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60,658.—FASTENING SLEIGH BELLS.—J. H. Abell, East Hampton, Conn. I claim the spring hooks, b, of the catch, B, adapted to enter the slot, a, of the bell, and hold the bell by the expansion of the shanks of the hooks, in the manner and for the purpose specified.

60,659.—SCAFFOLD.—D. D. Adams, Brookline, Mass. First, I claim an improved scaffold formed by combining the front rails, C, the central rails, A, the back rails, D, the side bars, B, the pawls, H, the corner blocks, E, and connecting rods, I, with each other, the various parts being constructed and arranged substantially as described and for the purpose set forth.

60,660.—APPARATUS FOR COATING FABRICS WITH FLUID OR SEMI-FLUID SUBSTANCES.—George Adamson, Philadelphia, Pa. I claim the employment, substantially in the manner described, of the gum-elastic roller, D, and the rib roller, E, for transferring fluid or semi-fluid substances to fabrics in the manner described.

60,661.—BOAT-DETACHING APPARATUS.—N. B. Allen, New York, R. I. I claim the hooks, C, which are secured to the bars, A, or their equivalents, D, E, and which are operated by the lever, B, substantially as and for the purpose herein shown and described.

60,662.—STEAM GENERATOR.—W. D. Andrews, New York City. I claim a boiler having a fire-place extending over its entire horizontal area, with the exception of a narrow water-space surrounding it and a series of tubes, whether one or more, passing horizontally through the water-space above the fire-place, when the said fire-place and the air-tube or tubes are connected by and communicate through a combustion chamber formed outside the boiler, having openings, adjustable or otherwise, for the admission of atmospheric air thereto and an opening or openings passing through the water-space surrounding the fire-place and communicating with the latter, when the whole is constructed and arranged as to operate substantially in the manner described and for the purpose specified.

60,663.—RULING PAPER BY ELECTRO-MAGNETISM.—Ellicott D. Averell, New York City. I claim the application of an electro-magnet for the purpose of ruling paper in combination with the circuit breaker finger, F, in the manner and substantially as described in the foregoing.

60,664.—CARTRIDGE RETRACTOR FOR BREECH-LOADING FIRE-ARMS.—Albert Ball (assignor one-half to Windsor Manufacturing Company), Windsor, Vt. First, I claim the carrier block, B, in combination with the shoulder, v, of the rotating ejector, or its equivalent, for the purpose of creating the gradual movement of the cartridge shell when carrier block is being swung open, as described.

60,665.—REFRIGERATOR.—G. A. Banta, New York City. First, I claim an ice box for a refrigerator lined with slate, in combination with air passages surrounding said ice box, through which air circulates to and from the refrigerator and is cooled by contact with the exterior of such slate ice box, substantially as specified.

60,666.—GRAIN DRYER.—A. H. C. Barber, Clinton, Ill. I claim the hollow rings, G, and connecting pipes, H, constructed as described in combination with each other and with the furnace of a drying kiln, substantially as described and for the purpose set forth.

60,667.—PEAT MACHINE.—N. H. Barbour, New York City. Antedated Dec. 21, 1866. I claim the revolving annular cylinder, A, provided with a series of holes, a, and plungers, B, which revolve with said cylinder in combination with the hollow shaft, E, stamp seat, G, and cams, H, J, K, constructed and operating substantially as and for the purpose described.

60,668.—GROOVED WHEEL OR PULLEY.—John H. Barnes, Brooklyn, N. Y. Antedated Dec. 2, 1866. I claim a grooved wheel or pulley having the opposite sides of the groove entirely cut away or removed, substantially as described, so as to permit the wheel or pulley to be cast or struck up, substantially as and for the purposes set forth.

60,669.—SEWING MACHINE.—W. B. Bartram, Danbury, Conn. First, I claim the looping hook, E, when arranged in a sewing machine having a reversible feed so as to move in a plane at right angles to the line of feed, and so timed to the movement of the needle that the two will operate in proper relation to each other without regard to the direction in which the feed is moving.

60,670.—CAPILLARY MATERIAL FOR FILLING GAS AND AIR CARBURETTORS.—John A. Bassett, Salem, Mass. I claim an absorbent and capillary material for gas and air carburetors, composed of the substance described and prepared substantially in the manner set forth.

60,671.—MEANS FOR RECOVERING SUNKEN SHIPS.—Ernest Bazin, Paris, France. First, I claim the gigantic cast net, A, or analogous apparatus, by means of which the wreck or sunken vessel may be seized or grappled, in combination with the circular net, B, covered with cloth in caoutchouc or any other kind of supple or waterproof material, sustaining the net and allowing of extension on the surface of the water, substantially in the manner and for the purpose herein set forth.

60,672.—PROCESS FOR GLAZING PAPER.—Frederick Beck, New York City. I claim the within-described process of treating paper with stearic acid, substantially in the manner and for the purposes set forth.

60,673.—DOOR FASTENING.—Matthew Bennett, Kilbourne City, Wis. I claim the combination of the devices constructed and arranged as described.

60,674.—GAS BURNER AND REFLECTOR.—Herman Berg and Andrew Blessing, Springfield, Mass. I claim as a new article of manufacture a gas burner, having a globular or dome-shaped reflector arranged between the lights of the same, substantially as herein set forth.

60,675.—SINK.—L. C. and M. C. Bignall, Medina, N. Y. We claim the sink basin, A, when constructed with flanges, a, curved or recessed on the under side to receive the ends, b, of the boards which form its support, and with right-angled exterior corners, c, to correspond with the square or rectangular top of the wooden support, and the rounded interior corners, d, combined and arranged substantially as and for the purpose set forth.

60,676.—HARVESTER.—Virgil U. Blanchard, Bridport, Vt. First, The arrangement of the collar, D, with the wheels, E, or F, attached, or both the sliding parts, a, a', or their equivalents, of the clutches, G, G', and the spring, H, or its equivalent, all placed on the axle, C, to operate in connection with the pinions, I, or J, or both, substantially as and for the purpose set forth.

60,677.—VENTILATOR FOR MINING SHAFTS, BUILDING, ETC.—Thomas Boyd, Cambridgeport, Mass. I claim the method of ventilating buildings, etc., by the use of a metallic chamber conducting the heat of the sun's rays to the air within the same, with or without glazed orifices, operating substantially as described.

60,678.—GATE.—J. R. Breese, Middletown, N. Y. I claim attaching the gate, B, to the gate post, A, provided with a diagonal guide, as described, by means of the crossed bars, C, D, arranged and operating substantially as and for the purpose specified.

60,679.—FURNITURE POLISH AND RESTORER.—Geo. Bricker, Sr. (assignor to himself and S. J. Irwin), Newville, Pa. I claim a furniture polish or polish restorer compounded of an alcoholic solution of gum and gall, substantially as described.

60,680.—COAL OIL STOVE.—F. M. Brown (assignor to himself and James F. Griffin), Chicago, Ill. First, I claim the reversible heat deflector, E, arranged and operating substantially as specified and described.

A, to sustain and spread it out on the surface of the water, substantially as and in the manner hereinbefore described.

Third, The lifting buoy, K, traversed by a chimney, so as to guide its immersion in a vertical manner, substantially as hereinbefore described.

Fourth, The floating buoy, B, in combination with the lifting buoy, K, the former serving to sink and lower this latter on to the sunken vessel, substantially as hereinbefore set forth and described.

Fifth, The caes, Y, serving to build up the temporary chimney, Q, in order to facilitate the moorings above water, in combination with the lifting buoy, K, so as to connect the cast net with the lifting buoy, K, substantially as hereinbefore set forth and described.

Sixth, The raft, serving to emerge the wreck, substantially as hereinbefore described and represented in Fig's 9 and 10, in combination with the embankment, A, substantially as described.

60,672.—PROCESS FOR GLAZING PAPER.—Frederick Beck, New York City. I claim the within-described process of treating paper with stearic acid, substantially in the manner and for the purposes set forth.

60,673.—DOOR FASTENING.—Matthew Bennett, Kilbourne City, Wis. I claim the combination of the devices constructed and arranged as described.

60,674.—GAS BURNER AND REFLECTOR.—Herman Berg and Andrew Blessing, Springfield, Mass. I claim as a new article of manufacture a gas burner, having a globular or dome-shaped reflector arranged between the lights of the same, substantially as herein set forth.

