regulating the action of the mechanism for opening and closing the circuit, substantially as and for the purpose described.

40,325.—Crushing Press.—Edgar Chipman, New York City: I claim, first, The cylindrical or semi-cylindrical head or block, A, provided with the sliding or adjustable weights, C, fitted on arms, a, in connection with a bed, E, all arranged substantially as and for the purpose herein set forth.

Second, The bearings, D, attached to the sides of the head or block, A, in connection with the ways, F, on the bed, E, for the purpose specified.

40,326.—Fire Door for Stoves.—J. S. Clark and Washington Harris, Philadelphia, Pa.: We claim the arrangement of the mica in the fire or feed-door of a stove provided with a movable disk or slide and suitable openings, so that the said mica can be either covered or exposed, as occasion may require, without opening the said door, substantially as described for the purpose specified.

40,327.—Bolts.—Wm. J. Clark, Southbridge, Conn.: I claim the bolt substantially herein described, constituting a new article of manufacture as herein set forth.

40,328.—Pump.—L. B. Crittenden, Cincinnati, Ohio: I claim, first, The combination of a hollow piston rod, C, reciprocating cylinder, B, and air-chamber, D, substantially as described.

Second, In combination with the walking beam, F, the cylinders, B1 B2 B3 and B4, and hollow piston rods, C1 C2 C3 and C4, with their curved and bell-shaped heads, as described.

Third, The combination of the hollow piston rod, C, reciprocating cylinder, B, and stationary cylinder, A, substantially as described.

Fourth, In combination with the third claim, the guide rods, e, and collar, f, substantially as described.

Fifth, In combination with reciprocating cylinders, B1 and B3, the rods, p', arranged and operating substantially as shown.

Sixth, The combination in a ball valve of a wood or metal cover, substantially as described.

40,329.—Filter and Cooler.—G. B. Davis, Chicago, Ill.: I claim the filtering chamber, E, provided with the stopper, G, of cork or other suitable substance, in combination with the ice-chamber, B, and cold-water chamber, C, the latter being provided with an opening, c, in the top to receive the stopper, G, and all arranged as and for the purpose specified.

[This invention consists in a novel and improved combination of a water filter and cooler, the parts pertaining thereto being arranged in such a manner that the water will be filtered in a thorough manner and allowed to pass into the cooler without the liability of coming in contact with the ice in the ice-chamber, the different chambers at the same time being rendered very accessible for the purpose of cleaning, &c., when necessary.]

40,330.—Washing Machine.—M. C. Cronk and S. W. Palmer, Auburn, N. Y.: We claim the fulcrum, U, the lever, H, the collar, L, the ribs, a, a, the buttons, P, P, the hinged sections, B, B, the false bottom, c, the upright, D, the whole constructed and arranged substantially as herein set forth.

40,331.—Railroad Car Coupling.—John Davis, Alleghany City, Penn.: I claim the arrangement of the flexible jaws, b and c, coupling tongue, m, recess, j, stop, g, springs, h b and r, and chambers, B U and w, the whole being arranged, constructed and operating substantially as herein described and for the purpose set forth.

40,332.—Railroad Car Brake.—John Davis, Alleghany City, Penn.: I claim the arrangement of the bars, e and f, guide-plates, d, brakes, c, springs, a, levers, p and q, rods, j k m and n, spiral plate, 5, pieces, o, 7, and braces, v, the whole being constructed, arranged and operating in the manner and by the means herein described, and for the purpose set forth.

40,333.—Musical Instrument.—William Davis, Tamaqua, Pa.: I claim the arrangement of two or more horizontal sliding bows operating upon two or more sets of strings, with their levers, I, keys, E, lifters, N, coupler, l, treadle, F, and crank, G, with fly-wheel, H, arranged, combined and operated as herein described, for the purpose of producing the musical sounds of the harp and violin.

40,334.—Lamp.—C. T. Day, Newark, N. J.: I claim the combination with the burner, C, and socket, A, of the tube, D, opening, g, spiral grooves, e, and pins, f, substantially in the manner herein shown and described.

[This invention relates to an improvement in lamp burners, whereby the lamps are rendered capable of being filled or replenished with oil at any time, even when burning, and by a very simple adjustment or manipulation of the burner, none of the parts of the latter requiring to be detached or removed.]