60,675.—SINK.—L. C. and M. C. Bignall, Medina, N. Y. We claim the sink basin, A, when constructed with flanges, a, curved or recessed on the under side to receive the ends, b, of the boards which form its support, and with right-angled exterior corners, c, to correspond with the square or rectangular top of the wooden support, and the rounded interior corners, d, combined and arranged substantially as and for the purpose set forth.

We also claim, in combination with the sink basin, A, the extension frame, I, formed of a continuation of the sides of the basin and flange, a, and provided with the shelf, C, to form, in connection with said basin and its support, B, a seat or bearing for the pump, when arranged substantially as set forth.

60,676.—HARVESTER.—Virgil U. Blanchard, Bridport, Vt. First, The arrangement of the collar, D, with the wheels, E, or F, attached, or both the sliding parts, a, a', or their equivalents, of the clutches, G, G', and the spring, H, or its equivalent, all placed on the axle, C, to operate in connection with the pinions, I, or J, or both, substantially as and for the purpose set forth.

Second, The clutches, G, G' L' and O, Q, when combined and arranged with sliding collars or sleeves, and with variable or differential gearing, substantially as and for the purpose specified.

Third, The curved bar, E, in combination with the adjustable guide, F, arranged as shown for the purpose of elevating or depressing the front ends of the fingers or guards, as described.

Fourth, The arm, K, connected to the rear side of the curved bar, E, as shown in combination with the adjustable guide, F, connected with the bar, E, as shown for the purpose specified.

Fifth, The bar, H, connected to the upper side of the bar, E, by a hinge or joint, c, and provided with india-rubber spring, d, as shown, in combination with the lip, b, on the adjustable guide, F, substantially as and for the purpose specified.

Sixth, The grain-discharging device composed of two shafts, P, Q, arms, X, arranged with the chains, S, and pulleys, Z, and operated automatically from the axle, C, or other suitable driving shaft, by the lever, R, pin, b'', substantially in the manner as herein set forth.

60,677.—VENTILATOR FOR MINING SHAFTS, BUILDING, ETC.—Thomas Boyd, Cambridgeport, Mass. I claim the method of ventilating buildings, etc., by the use of a metallic chamber conducting the heat of the sun's rays to the air within the same, with or without glazed orifices, operating substantially as described.

I also claim the combination of the above-described metallic chamber having glazed orifices, with an interior metallic surface, whether globular or of other form, so arranged as to receive the heating rays of the sun and radiate the heat to the air within the chamber, substantially as set forth.

I also claim the employment of orifices in the metallic chamber fitted with plain glass, lenses or other transparent material, to allow the direct transmission of the sun's rays to the air within the said metallic chamber, operating substantially as described.

I also claim, in combination with the above, the vibrating cap, G, operating substantially as described, for the purpose set forth.

I also claim the use of the tubes, a, b, so arranged as to produce a rotary motion of the air within the chamber, A, substantially as described.

I also claim the use of one or more twisted or smooth tubes, e, f, in combination with the chamber, A, substantially as and for the purpose set forth.

I also claim introducing artificial heat from a furnace or other heating apparatus into the hollow ball, D, and chamber, C, so as to heat the same and to cause the upward current in the absence of the sun's rays, substantially as described.

60,678.—GATE.—J. R. Breese, Middletown, N. Y. I claim attaching the gate, B, to the gate post, A, provided with a diagonal guide, as described, by means of the crossed bars, C, D, arranged and operating substantially as and for the purpose specified.

60,679.—FURNITURE POLISH AND RESTORER.—Geo. Bricker, Sr. (assignor to himself and S. J. Irwin), Newville, Pa. I claim a furniture polish or polish restorer compounded of an alcoholic solution of gum and gall, substantially as described.

60,680.—COAL OIL STOVE.—F. M. Brown (assignor to himself and James F. Griffin), Chicago, Ill. First, I claim the reversible heat deflector, E, arranged and operating substantially as specified and described.

Second, In combination with stove constructed substantially as herein described, I claim the burner, L, provided with a passage beneath the perforated partitions, a, to effect an equal diffusion of the oil through the burner, when arranged and operating substantially as set forth.

Third, I claim in combination with a burner, L, constructed as described, the reservoir, J, a, a', a'', provided with a slot, m, and the plug, N, operating substantially as and for the purpose set forth.

Fourth, I claim the combination of the deflector, E, and plate, D, when arranged within the stove, substantially as described.

Fifth, In combination with a stove constructed substantially as described, I claim the plate, A, and passage, B, when arranged substantially as and for the purposes set forth.

60,681.—HAND PEGGING MACHINE.—J. Hamilton Brown, Watertown, Mass. I claim the plunger, F, made hollow for the reception of the spring, d, substantially as and for the purpose set forth.

I also claim the plunger, F, with its exterior surface so formed as to give to the lever, J, the required movements for causing the knife, E, to cut a single peg on the commencement of the downward stroke of the plunger, for the purpose specified.

I also claim the plunger, F, with its groove, K, and exterior surface so formed as to cause the lever, K, to operate the feeding point, substantially as set forth.

I also claim the table, L, so formed that in connection with the lever, K, a uniform sliding and rocking motion, viz., down and forward, up and back, will be given to the feeding point, for the purpose described.

I also claim the gage plate, O, operated by its spring, I, and having the lower end, g, of its shank so formed as to fit snugly a slot of corresponding form in the plate, M, by which it is prevented from turning therein when in use after adjustment, substantially as described.

I also claim the pin, 12, or its equivalent, for performing the double office of the plunger, F, and of the gage plate, O, as set forth.

I also claim the removable head, G, for confining the spring, d, within the plunger, F, substantially as described.

60,682.—SEWING MACHINE.—L. B. Bruen, New York City. First, I claim the device described, attached to the cloth plate of elliptic-hook machines, constructed and operating substantially as explained, or forming double loop and three or more thread stitches thereby at pleasure.

Second, The combination of cloth plate, D, elliptic hook, F, with or without bobbin, G, needle arm, C, thread carrier, P, and the other usual and essential operative parts of elliptic-hook machines, constructed and operating together substantially as and for the purposes described.

Third, Removing, B, to withdraw the threads from the line of travel of the hook, substantially as described.

60,683.—MAKING REAMERS.—Wm. Burlingame, Exeter, N. H. I claim the reamer consisting of the cast-iron body, A, steel cutters, B, and steel shank, C, when constructed as herein shown and described, as and for the purpose specified.

60,684.—CRIB AND WALKING STOOL.—Sanford S. Burr, Dedham, Mass. I claim the combination of a crib or cradle with a walking stool in one piece of furniture, constructed and operated substantially as above described and for the purposes above set forth.

I also claim the frame, A, B and C, resting upon casters, b, and connected by pivot at o with the top, H, and its connections, and by a bar, D, with the rocker, F, substantially as herein shown and described.

I also claim the rocker, F, attached to a walking stool, constructed and operating substantially as herein shown and for the purposes above set forth.

I also claim the top, H, with its connections, J and K, pivoted at o, constructed and operating substantially as herein shown and for the purposes above set forth.

60,685.—OIL FILTER.—Wm. Cady, Marietta, Ohio. First, I claim the process substantially as herein described of filtering and depriving petroleum of its earthy impurities by passing the same under a head or pressure, through a suitably heated medium or fluid of superior density, in an upward course or direction through a filtering diaphragm or medium, essentially as herein set forth.

60,688.—BROOM HEAD.—Thos. B. Carroll, Noblesville, Ind. First, I claim the combination of the core, a', core, B, w res, C, D, and cam, F, secured thereto as described, and flanged cap, G, substantially as and for the purpose specified.

Second, The combination of the projecting wires or railines, C and D, with the metallic core, B, substantially as described and for the purpose set forth.

60,689.—ICE-CREAM FREEZER.—A. Carleer, Wm. McCuddy, and P. N. Wolston, Springfield, Ohio. We claim, First, The hollow tube, D, open at the bottom and surrounding the pivot rod, E, constructed as described, operating with the revolving cylinder, B, in combination with plate, G, pins, d, and strips I, to which upwardly inclined lifting plates, F, are secured, all substantially as described, for the purpose specified.

Second, The cover, C, and crank, a, connected together substantially as and for the purpose specified.

60,690.—COMBINED SQUARE AND LEVEL.—G. L. Chamberlain, Marietta, Ohio. I claim the block, A, having a graduated semicircular plate, C, at one or both sides, and a level, B, inserted in one edge, in combination with the adjustable frame, D, applied to block, A, substantially as and for the purpose herein set forth.

I also claim the adjustable or sliding bar, E, in combination with the shaft or arbor, b, to which the frame, D, is attached, substantially as and for the purpose specified.

I further claim the pins, g, on the projection, L, of one of the strips, d, of the frame, D, in combination with the spring, h, in block, A, substantially as and for the purpose set forth.

60,691.—PAINT MILL.—Charles Clifton, Jersey City, N. J. I claim, First, The cylinder, A, in combination with the grinder or pulverizer, O, when arranged together and operating substantially as and for the purpose described.

Second, The grinder or pulverizer, O, when made hollow, substantially as and for the purpose described.

Third, The spiral screw shaft or conveyor, W, or its equivalent, when arranged within the stationary center shaft, C, on which the cylinder, A, revolves or turns, substantially as described, for the purpose specified.

Fourth, Removing the material ground in the cylinder, A, from the same through a pipe or tube, 1, 2, arranged or formed within the center and stationary shaft, C, so as to form a communication between the inside and outside of the cylinder.

60,692.—HARVESTER.—Wm. F. Cochrane, Springfield, Ohio. I claim the side pieces of the frame with the segmental slots formed in them made in one piece, substantially as described.

I also claim the segmentally slotted frame arranged between the wheels and in combination with the main axle of the machine, substantially as described.

I also claim the employment of the main axle as a rock shaft, in combination with the segmentally slotted frame, sliding up and down on said axle, substantially as described.

I also claim the slotted lever, K, or its equivalent, connected to and operating the main axle and frame of the machine, substantially as described.

I also claim the combination of the slotted lever and adjusting stirrup with the segmentally slotted frame, substantially as described.

I also claim the adjusting stirrup in combination with a toothed rack, and a segmentally slotted frame for locking the said frame when the cutting apparatus is adjusted to the desired height, substantially as described.

I also claim the divided boxes or bearings for the crank shaft in combination with the divided tubular transverse pieces or girders and the through bolts or their equivalent, substantially as described.

60,693.—HARVESTER.—Wm. F. Cochrane, Springfield, Ohio. I claim the combination of the main frame of the machine with the tongue and main axle in such manner that said frame may be raised and lowered bodily, maintaining its parallelism with relation to the ground at whatever height therefrom it may be adjusted or set, substantially as described.

I also claim the combination of a pivoted swinging yoke with a segmentally slotted frame, arranged to slide up and down on the main axle, substantially as described.

I also claim the combination of geared segments with a segmentally slotted frame which is adjusted up and down on the axle, substantially as described.

I also claim the main axle provided with pinions and made to operate as a rock shaft, by which through geared segments or their equivalents to raise and lower the slotted frame, substantially as described.

I also claim the pivoted swinging yoke in combination with the tongue and slotted frame, substantially as described.

I also claim a swinging yoke attached to the tongue and frame, made adjustable for varying the movements of the frame in raising and lowering the cutters, substantially as described.

60,694.—RAILWAY-CARRIAGE WINDOW.—Elisha T. Colburn, Boston, Mass. I claim the arrangement and application of the auxiliary sashes, C, C', with the window sash, B, or its equivalent, substantially in manner and by means as specified.

I also claim the combination as well as the arrangement of the window frame, the main sash, B, and the auxiliary sashes, C, C', applied together and to the main sash substantially as specified.

60,695.—BURGLAR ALARM.—Geo. A. Colton, Adrian, Mich. I claim the arrangement of the spring, M, with its stock, L, in combination with the escapement or pallet, G, substantially as and for the purpose described.

I also claim the hook, O, or its equivalent, in combination with the above, substantially as described and for the purpose specified.

60,696.—JOURNAL BOX.—James Connolly, Boston, Mass. I claim the combination of the box or bearing, a, the reservoir, d, and the enlarged extensions or cups, f, when of size sufficient to receive and protect the shaft collars, i, and when cast in one piece, substantially as described.

60,697.—SAW SETS.—Thomas Connolly, New York City. First, I claim, in combination with the jaws, A, A, the two levers, F, F, with the two steel punches, G, G, which are attached to the levers and which operate simultaneously upon the teeth of the saw, in the manner as set forth.

Second, I claim also the small thumb screw, Q, in combination with set screw, P, and jaws, A, A, all constructed and arranged as set forth.

Third, I claim the two thumb screws, I, I, in combination with the jaws, A, A, and levers, F, F, constructed and operating in the manner as set forth.

Fourth, The arrangement as described of all the parts so that the device may be adjusted to set the teeth of either fine or coarse saws accurately, and otherwise operate as set forth.

60,698.—BREECH-LOADING FIRE-ARMS.—Silas Crispin, New York City. I claim as new in that class of breech-loading fire-arms which have the charge chamber bisected as described and shown, the recessed rear portion, 2b', in combination with the ribbed and recessed forward portion, a1', of the charge chamber, the whole constructed and operating together to receive and retain while being fired the kind of cartridge herein referred to.

60,699.—MANNER OF HANGING MIRRORS.—W. C. Cumming, Peekskill, N. Y. I claim the slotted and notched sleeves or tubes, F, whether one or more, for the rod, D, to which the mirror is attached, substantially as and for the purpose specified.

60,700.—BUTTON-HOLE CUTTER.—C. N. Cutter, Worcester, Mass. I claim the cutter blade, D, adjustable graduated cutter blade, D2, pivot, c, set screw, G, and slot, d, in combination with the handles, A, A, and screw, N, so that a button hole may be cut any length without measuring, substantially as herein set forth.

60,701.—TANNING.—J. Davis and J. McKelvey, Pawtucket, R. I. We claim the described improvement in the process of tanning.

60,702.—WOOD-SPLITTING MACHINE.—John Davock, New York City. First, I claim the rotary spindle, G, with the attached knife, L, or knives in combination with the crosshead, F, arranged substantially as herein shown and described.

Second, In combination with the rotary spindle, G, I claim the vertically sliding rod, t, operated by the cams, s, s', etc., substantially as and for the purpose herein specified.

Third, The combination of the crosshead, F, with the lever, H, rack, e, connecting rod, i, and toothed wheels, O, O', the whole being arranged and operating substantially as and for the purpose herein set forth.

Fourth, I claim the arrangement and combination of the feed rollers, M, M', endless belt, y, gear wheels, w, w', rack, N, and pin, v, the whole being arranged and operating substantially as and for the purpose herein specified.

60,703.—DEVICE FOR CLOSING DOORS, GATES, ETC.—Levi S. Deming, Newington, Conn. I claim the employment of the leversegment weight, h f g, in combination with the pulley, e, cord, n, substantially as and for the purpose described.

60,704.—SPINDLES AND BOLSTERS FOR SPINNING MACHINES.—George Draper, Milford, Mass. I claim the arrangement of the helical groove in the upright spindle when the groove is used in combination with the covered cup or closed oil chamber applied to the spindle and bolster, and formed in the sleeve, D, as set forth.

I also claim the combination as well as the arrangement of both of the annular grooves, d, e, with the helical groove, c, formed in the spindle and to operate in the bolster and extend up from the oil cup, a, thereof, substantially as and for the purpose specified.

I also claim the arrangement of both the grooves, c and d, in the spindle, when they are used in connection with an oil cup applied to the spindle or arranged in the bolster, as specified.

60,705.—SAFETY ATTACHMENT TO CARRIAGES.—Claude Ducreux, New York City. First, I claim the combination of a detaching apparatus with the brakes of a vehicle, substantially as herein shown and described.

Second, I claim the combination of the pins, c, with the oscillating cross-bar, D, substantially as and for the purpose herein shown and described.

Third, The manner of securing the pins, c, to the swinging cross-bar, D, by means of plates, d, substantially as and for the purpose herein shown and described.

Fourth, I claim the combination of the brake draw rod, O, and the strap rods, F, G, or I, with the oscillating cross bar D, substantially as and for the purpose herein shown and described.

Fifth, The combination of the lever, H, with the cross bar, D, pins, c, and sliding bars, E, F, G, substantially as and for the purpose herein shown and described.

Sixth, The combination of the sliding bar, I, with the tongue, 8, and the os-

oscillating lever, D, substantially as and for the purpose herein shown and described.

Seventh, The bars, F and G, and upright arms, g, h, or the bar, I, and arms, J, combined and operating substantially as and for the purpose herein shown and described.

Eighth, The manner of operating the sliding bars, E, by means of slotted upright arms, e, and pins, f, substantially as herein shown and described.

Ninth, The combination of the spring fastening, i, with the swinging bar, D, substantially as and for the purpose herein shown and described.