40,335.—Steam Engine.—William Denkmann, Philadelphia, Pa.: I claim, first, Combining and arranging the screens, b, with pumps, C, and steam-generating chambers, B, substantially as described, for the purpose of injecting water, in the form of spray, uniformly upon the surface of the chambers.

Second, The combination and arrangement of the valve case, E, and valve, F, with the cylinder, A, and a plurality of steam-generating chambers, B, for the purpose of transmitting the steam from the chambers into the cylinder, substantially as described.

Third, The combination of the rotary valve, F, with the induction opening, 13, in connection with the exit openings, 14 15 16 and 17, when combined with and arranged to operate in relation to the case, E, and cylinder, A, for the purpose of supplying the latter with steam, substantially in the manner above described.

Fourth, Constructing the valve, F, with the openings, 18 19 20 and 21, in connection with the openings, 22 23 24 and 25, substantially as represented when made in connection with the passages, e, f, of the cylinder, A, and the openings, 11 and 12, of the case, E, in exhausting the steam from the cylinder, substantially as described.

40,336.—Paper Press.—Wm. R. Dingman, Stuyvesant Falls, N. Y.: I claim, first, Constructing and employing a press with a series of jaws or corresponding upper or lower metallic plates, J J J J J and L L L L L, all disconnected, so that while the paper is being subjected to the required pressure it may be easily tied into reams or bundles.

Second, The arrangement of the standards, k k k k k, with their plates, L L L L L, operating in combination with 11111, with their respective plates, J J J, substantially in the manner and for the purpose herein set forth.

Third, The combination and arrangement of the several parts and devices employed to operate the sliding frame, B, or their equivalents, substantially as and for the purpose herein set forth.

40,337.—Platform Scale.—E. S. Fargo, Dixon, Ill.: I claim the combination and arrangement of the levers, F F G G, with the double or jointed levers, H H', the rod, d, and scale beam, L, all arranged and operating substantially as and for the purpose herein delineated and described.

40,338.—Flask and Bottle.—W. T. Fry, Philadelphia, Pa.: I claim the neck, A, of the bottle, and the cap, C, both being constructed, adapted and cemented to each other, and arranged for the reception of the screw cap, E, all substantially as set forth.

40,339.—Stair Rod Fastening.—E. A. Goodes, Philadelphia, Pa.: I claim, first, The levers, B and B', with their camlike projections, c, c, constructed and applied to stair rods, substantially as and for the purpose described.

Secondly, In combination with the said levers, B and B', and their camlike projections, c, c, I claim the brackets, E, applied to the stairs, substantially as described for the purpose specified.

40,340.—Grain Separators.—Andrew Hunter, Solano Co., Cal.: I claim the arrangement of the screens, E F G H I K, with the plate, P, for the purpose of more thoroughly separating the grain to be cleaned from grain of larger size, substantially in the manner and for the purpose described.

I also claim affixing to the lower shoes the strips, R, and similar strips, T, in a reversed position on the bottom of the shoe under the screen, M, for the purpose of guiding the grain into the hopper, U, and chaff or small seed into the hopper, V.

I also claim the arrangements in grain-cleaning machines of trays or shoes in two or more sets in combination with the reversed cranks and connecting rods, in the manner and for the purposes set forth.

40,341.—Machine for Pegging Boots and Shoes.—Wm. Miller, Boston, Mass.: I claim the arrangement of the elastic cord, N, and pulley, O, with the tube, K, and follower, M, in the manner herein shown and described.

The combination of the adjustable box, D, and collar, C, with the tube, A, spindle, B, and spring, E, in the manner herein shown and described.

The arrangement of the feed wheel, J, with the tube, A, and theawl, peg-driver and cutter, in the manner herein shown and described, so that said feed wheel will revolve on a plane vertical with said parts, all as set forth.

40,352.—Capstan or Windlass.—Isaac G. Morgan, Ithaca, N. Y.: I claim the application of the screw and endless nut, in connection with the bevel wheels, socket-bar and hand-wheel to a ship's capstan boat windlass or rudder, or to any machine where great power is required, substantially as set forth and described; procuring power on the one hand, and velocity on the other.