Tenth, The construction of the disengaging apparatus, substantially as herein shown and described, so that by the movement of the lever, the braces and all the harness straps are simultaneously released, as set forth.

Eleventh, The construction of the brakes, M, substantially as described, so as to act upon the hubs of the wheels, as set forth.

60,706.—FIRE GRATE FOR STEAM BOILERS.—R. Eaton, Lee, England. I claim the improved fire grate for wood or peat, formed of broad grate bars, placed one above another in steps or terraces, with their edges or sides over and underlapping each other, directing the passage of air into the fire laterally between them, and to prevent the dropping of hot coals into the ash pan, constructed and arranged substantially as herein described.

Second, I claim the combination of the broad grate bars, A A A, with the levers, b b and c, connected by the rods, e, e, to open and close the air passages, a a, between the grate bars, as described, substantially as arranged as herein described.

Third, I claim the wire gauze or perforated plate, g, h, in combination with the dampers, i, and the ash pan, C, constructed and arranged substantially as and for the purpose herein shown and described.

Fourth, I claim the air pipe, k, in combination with the grates, A A A, arranged substantially in the manner and for the purposes herein described.

60,707.—BOOTS AND SHOES.—M. Evans, Russellville, Ind. I claim in gaiter boots, provided with flaps, B B, formed with an extension of the sole and a fold connecting them, so as to make the boot water tight to its top, the double row of buttons, D E, and ornamental guard, C, the latter serving to conceal the ends of the flaps, and having straps, C' C' C', to take over the buttons, D E, as and for the purposes specified.

60,708.—ROOFING AND SIDING FOR HOUSES.—C. J. Fay, Ham- monton, N. J. I claim the use of and the manner of applying paper for roofing and clap- boarding, substantially as described.

60,709.—CYLINDRICAL AMALGAMATOR.—Thomas M. Fell, New York City. First, I claim the introduction of the alternating sluice or flood motion for obtaining entire suspension and trituration of the mass, accomplished by what we designate a dash or sluice board, acting in connection with a vibrating or oscillating cylinder, substantially as above set forth, for the purpose of amalgamating silver ores.

Second, I claim the introduction, for the purpose of amalgamation, of an oscillating or vibrating cylinder, to which I attach my dash or sluice board, all substantially in the manner herein described.

60,710.—PAPER FILE.—Josef Fleischl, New York City. I claim a paper file, provided with a segmental clamp, b, and with spring clamps, d, e, which act in combination with the bars, a, c, substantially in the manner set forth.

60,711.—BURGLAR ALARM.—Robert G. Fowler, Olney, Ill. I claim the arrangement of the wire, C, d, mandrel, B, notched casing, A, a, substantially as described and represented.

60,712.—HOLLOW RING.—Kasson Frazer, Syracuse, N. Y. I claim a hollow metal ring, composed of two parts, held together by a self-sustaining lap joint, substantially as and for the purposes herein specified.

60,713.—MACHINE BELTING.—William H. Gates, Louisville, Ky. I claim, First, A round belt composed of a non-elastic central cord, coated with vulcanized rubber or other elastic material, substantially as described and for the purpose herein specified.

Second, I claim the combination of two or more twisted cords, coated with or surrounded by a coating of vulcanized rubber or other elastic material, to form an improved driving belt for machinery.

Third, I claim the process of coating a cotton or other cord as the base of a round belt, with vulcanized rubber or other elastic material, substantially as described and for the purpose set forth.

60,714.—STREET-CAR HEATER.—John Gibson, Jr., Albany, N. Y. First, I claim the stove, C, arranged within the space between the seat and the bottom of the car, A, and provided with the ash box, b, beneath it, substantially as herein set forth.

Second, The perforated protecting plate, D, on the front side of the seat, at the point where the stove is placed, substantially as and for the purpose specified.

Third, The combination of the ash pan, b, draft doors, m, m, and pinch screw, p, when arranged as herein shown and described and for the purpose specified.

60,715.—ROOT EXTRACTOR.—Bernard Goodrich, Brentwood, N. H. I claim the bush or root extractor, made substantially as described, viz., of the duplex-pronged share, the beam, and handles, arranged and for use as specified.

60,716.—PRESERVING HOUSE.—John C. Gove, Cleveland, Ohio. First, I claim the ice chambers or boxes, C C, arranged above the preserving room, D, and the boxes, B, being separated from each other and the sides of the house by air chambers, D D, and being provided with doors at their ends and outside of the house, as and for the purpose herein specified.

Second, The arrangement of the fruit house, A, with a room, E, for preserving fruit, etc. with ice boxes, C C, chamber or receptacle, B, and air spaces, D D, the preserving room and ice chambers being provided with doors which are separate and distinct, and opening into each from the outside of the house, as and for the purpose specified.

60,717.—PRINTING PRESS.—Fredrick J. Grace, Fort Lee, N. J. First, I claim the impression roller, p, mounted upon springs, in combination with the levers, u, u, for moving the roller, p, back, to prevent the paper being moved, as set forth.

Second, I claim the adjustable shear, r, s, in combination with the actuating lever, u, and pins and cams, x and v, as and for the purposes specified.

60,718.—MACHINE FOR MANUFACTURING CANDLES.—Harris- son Grambo, Philadelphia, Pa. First, I claim the receiving and guiding mills, B C C', supply chambers, L' L' M Q, pistons, L, plungers, N S, and molds, R, all combined and arranged substantially as and for the purpose specified.

Second, I claim the pistons, S', operating in combination with the plunger, E, and molds, R, substantially in the manner and for the purpose set forth.

Third, I claim the combination with the plunger, S, and pistons, S', of the wick tubes, a, arranged and operating substantially as described.

Fourth, I claim the clamps, d, arranged and operating substantially as and for the purpose set forth.

Fifth, I claim the receiving and discharging tubes, Y', when arranged and employed in the manner and for the purpose set forth.

Sixth, I claim the combination with the tubes, Y', of the stationary pistons, Y2, arranged and operating in the manner and for the purpose specified.

Seventh, I claim the box, Y, allowing a bearing and inclosing case for the tubes, Y', and reciprocated therewith by the means and for the purpose de- scribed.

worm wheel, E and d, the springs, I and J, and the bell, K, when arranged and combined substantially as herein described and for the purpose set forth.

60,725.—SAW MILL.—Webster Herrick, Northampton, Mass. I claim a saw mill carriage roller with tapering journals, substantially as herein shown and described.

60,726.—MACHINE FOR EMBOSsing CONSECUTIVE NUMBERS.—Louis Heuser, Boston, Mass. I claim the combination of a series of slides, each made up of two pieces, f and i, when provided with male and female dies, and are all arranged to be operated at the same time by the plunger, m, for the purpose set forth.

Also, guiding and controlling the position and movement of the pieces, i, with reference to the pieces, f, by means of the guides, h, and springs, j, as described.

Also, The combination of the inclined bed and wedges, e, with the compound slides, i, f, and plunger, m, for the purpose of graduating the amount of impression to be given by descent of the plunger.

And in combination with the compound slides, i, f, the means described, by which the plunger is made to descend only at the will of the operator while the driving shaft is kept constantly in motion.

60,727.—WINDOW LATCH.—Ernst F. Hofmann, Poughkeep- sie, N. Y. I claim the stop, c, in combination with the catch, D, spring, b, and latch, A, constructed and operating substantially as and for the purpose set forth.

60,728.—MACHINE FOR SPINNING, TWISTING, AND REELING.—George Hoover and A. N. Hadley, Richmond, Ind. We claim the arrangement and combination of the mechanical devices here- in set forth and described for producing a spinning, twisting and reeling ma- chine, substantially as set forth and for the purposes described.

60,729.—SAD STONE.—H. W. Hopkins, Milford, N. H. I claim a reversible sad stone, consisting of the body, A, having plates, C, at both ends, provided with shoulders, b, the rear one having a projection thereon adapted to fit in a corresponding recess in the lower end of the han- dle, B, which is pivoted to the projections, and operating in the manner de- scribed for the purposes specified.

60,730.—PEAT MACHINE.—Bennett Hotchkiss, New Haven, Conn., assignor to himself and Charles Monson. First, I claim the use, in a machine for preparing peat or other plastic ma- terial, of the grinding surfaces, A A', having unequal rates of surface motion, co-operating in the manner described, to erect disintegrating the material, expressing the surplus water, and taking up the product upon the grinding surface having the faster rate of movement, substantially as set forth.

Second, The combination in such machine of the following instrumentalities: The cylinders, A A', or equivalent grinding surfaces, having unequal rates of surface motion, and the scraper, E, substantially as described for the purposes specified.