40,353.—Aero-vapor Burner.—Oscar F. Morrill, Chelsea, Mass.: I claim the improved aero-vapor burner, as not only constructed with the fluid vaporizing conduit, D, arranged so as to extend across or over the foraminous cap, A, and into the chimney, C, and from thence to pass downward and afterward into the air and vapor mixing chamber, B, but as having that portion of the conduit which is situated immediately over the said cap provided with the tubular arch, D' (or its equivalent), to project upward within the chimney, the same being for the purpose or purposes as hereinbefore specified.

I also claim the improvement of the extension of the conduit, D, downward through the caps, A, and within the air and vapor mixing chamber, in manner substantially as specified.

I also claim the combination of the heater or heat conductor, F, with the aero-vapor burner, and the conduit, D, applied thereto, substantially as described.

40,342.—Portable Fence.—Jacob Killian, Marshall, Iowa: I claim the pickets, D, attached to the rails, A A' A'', by bending the same alternately in reverse directions around the central rail, A', and securing the same alternately to opposite sides of the top and bottom rails, A A', in connection with the posts, B, attached to one or more of the rails and provided with horizontal bars, C, or rods, E, substantially as and for the purpose herein set forth.

[This invention relates to a new and improved portable fence, such as are designed for temporary use in certain localities and admit of being put up and taken down with facility. The object of the invention is to obtain a simple, economical and durable fence of the kind specified, and one which may be constructed by almost any one familiar with the use of mechanics tools.]

40,343.—Fire Extinguisher.—William Kitson, Lowell, Mass.: I claim the employment for admitting water to a cotton or other bin to extinguish fire therein, of a valve or cock, which is opened by means of a weight which is set free for the purpose by the ignition of gun powder or other explosive material, operating substantially as herein described.

40,344.—Sawing Machine.—John L. Knowlton, Borden-town, N. J.: I claim, first, The attaching of the saw frame or sash, H, to a ring, C, fitted within friction rollers, D, and turned or adjusted by means of the sector rack, E, and pinions, F, or their equivalents, substantially as and for the purpose set forth.

Second, Operating the saw frame or sash, H, through the medium of the slide, l, pitman, J, and crank pulley, K, all arranged substantially as described.

[The object of this invention is to obtain a sawing machine of simple construction which may be adjusted or manipulated with the greatest facility for sawing ship and other timber in carved and beveled form.]

40,345.—Tbill Coupling for Carriages.—Thomas S. Lambert, Peekskill, N. Y.: I claim the combination of the caps, D' D, either or both in combination with the bolt, F, in the manner and for the purposes substantially as set forth.

40,346.—Switch for Telegraphs.—James Lewis, German Flats, N. Y.: I claim, first, The barrel or cylinder, 5, Figures 1, 4, and 8, and its connecting bars, I to XVIII, (as many as may be necessary), or their combined equivalent, when arranged to operate against springs, a r n and c, or their equivalents, in the manner and for the purpose herein before set forth.

Second, I claim the springs, a r n &c., Figures 1 2 3 and 10, or their equivalents (as many as may be necessary), when arranged to act against a barrel 5, and its connecting bars, I to XVIII, or their combined equivalent, substantially in the manner and for the purpose herein before set forth.

Third, I claim the alternate arrangement of the springs a h r g n h' b, as shown in Fig. 2, when used for the purpose substantially as set forth.

Fourth, I claim the notches 13, with the inclined surfaces each side thereof on the springs, a r n, &c., Figures 1 2 3 9 and 10, when arranged and used substantially in the manner and for the purpose set forth.

Fifth, I claim the mode described of limiting the upward movement and of preventing the lateral movement of the springs, a r n, &c., by means of the slot, 11, in the end of each spring and the hook headed nail, 10, in connection therewith, or their equivalent, when used substantially in the manner and for the purpose set forth.

Sixth, I claim the combination and use of (first) the barrel 5, and its connecting bars, I to XVIII, or their combined equivalent with (second) the springs, a r n, &c., or their equivalents for the purpose and for the purposes herein shown and described.

Also the cavities, h, in the brackets of the clamps, C, as described, to prevent the screws from slipping when the trunk is set.