Third, The combination in such machine of the following instrumentalities: The said grinding surfaces, A A', having unequal rates of surface motion, and the apron, D, or other equivalent device for receiving and conducting away the surplus water expressed by the cylinders, A, substantially as set forth.

Fifth, The combination in such machine of the following instrumentalities: With an apparatus for moulding the peat or other plastic material, the combination being substantially as specified.

Sixth, Constructing the cylinder, H, with molding boxes and pistons, sub- stantially as described, and operating the same in combination with the cam presser, G, substantially as set forth.

60,731.—LADDER.—F. W. Hovey, Boston, Mass. First, I claim the combination of the bar, D, and pivoted steps, C, wheel, B, and sides, A, of the ladder, with each other, substantially as herein shown and described.

Second, The combination of the notched arm, E, with the steps, C, and bar, D, of the ladder, substantially as herein shown and described.

Third, The combination of the bar, D, and the removable pivoted steps, C, with the rounds and sides of the ladder, substantially as herein shown and described.

Fourth, The combination of the slotted bar, F, and pin, f, with the bar, D, and steps, C, of the ladder, substantially as herein shown and described.

60,732.—HOT-WATER HEATING APPARATUS.—Henry How- ard, Springfield, Mass., assignor to himself and Richard F. Hawkins. First, I claim the arrangement of a number of boilers, one above another, in such a manner as to form flues by their sides, and having tubular bars con- necting them, substantially in the manner and for the purpose set forth.

Second, The combination with a boiler, by means of a flexible pipe, of a hollow vessel, arranged and operating for the purpose of regulating the fire, sub- stantially as described.

Third, The radiators formed as described, having one part, R, larger than the other part, S, substantially as herein set forth.

60,733.—TOBACCO PIPE.—Edwin Hoyt, Stamford, Conn. First, I claim the necking and saliva cup, C, in combination with the bowl of the tobacco pipe, constructed and arranged substantially as herein specified.

Second, The socket, D, provided with a neck, d, in combination with the cup, C, bowl, A, and stem, B, substantially as and for the purposes herein specified.

Third, The combination of the cup, C, bowl, A, cap or bulb, c, socket, D, and stem, B, substantially as herein shown and described.

60,734.—HEATING STOVE.—Z. Hussey, Wilmington, Ill. I claim a heating stove, constructed with a laterally flattened and curved internal flue or pipe, G, opening upwards through the top, H, and downwards through the side of the stove, and having a draft opening, D, below, and a regulating damper, E, above the fire, said several parts being constructed and arranged for use, substantially as and for the purpose set forth.

60,735.—WINDOW-SASH FASTENING.—Robert Hutton, Brook- lyn, N. Y. I claim a window-sash fastening, composed of a socket, C, provided with a friction roller, E, or its equivalent, and a wedge or key, D, applied to a win- dow frame, and in such a relative position with the sash B, as to operate in the manner substantially as and for the purpose herein set forth.

60,736.—BLIND.—Robert Hutton (assignor to himself and William Mee), Williamsburg, N. Y. I claim a blind, having its rod for operating the slats of the same hung to one end of such slats, substantially as and for the purpose described.

60,737.—COMBINED SEAT AND TOP FOR CARRIAGES.—Free- gift Jackson, Sparta, Ohio. First, I claim attaching a carriage seat, A, to a supplementary seat, B, which may be placed above a permanent seat, A, or removed, so as to form a covered or uncovered seat, substantially as described.

Second, Connecting the frame supporting the carriage top with the perma- nent seat, A, by means of slides and grooves, so as to permit the frame and top to be removed or attached by a single movement, substantially in the manner set forth.

60,738.—STOP JAR.—John C. Jewett, Buffalo, N. Y. I claim a stop jar provided with the annular water recess formed between the sides, f, f, and rim, C, submerged flange, e, e, and central door trap and the concave cover, B, constructed and arranged substantially as and for the pur- poses set forth.

60,739.—QUARTZ MILLS.—G. D. Jones, New York City. I claim the adjustable or rising and falling scrapers, M, and the fixed scrap- ers, G, arranged and applied to operate substantially in the manner as and for the purpose set forth.

60,740.—TIME GLOBE.—Louis P. Juvet, Glen's Falls, N. Y. First, Making the axis of the daily wheel, e, of a chronometer, applied to revolve a hollow globe, and located in its interior, coincident with the axis of said globe, in the manner substantially as shown and described and for the purpose set forth.

Second, Winding the said chronometer from the outside of the globe, with- out the use of a key, by means of the thumb-piece, T, and sleeve, b, and its connections, in the manner substantially as shown and described and for the purpose set forth.

Third, The combination of the solid axis, a, with the sleeves, b and d, the former of which is to wind up the work from the outside, and the latter d', by which to transmit the proper motion to the globe, said parts being constructed, arranged and operating in the manner substantially as shown and described and for the purpose set forth.

60,741.—CAR COUPLING.—John Kelley, Woodberry, Md. I claim the wrought-iron hook, A, provided with a prong, C, arranged to act upon the coupling as described.

furnace, the above-described swinging valve or plug, constructed and oper- ated substantially as set forth.

Second, I claim the combination of the cap, E, rod, D, and hinged valve or plug, C, constructed substantially as specified.

60,747.—APPARATUS FOR FILTERING AND REFINING OIL.—M. H. Kruger, New York City. I claim the movable filters, B, suspended from rods, a, within the steam box, A, for the purpose described, substantially as specified.

60,748.—SLIDE VALVE.—J. J. Lahaye and S. T. Reeves, Read- ing, Pa. We claim the arrangement of the valve, B, with its recess, containing an elastic packing material, and the plate, D, with its rib, e, substantially as and for the purpose described.

60,749.—LEAK SIGNAL FOR VESSELS.—Noyes D. Lamb, Nor- wich, Conn. I claim in combination with a lever, I, hinged or pivoted to the frame or case, and to the stem or separately detachable thus separate arm, B, escape ment, g and bell hammer, m, all upon one and the same shaft, by which means I very much cheapen and simplify the construction, and render its action more certain by dispensing with parts that are liable to become disar- ranged, all substantially as described and represented.

60,750.—MAKING JUG TOPS.—Geo. P. Lang and Peter Laus- ter, Allegheny, Pa. First, We claim making jug tops of thin sheet metal, consisting of a body section, a, lid, b, button, e, hinge piece, c, and ring, d, cut, shaped, and joined, substantially in the manner hereinbefore described.

Second, The construction, from thin sheet metal, of the main or body sec- tion, a, of a jug top, when the spout, n, forms a part of such section, substan- tially as and for the purpose above described.

60,751.—LATHE DOG.—Chas. W. Le Count, Norwalk, Conn. I claim the hollow dog or carrier, constructed in the manner substantially as and for the purposes set forth.

60,752.—WHEELWRIGHT'S SPOKE-DRIVING BENCH.—F. M. Lemmon, Shelbyville, Ill. I claim the bench, B, clamping rod, D, adjustable rest, C, e, and holding rod and lever, G E, all arranged and operating as and for the purpose herein set forth.

60,753.—COMPOUND FOR SALINE MEDICATED BATHS.—Chas. Lennig, Philadelphia, Pa. I claim the composition of matter called "strumatic salts," put up in the form and packages as above named, substantially as above set forth.

60,754.—APPARATUS FOR PREPARING COTTON.—Chas. Lewan- dowski (assignor to himself and Emile Grainer), Paris, France. I claim, in combination with the double combing and beating cylinders, and the single air duct, for separating and classifying the fibers, the double de- livering mechanism for separately discharging the thus separated and classi- fied fibers in laps or silvers, the whole operating in the manner substantially as and for the purpose described.

60,755.—COMPOSITION OF MATTER FOR FUEL AND OTHER PURPOSES.—John S. Lipps, Brooklyn, N. Y., assignor to himself and Edwin Sanderson, New York City. I claim the composition of matter, substantially as herein described, and composed of coal coke or charcoal dust admixed with dextrine and powdered pitch and baked, essentially as herein set forth.

60,756.—FASTENING FOR RAILROAD RAILS.—Horace T. Love, Vermillion City, Kansas. I claim such an inclination of the under surface of a screw head, truncated in its relation to the gage of the thread of the screw, as to necessitate a bear- ing of that surface upon the flange of the rail so as to make the rail tight when screwed down, and the rail released by a reverse operation of the screw, the truncation being tangential to the shank of the screw, in the manner and for the purpose herein described.

60,757.—DEODORIZING PETROLEUM.—Orazio Lugo, New York City. I claim the use of chromic acid and hypochlorite of soda, or their equiva- lent, for the purpose of deodorizing offensive smelling kinds of petroleum.

60,758.—DEVICE FOR SUSPENDING HORSE HAY FORKS, ETC.—Geo. B. and Clark Lewis, Adams Center, N. Y. First, We claim a clutch for suspending horse hay forks, etc., consisting of the movable and adjustable bars, A, A, pivoted together and having perma- nent points, G G, substantially as described and for the purpose set forth.

Second, In combination with the above, the crocheted bulb, B, handle nut, C, and bolt, H, applied and operating, substantially as and for the purpose specified.

Third, The sliding or movable ring, F, in combination with the adjustable clamp, A, A, as and for the purpose specified.

60,759.—CONCENTRATING SULPHURIC ACID.—Joseph D. Loft- erts, Chelsea, Mass. I claim, in the process of concentration or distillation of sulphuric acid, the employment of iron vessels or tanks, substantially as set forth.

60,760.—DEVICE FOR VENTILATING AND HEATING ROOMS.—James H. Loomis, Attica, N. Y. I claim the pipes, G H, in combination with the stove pipe heater, B, con- structed as described, for conveying cold air from and returning warm air to another apartment, arranged and operating substantially as set forth.

I also claim constructing the heater, B, with the diaphragm, f, provided with annular perforations, i, around the flues, a, substantially in the manner and for the purpose described.

I also claim the damper, n, o, in combination with the drum heater, B, air induction pipe, G, and stove, A, arranged and operating, substantially as and for the purposes set forth.

60,761.—WRINGER FOR CLOTHES AND MOPS.—C. E. Gage, Fond du Lac, Wis. I claim the frame composed of the slotted slide bars, A A, foot plate, D, with roller, B, in combination with the frame, C, carrying roller, E, when arranged together, substantially in the manner and for the purpose de- scribed.

60,762.—TEMPERING STEEL SPRINGS.—Cephas Manning, West Albany, N. Y. I claim the use of the combination of linseed oil, raw or boiled, with as much common salt as the oil will take up, in the manner and for the purpose specified.

60,763.—MACHINERY FOR PUNCHING STEEL-PEN BLANKS.—Edward A. Marsh and Jarvis P. Kelly, Chicopee, Mass. We claim, in combination with the die, reciprocating punch, stripper, and carriage, the jaws, i, when arranged to clamp or grasp the plate at the center line thereof, and draw it progressively and intermittently to the action of the punch, substantially as set forth.

We also claim, in combination, the subjects of the first claim, the guides, w and x, and the rolls, y and z, arranged to operate substantially as set forth.

We also claim the arrangement of mechanism for tripping or disengaging the series of ratchet pawls, substantially as described.

60,764.—MACHINE FOR CUTTING FLY NETS.—Henry D. Mar- tin, Ypsilanti, Mich. I claim the combination of the bar knives and springs, D D, and the cam roller, C, C, substantially in the manner and for the purpose set forth in this specification.

60,765.—SLEIGH.—Wm. M. C. Mathews, Summer Hill, Pa. First, I claim pivoting the bolsters of a bob-sleigh to the bobs, substantially as herein shown and described.

Second, The combination of the bars, F, iron bar, N, and bar or plank, L, with each other, and with the beams, E, and bolsters, H, of the forward bob of the sleigh, substantially as herein shown and described.

Third, The combination of the bars, F, and iron bar, N, with each other and with the beams, E, and bolster, H, of the rear bob of the sleigh, substantially as herein shown and described.

60,766.—WATER WHEEL.—George W. McCann, Springfield, Ohio. I claim, First, The wheel, D, with two or more series of buckets, substan- tially as described, in combination with the independent gates, H H, for the purpose set forth.

Second, In combination with the gates, H H, the springs, N N, substantially as and for the purpose set forth.

60,767.—BREAST PADS.—Anne S. McLean and James P. Mc- Lean, Brooklyn, N. Y. Antedated Dec. 12, 1866. We claim a pad having a mat, A, and cushion, N, combined therein, whether with or without a spring or springs, all substantially as described.

60,768.—CANE STRIPPER.—M. Mellinger, Dayton, Ohio. I claim the shoulders, L, in stationary blade, J, and spring blades, E, operat- ing in combination with the slotted spring blades, G, as and for the purpose specified.

60,769.—FEED MECHANISM FOR SEWING MACHINES.—M. H. Merriam, Charlestown, Mass. First, I claim the eccentric and its motor, the crank, link and their motor, when combined and arranged with a feeding device, so as to operate it, sub- stantially as described.

Second, I claim a feeding device for sewing machines, in which a reciprocating shuttle moves at right angles, or nearly so, to the path of the vibrating feed movements of the feeding device, when constructed substantially as set forth, and arranged to operate as specified.

h, of the engine with the steering wheel, d, and the gear wheels, n, n', and o, connecting it with the engine, constructed and arranged substantially as and for the purposes hereinbefore described.

Second, also, the check lever, t, operated by means of stops or buttons on the tiller rope, in combination with the cut-off lever of the steam engine, constructed and operated substantially as hereinbefore described for the purpose of stopping the steering engine when the tiller is turned to its utmost limit in either direction.

60,772.—TOY WIND WHEEL.—Max Miller, Brooklyn, N. Y. I claim an improved toy wind mill formed by the combination of the mouth piece, A, air tube, B, air chamber, C, pivoting post, D, and revolving wheel, E, or equivalent, with each other, substantially as herein described, as a new article of manufacture.

60,773.—HAY ELEVATOR.—M. Mitchell, Crown Point, Ind. I claim, first, the shaft, D, lever, E, provided with the friction roller, A, in combination with the lever, F, and rope, R, for the purposes and substantially as described.

Second, I claim the side pieces or frame, A, and posts, B, in combination with the levers, E and F, and shaft, D, substantially as herein described.

60,774.—EXCAVATOR.—James Molyneux (assignor to the Bordentown Machine Co.), Bordentown, N. J.

I claim, first, a frame, H, carrying an endless chain of buckets, and hung to a frame capable of being turned on a platform or truck, all substantially as described for the purpose specified.

Second, the bucket, frame, H, hung to a bolt or shaft, arranged to slide in slots in the frame, and controlled by screw rods, N and N', or their equivalents, substantially as and for the purpose herein set forth.

Third, the combination of the tubular shaft, G, chain pulley, I, driving pulley or wheel, P, and sotted plates, E and E'.

Fourth, the combination of the tubular shaft, G, its nuts, I, and the screw rods, N and N'.

Fifth, the frame work carrying the bucket frame, H, and endless chain of buckets, in combination with the truck, P, on which the said frame work turns, and the platform, R, on which the truck and the entire machine are arranged to traverse, all substantially as described.

60,775.—SMOOTHING IRON.—Thomas C. Moore, Winghamton, Ohio.

I claim the pin, a, with its projections, c, c, on the body, A, of the flat-iron, in combination with the hole and its side notches, d, d, in the handle, B, substantially as and for the purpose herein specified.

I also claim the heel projections, g, g, in combination with the device for coupling the handle, B, to the body, A, for the purpose set forth.

60,776.—ROTARY HARROW.—David Morris, Bartlett, Ohio.

I claim a rotary harrow, having a bent post, upon which a spindle wheel is so journaled that the spades, by contact with the soil, shall arrest the spokes in their rotation without the intervention of gearing, substantially as described.

60,777.—STOVEPIPE THIMBLE.—Thomas Newell, Oskaloosa, Iowa.

I claim the quadrilateral-shaped stone, A, with two shoulders, a, a, for resting it upon cleats between the joists, and annular dovetailed grooved ring, B, constructed as described, of one piece of stone, as and for the purposes set forth.

60,778.—THRASHING MACHINE.—Nelson Palmer, Hudson, N. Y., assignor to himself and T. G. Palmer, Schultsville, N. Y.

First, I claim a threshing cylinder with teeth, which have their opposite faces rough and smooth, as and for the purpose specified.

Second, I claim making the teeth in the cylinder and concave, cone-shaped, or pyramidal, so that by adjusting the concave nearer the cylinder, the surfaces of the teeth shall approach nearer to each other.

Third, I claim such a construction and arrangement of threshing machines, having two concaves, as described, that by the rotation of the cylinder in one direction, the smooth faces of the teeth are caused to act in concert with the smooth faces of the teeth in one concave, and by reversing the rotation of the cylinder, the rough faces of the teeth are caused to act in concert with the rough faces of the teeth in the other concave.