[This invention consists in a trunk with triple sides and a double bottom, said sides being connected by slotted screw clamps in such a manner that the middle part of each side slides between the inner and outer parts, and the trunk can be enlarged in height to any desired extent, and if thus enlarged a space or receptacle is formed between the two bottoms, capable to receive such articles as it is desirable to keep separate from the balance of the contents of the trunk.]

40,349.—Strap for Drop-presses.—Charles McBurney, Roxbury, Mass.: I claim the improved strap or belt for drop-presses composed of several plies of canvas cut diagonally and cemented together with vulcanized india-rubber, as set forth.

40,350.—Fuse for Explosive Shells.—James McIntyre, New York City: I claim a ball or block cemented upon a tube or opening communicating with the interior of the projectile, and surrounded with fuse powder as set forth, so that the explosion of the projectile will take place when the said ball or block is shaken off its seat, by the projectile striking any object, as specified.

40,351.—Machine for Pegging Boots and Shoes.—Wm. Miller, Boston, Mass.: I claim the arrangement of the elastic cord, N, and pulley, O, with the tube, K, and follower, M, in the manner herein shown and described.

The combination of the adjustable box, D, and collar, C, with the tube, A, spindle, B, and spring, E, in the manner herein shown and described.

The arrangement of the feed wheel, J, with the tube, A, and theawl, peg-driver and cutter, in the manner herein shown and described, so that said feed wheel will revolve on a plane vertical with said parts, all as set forth.

40,352.—Capstan or Windlass.—Isaac G. Morgan, Ithaca, N. Y.: I claim the application of the screw and endless nut, in connection with the bevel wheels, socket-bar and hand-wheel to a ship's capstan boat windlass or rudder, or to any machine where great power is required, substantially as set forth and described; procuring power on the one hand, and velocity on the other.

40,353.—Aero-vapor Burner.—Oscar F. Morrill, Chelsea, Mass.: I claim the improved aero-vapor burner, as not only constructed with the fluid vaporizing conduit, D, arranged so as to extend across or over the foraminous cap, A, and into the chimney, C, and from thence to pass downward and afterward into the air and vapor mixing chamber, B, but as having that portion of the conduit which is situated immediately over the said cap provided with the tubular arch, D' (or its equivalent), to project upward within the chimney, the same being for the purpose or purposes as hereinbefore specified.

I also claim the improvement of the extension of the conduit, D, downward through the caps, A, and within the air and vapor mixing chamber, in manner substantially as specified.

[By this invention a large aperture in the grate may be opened at

40,354.—Steam Pressure Regulator.—Joseph Nason, New York City:

I claim, first, The employment of the rotating coil, E, dense fluid, F, connection, I, leading from the vessel in which the pressure is to be regulated, and connection, K, leading to a damper or valve adapted to control such pressure, the several parts being arranged substantially in the manner and for the purpose herein set forth.

Second, I claim in connection with the above described rotating coil the employment of the valve, J, or equivalent means of inducing a self-adjusting variable force opposing the pressure of the steam, substantially as and for the purpose herein set forth.

40,355.—Hoop Skirt.—Caesar Neuman, New York City:
I claim the employment of the self-adjusting waist-band, A, with elastic strips, a', in combination with bustle rings, B B', provided with sliding clasps, b', arranged in relation to the strips, a', and tapes, D, in the manner and for the purpose substantially as shown and described.

[The object of this invention is to make the waist-band and the bustle-rings of a hoop skirt self-adjustable, according to the varying thickness of the body of the wearer.]

40,356.—Sawing Machine.—Sanford W. Northrop, Albany, N. Y.:

I claim the arrangement of the reciprocating slides, B B', carrying the feed rollers, C, in combination with the rock shaft, D D', arms, b', and set screws, c c', and with the rod, E, connecting the cranks, d', the whole constructed and operating in the manner and for the purpose substantially as shown and described.

Also making the rod, E, adjustable toward and from the center of the rock shaft, D, as described so that the motion of the slides, B B', can be brought in any desired relation toward each other, and the timber cut in two or more parts as specified.

Also the hand screw, F, in combination with the slides, B B', and rock shaft, D, constructed and operating as and for the purpose set forth.