60,779.—BROOM HANGER.—James L. Patterson, Wheeler Station, Ind.

I claim the ring, A, in combination with a bail or hook, B, arranged and operating substantially as and for the purposes set forth.

60,780.—MANUFACTURE OF SULPHATE OF ALUMINA, ALUM, AND OTHER ALUMINOUS COMPOUNDS.—Henry Penberton, Allegheny City, Penn.

I claim the employment, in the manufacture of sulphate of alumina, alum, and other aluminous compounds, of the acid solution obtained from the tarry acid residuum of the treatment for the purpose of refining of petroleum, coal oils, and other hydrocarburates.

60,781.—PROCESS FOR FINISHING SHEET METAL.—Charles H. Perkins, Providence, R. I.

First, I claim the process herein described of annealing and imparting a blue color to sheet-metal plates consisting in subjecting such plates which have been previously suitably cleaned and brightened to the action of heat applied while the plates are inclosed in a close flask, the plate being so arranged within the flask that their surfaces shall be surrounded by a free air space, substantially as set forth.

Second, the process herein described of finishing sheet-iron plates: by first coloring the same in the manner above set forth, and secondly, in subjecting the plates after being colored to the action of pressure rollers, or equivalent means for producing a dense and lustrous surface, substantially as described.

60,782.—SPRING BED.—George H. Pool, New York City. Antedated Dec. 19, 1866.

I claim the rails, c, resting on the springs, d, d', and f, f', and attached thereto by means of the pins, h, h', passing through the slots, g, g', said springs being made of greater or less elasticity by varying their length or the angle at which they are inserted in a and a', or by both of these means, as described and arranged.

60,783.—FAGGOTS FOR RAILROAD RAILS.—Samuel L. Potter, Wyandotte, Mich.

I claim a pile or faggot for rolling railroad bars constituted of iron and steel bars arranged substantially as herein represented and described.

60,784.—SPRING CHAMFER.—Edward Powell, Conneautville, Pa. Antedated Dec. 29, 1866.

I claim the metal frame, A, in combination with the spiral spring, B, B, and tail supporter, C, C, constructed as described.

60,785.—CARPET SWEEPER.—George Purrrington, Jr., New York City, and James H. Purrrington, Mattapoissett, Mass.

I claim the adjustable axles or bearings, K, constructed and arranged substantially as herein described in combination with the drive wheels, J, and frame, A, of the sweepers, as and for the purpose herein set forth.

60,786.—SPRING FISHHOOK.—Elias Rhodes, Jr., and J. W. Rhodes, Clyde, Ohio.

We claim the hook and rods, A, B, having swell, D, and contraction, C, in combination with the ways, F, F, stationary head, E, cross head, G, spiral spring, H, and for the purpose substantially as specified.

60,787.—PLANING MACHINE.—Seneca M. Richardson, Worcester, Mass.

I claim, in a tonguing and grooving or other machine, the combination with the cutter head of an adjustable mouth piece or presser bar attached to the bed piece of the machine so that while separate and distinct from the cutter head it may be capable of moving concentrically therewith, the whole being constructed and arranged for operation substantially as shown and described.

60,788.—LEVEL.—W. L. Richardson, Reading, Mass., assignor to himself and F. E. Nutting, Florence, Mass.

First, I claim a ball joint having the plummet line attached to the center of the ball, substantially as and for the purpose described.

Second, the stud, H, having the grooves, c, c, arranged with the set screw, B, substantially as and for the purpose described.

Third, the tube, S, mounted upon the frame, L, and having the reversible level, M, arranged as described and being detachable from the rest of the instrument so that it can be used as a mason's level and plumb, substantially as described.

60,789.—GRINDING MILL.—J. C. Roberts, Adamstown, Md.

I claim, in combination with a governor operated from the mill gear, a regulating mechanism operated through the intervention of a screw shaft, a traveling poise, and scale beam, that will change and adjust both the feed, and the set of the stones to the varying speed of the runner caused by changes in the motive power and thus produce a uniform grade of flour or meal, substantially as described.

60,790.—MOP WRINGER.—A. J. Robinson, Troy, N. Y.

I claim an improved mop wringer formed by the combination of the bar, B, and winger, C, constructed with a circular rim, c, two or more descending spiral arms, c, lower central part, c, and tenon, c, substantially as herein described and for the purpose set forth.

60,791.—SAFETY NIPPLE FOR FIRE-ARMS.—William N. Rowe, Washington, D. C.

I claim, in combination with the nipple of a fire-arm, a cylinder shield or cap that can turn thereon, and having an opening through it, that in one or its positions closes, and in its other position, discloses the opening through or the powder in the nipple, and so that a cap may be exploded upon its closed position without firing the charge in the arm and are it in its other disclosed position, substantially as described.

60,792.—PRINTERS' INK ROLLER.—G. Russell, New York City, and T. B. Hull, Brooklyn, N. Y.

First, we claim the construction of a stock on which to cast or form printers' rollers for receiving or distributing ink in such a manner that the journals on which it turns may be removed and replaced without pressure.

Second, we claim the use of a cylinder or tube as a stock for a printer's roller.

60,793.—MEANS FOR ROCKING CRIBS OR CRADLES.—John S. Ryan, Berlin, Wis.

I claim the combination of the platform, A, spring, B, wheels, C, D, and other wheels, E, arranged in connection with the shaft, G, arm, H, and adjustable rod, I, in the manner and for the purposes specified.

60,794.—COMPOSITION FOR PREPARING AND HARDENING WOOD AND PRESERVING THE SAME.—John Lewis Samuels, San Francisco, Cal.

I claim the use of the above-mentioned composition of sulphate of iron, common lime and water, in about the above-mentioned proportions for the purpose of impregnating wood and timber to render them impervious to the influence of wet and dry rot and the attacks of worms and insects.

60,795.—BOILER-FLUE CLEANER.—Bernard Scheafer, Chicago, Ill.

I claim the construction and arrangement of the spindles, A, A, with the disks, B, B, plate, C, and guides, D, D, as herein described and for the purpose set forth.

60,796.—BOX FOR TRANSPORTING SMALL FRUIT AND BERRIES.—Eli Secor, Lawrence, Mich.

I claim a fruit box for the transportation and safe keeping of fruits or berries, constructed and arranged substantially as herein shown and described.

Second, I claim the tray, C, either separately or in combination, constructed and arranged substantially as herein shown and described and for the purposes set forth.

60,797.—APPARATUS FOR MIXING SUGAR.—Martin L. Sanderling, Jersey City, N. J.

I claim, first, the process, substantially as herein described, of mixing sugars through centrifugal force by means of a wheel receiving upon it sugars of different grades or qualities.

Second, the mixing wheel acting by centrifugal force constructed with vanes inclining on their faces upwardly in a backward direction in relation to the run of the wheel, essentially as specified.

Third, the combination with the centrifugal mixing wheel of a crushing mill arranged to deliver the crushed sugar directly upon said wheel, substantially as herein set forth.

Fourth, the combination of a divided hopper, crushing mill, and centrifugal mixing wheel, essentially as specified.

60,798.—GATE.—J. W. Singleton, Quincy, Ill.

I claim the apparatus constructed and arranged substantially as herein described for the purpose of opening and closing gates, and raising and lowering them when either open or closed, as herein set forth.

60,799.—CASTER FOR FURNITURE.—Francis Smith (assignor to Edward Ward Wilder), Boston, Mass.

I claim as my improvement the formation of the lower end of the leg, E, with the curved concavity, d, and the formation of the roller, C, and its arrangement with respect to such concavity and the shank, B, of the roller frame, A, substantially as set forth.

60,800.—MACHINE FOR TENONING BLIND SLATS AND BORING THE STYLES.—Hiram Smith and Thos. J. Lumsden, Norwich, Conn.

We claim, first, the use of vibrating, centering cutters, d', d', in combination with circular saws, c, c, the said cutters and saws being brought into action by means such as described, or the equivalent thereof, and operating substantially as described, for the purpose of forming tenons on slats.

Second, constructing the tenon cutters, d', d', in such a manner as to compress and burr the extreme outer end of the tenons on the slats, substantially as described.

Third, the combination of tubular longitudinal cutting and centering tenon cutters, d', d', with slat-rests, g, g, which are constructed and arranged substantially as described.