40,357.—Moulding Artificial Teeth.—James A. Pelton, Middletown, Conn.:

I claim, first, The application of a mold substantially as above described for the formation of a set of six front teeth, in one continuous, curvilinear block.

Second, As an article of manufacture, the production of six artificial teeth, corresponding to the six front teeth of the human jaw, with the gum attached, in one continuous, solid, curvilinear block, by means of a mold, substantially as above described.

40,358.—Watch.—Edward Favre Perret, Locle, Switzerland:

I claim so combining the seconds hand with the fourth or seconds wheel that the seconds hand can be stopped and permanently held or started at pleasure, without affecting the movements of the seconds wheel, substantially as set forth.

40,359.—Grain Drill.—O. M. Pond, Independence, Iowa:

I claim, first, The stationary lip, D', and hinged lip, D, in combination with the vibrating rake, I, arranged and operating as and for the purpose specified.

Second, I claim the adjusting nut, C', bolt, B, spring, E, and nut, F, in combination with the lever, G, arranged as and for the purpose described.

40,360.—Washing Machine.—Haskell Preble, Machias, Maine:

I claim the arrangement of the sliding carriage, D, rod, E, levers, F G, and weight, H, with the pressure board, C, and cylinder, B, in the manner herein shown and described.

[This invention consists in the employment or use of a rotating fluted cylinder and a serpentine fluted pressure board arranged with a weight, levers and connecting rod, in such a manner that the clothes may be subjected to a greater or less pressure as desired and cleaned thoroughly and expeditiously without the least injury.]

40,361.—Lamp Shade Supporter.—Christian Reichman, Philadelphia, Pa.:

As an improved article of manufacture I claim a lamp shade supporter with springs, a' b', and projections, c, cut at one operation in a single piece out of sheet metal and then bent in annular form with its ends secured by the pieces, f, and slots, e, e, or other fastening which will admit of the expansion and contraction of the supporter, substantially as and for the purpose herein set forth.

[This invention consists in stamping or cutting the shade supporter in one piece out of a plate of sheet metal, and in such a manner that it will be straight when first cut, and be capable of being bent in the form of a circle or band and admit of being adjusted to the shade with the greatest facility.]

40,362.—Exploding Torpedoes, Mines, &c.—Sven Eskill Sanborn, Philadelphia, Pa.:

I claim, first, The employment or use for the purpose of exploding torpedoes, &c., of an apparatus, substantially as herein described, whereby the time when the explosion will take place can be determined and adjusted beforehand with perfect accuracy.

Second, The notched disk, V, lever, W, arm, v, stop, u, cam, Y, trigger, K, and hammer, I, in combination with a clock movement, constructed and operating in the manner and for the purpose substantially as set forth.

Third, The application of the notched disk, V, to the index hand, U, moving on the dial plate, O, substantially as and for the purpose specified.

[An engraving and description of this invention will be published in an early number of the SCIENTIFIC AMERICAN.]

40,363.—Hoop Skirt.—Leopold Sanders, New York City:

I claim the braids or cords, c, in combination with the clasps, D, the above parts being applied to the tapes, B, and all arranged as and for the purpose herein set forth.

[This invention relates to a new and improved means for securing the hoops of the skirt to the tapes, whereby a very firm and strong connection is obtained between the parts aforesaid and all shifting or moving of the same out of their proper relative position effectually prevented.]

40,364.—Machine for Coating Oil Cloth.—Milo Sawyer, Cincinnati, Ohio:

I claim the application of an adhesive, elastic or tractive cylinder, which draws the cloth through the machine or under a scraper, for the purpose of coating cloth in long pieces, as herein above described, thus obviating the necessity of stretching it in frames, or cutting it in short pieces.

40,365.—Grain Drill.—S. C. Schofield, Freeport, Ill.:

I claim, first, The employment or use of the rods, b, attached to the vibrating frame, E, and passing through the perforated plate, d, and bottom of the seed box, D, the rods, b, being provided with leathers, j, and all arranged to operate as and for the purpose set forth.

Second, The arrangement and combination of the bar, G, with the bars, a, attached to it, standards, g, teeth or plows, H', lever, I, and bar, s, all arranged as shown, to admit of the adjustment of the teeth or plows, as set forth.

[This invention relates, first, to an improvement in the seed-distributing apparatus, whereby the seed is discharged in an uniform manner and in greater or less quantity on a given area as may be required, and the distribution of the seed stopped entirely at any time at the will of the driver or operator. The invention relates, second, to an improvement in the arrangement of the plows or covers, whereby the same may be adjusted at any angle required to obtain the proper depth of penetration, and also entirely elevated above the surface of the ground when required to be inoperative.]

40,366.—Heater.—Edwin Sprague, Alleghany City, Pa.:

I claim the arrangement of the pipe, e, register, o, chamber, x, pipe, y, receiving chamber, h, branch, j, damper, r, and vessel, t, the whole being constructed, arranged and operating substantially as herein described and for the purpose set forth.

40,367.—Cultivator.—R. H. Springstead, Constantine, Mich.:

I claim the arrangement of the lever, C, sliding bar, F, its attached

teeth, H, and their hinged bar, E, with the hinged bar, I, its attached teeth, lever, h, i, and standard, J, all in the manner herein shown and described.

I also claim the arrangement with the hinged bars, E, I, axle, C, and wheels, B, of the guards, b, c, all operating together in the manner herein shown and described.

[This invention consists in the arrangement of stay bars or guards extending from the ends of the frame outside of the wheels to the ends of the axles, in combination with braces running from the axles to teeth which run outside of the wheels, in such a manner that the wheels are fully protected from lateral obstructions, and at the same time the teeth are enabled to run close up to a fence or to a stump or any other obstruction on the side of the cultivator. The invention consists, further, in the arrangement of a laterally sliding bar with two hinged teeth, in combination with a hinged vertically adjustable bar and suitable hand levers, in such a manner that the driver is enabled to adjust the plows in a lateral and in a vertical direction whenever he finds it necessary to do so.]

40,368.—Lamp.—W. G. Sterling, Bridgeport, Conn.:

I claim the combination of the skeleton bridge, H, with the tube, G, and also in combination with the disk, L, to operate substantially as described.

40,369.—Filter.—Charles Süssner, a citizen of Great Britain residing in the United States:

I claim the arrangement of the two filters or filtering chambers, C C', with reference to the inlet and outlet pipes extending therefrom and to the chamber, B, and its outlet pipe, d, in the manner and for the purpose substantially as set forth.

I also claim the movable diaphragm, c c', made to slide in the filtering chamber for packing or loosening the filtering material substantially as described.

40,370.—Machine for making Dough, Paste, &c.—Ebenezer Stevens, London, England. Patented in England Dec. 24, 1862:

I claim the dough-mixer hereinbefore described, composed substantially of prongs secured to a cranked axle or bar, so that it may be readily withdrawn from the dough when the axle is uppermost.

I also claim the combination of a stationary frame to support the gearing by which the dough-mixer is worked with a removable mixing vessel, in such manner that the connection of the gearing with the dough-mixer in the mixing vessel may be disconnected to permit the dough to be conveyed in the mixing vessel to any part of the bakery, substantially as herein set forth.

I also claim the combination of the dough-mixer with a flour hopper and flour agitators, or their equivalent, whereby the flour thrown in mass into the flour hopper is delivered gradually to the mixing vessel, and so on, substantially as herein set forth.

I also claim the combination of the flour hopper and its agitators with variable slides to regulate the discharge of flour to the mixing vessel beneath, substantially as herein set forth.

I also claim the combination of the flour hopper and the mixing vessel with a dusting board between the two to distribute the flour into the mixing vessel, substantially as herein set forth.

I also claim the combination of the flour agitators, or other moving appendages of the flour hopper, with the dough-mixer, by a removable connection, so that the former may be thrown out of gear when the flour is exhausted, substantially as herein set forth.

I also claim the combination of the dough-mixer with change gearing, so that it may be moved rapidly when the dough is thin and more slowly when the dough becomes tough, substantially as herein set forth.

I also claim the combination of the dough-mixer with duplex gear, at the two ends of the machine, so that an equal motion is communicated to both ends of the dough-mixer simultaneously, substantially as herein set forth.

I also claim the combination of the driving spindles of the dough-mixer at the two ends of the machine with one shifting lever, so that both driving spindles can be simultaneously withdrawn from the dough-mixer, substantially as herein set forth.

I also claim the combination of a mixing vessel fitted with a mixer, with a jacket forming a double bottom, to permit the temperature of the mixing vessel to be varied by the application of water or steam, substantially as herein set forth.

40,371.—Furnace for re-burning Bone-black.—Gottfried Thulemeyer, New York City:

I claim, first, The horse-shaped retorts, C, arranged in the furnace, A, in the manner and for the purpose substantially as herein shown and described.

Second, The partition plate, E, when made whole or in sections, and provided with apertures, b, in combination with the retorts, C, and furnace, A, all constructed and operating substantially as and for the purpose set forth.

Third, The arrangement of one or more series of retorts, C, between two fire-pipes, B B', in combination with the particular plate, E, side flues, d, e, and end flues, f, all constructed and operating in the manner and for the purpose substantially as specified.

40,372.—Manufacturing Tin Cans.—J. E. Vansant, Louisville, Ky.:

I claim the stationary and movable jaws, A C, provided with the loop clamp, D, and operated through the medium of the levers, E G, or their equivalents, in combination with the former, H, all arranged to operate as and for the purpose herein set forth.

[This invention relates to a new and improved machine for manufacturing cylindrical tin cans, and it consists in the employment of a stationary and movable jaw, having a loop clamp attached to them; the jaw being operated by a treadle and levers, the latter being provided with a weight and all arranged and used in connection with a former.]

40,373.—Signal Apparatus for Railways.—Eugeni Vincenzi, Parma, Italy:

I claim arranging and combining apparatus, substantially as hereinbefore described.

40,374.—Water Elevator.—T. J. Wadleigh, Sutton, N. H.:

I claim the two drums, C C, placed loosely on the shaft, E, connected by gears, as shown, and provided with levers, I I, in combination with the locking device for alternately connecting the drums to the shaft, the same consisting of the pivoted button and plate, H, and the shoulder, A, in projection, K, at the inner ends of the drums.

I further claim the particular manner of operating the levers, I, to unlock or detach the drums from the shaft, B, to wit, by means of the spiral grooves, c c, in the drums, C, with the ropes or chains, d, working thereon, substantially as described.

[This invention consists in the employment of a windlass provided with two loose drums, to each of which a bucket is attached by a rope or chain, said drums being provided each with a gear into which a pinion meshes, and each also provided with a lever; the above parts being used in connection with a locking device, and all arranged in such a manner that, by a continuous movement or rotation of the windlass in one direction, the buckets may be raised and lowered, the two buckets moving in opposite directions, that is to say, one being raised while the other is lowered, and the filled bucket, as it reaches its highest or culminating point, tilted and deprived of its contents.]

49,375.—Heater.—Anton Weller, Albany, N. Y.:

I claim the series of contracted air passages, o' c' c', formed and applied as specified, when combined with the fire pot, A, hollow base, D, ash pit, B, chambers, E F, cylinders, H I, cap, J, and flue, G, all constructed, arranged and operating in the manner and for the purposes herein shown and described.

[This invention consists in arranging a cold-air or air-heating passage with a draught flue and fire chamber, of a stove or air-heating furnace in such a manner that a very efficient heat-radiating and air-heating stove are combined, and the greatest possible amount of heat obtained from a given quantity of fuel.]

40,376.—Gas Blow-pipe.—A. H. Wood, Boston, Mass.:

I claim the employment, in a gas blow-pipe, of one or more reservoirs for containing water or other volatile substance, and provided with a means of heating the same, so as to produce vapor to combine with the gas and flame for the purpose of intensifying the heat, substantially as described.

I also claim the cap, F, provided with holes, f, and so arranged as to control the admission of air through the holes, e, in the manner and for the purpose substantially as herein described.

40,377.—Paddle-wheel.—Leonard Ames, Wanbeck, Wis., and Melville Miles, Pepin, Wis., assignors to Leonard Ames:

I claim a paddle wheel having its floats or blades constructed of a flat board, G, with a series of parallel blocks, D, attached to it at right angles to said blocks, beyond the board, being of wedge-shape in their transverse section, substantially as and for the purpose set forth.

We further claim having the outer edge of the boards, C, rounded as shown at a, and also the outer and inner ends of the blocks, D, rounded as shown at b d, for the purpose specified.

40,378.—Sugar Evaporator.—David Beasley, Boone Co., Ind., assignor through mesne assignments to T. C. Bartle, Independence, Iowa:

I claim the combination and arrangement of the evaporating pans, B C D, and water dampers, E E E, for the uses and purposes substantially as set forth.

40,379.—Skirt Wire.—William Darker, Jr. (assignor to J. B. Thompson), Philadelphia, Pa.:

I claim skirt wire with a woven covering as a new manufacture, substantially as herein described.

40,380.—Field Roller.—Chester Dunham (assignor to himself and William Heston), Bedford, Ohio:

I claim the rollers, D D, fitted in frames, C C, attached to the box, A, or a suitable frame, as shown, in combination with the roller, H, attached to a box, G, or a suitable frame, which is connected to the frame or box, A, of the rollers, D, by an universal joint, E, all arranged as and for the purposes herein set forth.

[The object of this invention is to obtain a roller for rolling land which will conform to the inequalities of the surface over which it passes, and thereby perform its work in a more thorough manner than those previously constructed.]

40,381.—Curtain Fixture.—E. M. Judd (assignor to H. L. Judd), New Britain, Conn.:

I claim the pin, d, formed with the mortise, l, for receiving the tape, and with the shoulder, 2, for securing the metallic end, c, to the roller, a, as specified.

40,382.—Covering for the Head.—T. S. Lambert, Peekskill, N. Y., assignor to J. O. Wood, Southfield, N. Y.:

I claim the application within a covering for the head, or to any part of wearing apparel, of sand paper, or its equivalent, substantially as and for the purpose described.

40,383.—Apparatus for Stretching Hat Bodies.—T. G. Oakley and W. R. Finch, Brooklyn, N. Y.:

We claim the two blocks, B B, attached to the pivoted arms, C C, and operated through the medium of the cam, H, and spring, D, or their equivalents, substantially as and for the purpose herein set forth.

40,384.—String-bearing for Pianofortes.—R. A. Tooker New York City, assignor to himself and W. B. Bradbury, Bloomfield, N. J.:

I claim the string bearing composed of a screw having its head slotted for the reception of the string or strings and a screw thread, or such slotted head fitted with a nut, for the purpose of securing the parts of the head upon the string or strings, substantially as and for the purpose herein specified.

[This improved string-bearing, which may be employed at either or both ends of the string, and which serves the purposes of securing the string at a proper elevation for accurately regulating the length and direction of the vibrating portion of the string and maintaining a proper distribution of the scale, consists of a screw having a thread on its stem or body, by which to secure it in the sound-board bridge or to the sound board itself without the use of the bridge, or in the wrest plank or wrest-plank bridge, and a slotted head having a screw thread on the exterior, for the reception of a nut by which to clamp the string or strings within the slot or slots, in such manner as to give them a firm and durable bearing both above, below and on both sides.]

40,385.—Projectile for Fire-arms.—O. G. Warren (assignor to Joshua Barnes), New York City:

I claim the combination of the false powder chamber and the hollow shot, to hold all the charge, and to sustain the greater part of the shock of the explosion, in the manner described.

40,386.—Grinding and smoothing Shot and Shell.—Jarvis Williams (assignor to E. T. Trofitter), Boston, Mass.:

I claim, first, The adjustable frame, F, provided with the concave rollers, G G, in combination with any suitable grinding or polishing wheel, D, substantially as set forth and for the purpose described.

Second, Making the rollers, G, in two parts, capable of turning in opposite directions, substantially as and for the purpose described.

DESIGNS.

1,834.—Reel.—Emma C. Woostery New York City.

1,835.—Plates of a Parlor Stove.—Isaac De Zanche (assignor to Bridge, Beach & Co.), St. Louis, Mo.

1,836.—Cooking Stove.—Isaac De Zanche (assignor to Bridge, Beach & Co.), St. Louis, Mo.

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