Fourth, the combination of the shafts, C, C', adjustable standards, D, D, and E, E', with the cut supports, H, H', which are also adjustable, the said parts being brought into action by means such as described, or the equivalent thereof, substantially as described for the purpose set forth.

Fifth, the spring pin, n, applied to adjustable arms, m, m', in combination with the style support, R, and boring tool, a, substantially as described.

Sixth, holding the slats by means of the tubular cutters, cutting the shoulders on their ends, for operating the pumps by the depressing and elevating movement of the platform beams, b, resting directly thereon, and weights, E, connecting therewith substantially in the manner and for the purpose set forth.

Seventh, holding the slats by means of the tubular cutters, cutting the shoulders on their ends, for operating the pumps by the depressing and elevating movement of the platform beams, b, resting directly thereon, and weights, E, connecting therewith substantially in the manner and for the purpose set forth.

80,801.—WRENCH.—R. S. Stenton, Brooklyn, N. Y.

I claim making the inclining jaws, A and B, at such an angle with the straight shaft, C, as to embrace the pin, d, and to insure contact with the three sides of a hexagon nut, in combination with a sufficient elongation of the lower jaw, so as to grasp two sides of a square nut as set forth.

60,802.—MEANS FOR ADJUSTING SPINDLES IN RING SPINNING.—Francis A. Ferry, Canton, Mass.

I claim adjusting the spindle, B, by the bolster, F, and the step, G, nuts, f, g, and opening, O, O, substantially in the manner and for the purposes herein set forth.

60,803.—WATER ELEVATOR FOR RAILROAD TANKS.—Charles L. Stevens, Galesburg, Ill.

I claim, first, the arrangement of the three levers, C, C', C'', constructed with friction rollers, f, on their ends, for operating the pumps by the depressing and elevating movement of the platform beams, b, resting directly thereon, and weights, E, connecting therewith substantially in the manner and for the purpose set forth.

Second, I claim weather-tight plank platform, resting directly on the ground, and rollers, f, of the ends of the levers, C, substantially in the manner and for the purpose set forth.

Third, I claim the platform beams, b, having six ft rods, constructed with friction rollers, c, on their ends, and operating in vertical openings, g, in the bed-sills, D, and under the rails, substantially in the manner and for the purpose set forth.

Fourth, the platform rollers, h, as arranged on the corners of the ends of the platform, to serve as lateral guides in the depressing and elevating movement of the platform, substantially in the manner and for the purpose set forth.

Fifth, the weights, E, as arranged in their connection with the levers, substantially in the manner and for the purpose set forth.

Sixth, the side plates, a, on the sides of the rails, A, of the platform, substantially in the manner and for the purpose set forth.

60,804.—CUT OFF FOR STEAM ENGINE.—Albert Stuckenrath, New York City.

I claim the lever, L, adjustable ring, R, constructed substantially as and for the purpose set forth, and shown in the accompanying drawings.

I also claim the combination of the pronged lever, L, adjustable ring, R, levers, u, and index of the graduated dial, D, adjustable asset forth.

60,805.—CAR SPRING.—William Toshrach, New York City.

I claim a series of thin, elastic, rectangular metallic plates, either straight or curved, of graduated lengths, in combination with compensating rubber springs, and a suitable casing when so arranged as to be deflected if made straight, or straightened if used in a curved form, by means of flanged pressure plates, the whole constructed and operating substantially in the manner and for the purpose herein set forth.

60,806.—LIQUID MEASURE.—Joseph Trent, Millerton, N. Y.

I claim the combination of the can, A, and the funnel, B, and the double jointed hinge, H, substantially as arranged and described.

60,807.—CHANNELING MACHINE.—Hervey S. Vrooman, Hoboken, N. J.

First, I claim so applying the arm, L, to the machine, that it may be removed from the frame or standards without withdrawing the pin, a, upon which it swings.

Second, also the provision for longitudinal movement of the arm to adjust the cutters with reference to the edge guide wheels, substantially as set forth.

Third, also, in combination with the arm, L, the block N, or the auxiliary block, O, carrying the cutters, and made capable of vertical adjustment to simultaneously regulate the depth of cut of the knife, and grooved substantially as described.

Fourth, also, the slotted construction of the knife stock, Q, in combination with grooves, R, and other parts of a channeling machine to permit its removal without withdrawing the screw, h, substantially as set forth.

Fifth, also, in combination with the stock, Q, the gauge plate, P, for determining the position of the knife, when replaced substantially as described.

60,808.—GATE HINGE.—James T. Watson, Richmond, Ind.

I claim the combination and arrangement of the butt, A, bar or wing, B, bracket, C, and thumb-piece and screw-bolt, D, when constructed and operated as and for the purposes set forth.

60,809.—MODE OF LUBRICATING JOURNALS.—Isaac P. Wendell, Philadelphia, Pa.

I claim an oil box, A, having a tube, D, in combination with plate, B, having orifices b, b, and journal, E, substantially as described.

60,810.—LANTERN.—William Westlake, Brooklyn, N. Y.

I claim, first, converting the conductor's lantern into a signal lantern, by the means and substantially as herein recited.

Second, I claim accommodating the globe, or glass of the lantern, by means of the screw, G, and other parts of the lantern as herein described.

Third, I claim the cap, h, above the plate, g, for preventing the escape of the oil as herein named.

60,811.—ICE SPUR.—Martin V. B. White, Ballston, N. Y.

I claim the combination of the detachable and adjustable spur, A, with the metallic piece, B, or its equivalent, operating in the manner and for the purposes substantially as herein fully described and set forth.

60,812.—PLANING MACHINE.—Baxter D. Whitney, Winchendon, Mass.

I claim having the size of the back pressure roller, or rolls, or the size of the gear wheels that drive them, such as will give the surface of the roll or rolls a trifle greater or less motion than the front feed rollers a lumber to be planed have, thus causing the back roll or rolls to slide a trifle on the planed surface, thereby preventing any substance from adhering and accumulating on the rolls.

60,813.—THRASHING MACHINE.—Mark Wilder, East Princeton, Mass.

I claim, first, the combination of fan, D, with the separating parts of the machine substantially as and for the purposes stated.

Second, the combination of fan, C, with the threshing parts of the machine substantially as and for the purposes stated.

Third, the combination and arrangement of fans, C and D, with cylinder, B, substantially as set forth.

Fourth, the combination and arrangement of fans, C and D, and threshing cylinder, B, with frames, O and K, as and for the purposes set forth.

Fifth, the combination with the front of box, E, of the guards, o, and adjustable frame, p, substantially as and for the purposes set forth.

Sixth, supporting bed piece, H, by means of hinged supports, I and J, for the purposes set forth.

Seventh, the combination of the adjustable damper, R, with the fan D, substantially as and for the purposes set forth.

60,814.—METALLIC CARTRIDGE.—O. Winchester, New Haven, Conn.

I claim a cartridge case, consisting of the case, A, and cap, B, with the intervening disk or cushion, b, arranged to operate substantially as and for the purpose set forth.

60,815.—CAR COUPLING.—Emanuel Zorger, Greensburg, Ind.

I claim, first, the hinged gravitating catch, D, when constructed with the concavity, H, and beveled faces, g, g', and with the slot, f, and used in combination with a draw head, with converging throat, and V shaped pocket, I, and also in combination with the hinged bar, K, said parts being constructed substantially in the manner and employed for the purpose set forth.

Second, in combination with the draw bar, a, and draw head, A, constructed and arranged to act automatically, substantially as set forth, I claim the friction plates, N, N', and tension springs, O, P, for holding the draw head in any required position, when coupling the cars, substantially as set forth.

60,816.—GLOBE VALVE FOR STEAM ENGINE.—E. H. Ashcroft, Lynn, Mass.

First, I claim the hollow valve stem, D, constructed in the manner substantially as described, and for the purpose set forth.

Second, the combination of the said stem, with the globe valve, B, and screw nut, F.

60,817.—BOILER GAGE-COCK HANDLE.—E. H. Ashcroft, Lynn, Mass.

I claim a handle for gage or water cocks for steam boilers, constructed in the manner substantially as shown and described, and for the purpose set forth.

60,818.—PUMP.—Stephen L. Avery, Norwich, N. Y.

I claim my improved pump, constructed of the sliding plate, g, compensating spring, x, metallic plunger or piston, d, and suitable valve and valve seats, j, arranged in combination with the tubing of a well, A, and operating substantially in the manner hereinbefore described.

60,819.—METHOD OF PREPARING SOLE LEATHER FOR BOOTS AND SHOES.—David M. Ayer, Lewiston, Me.

First, I claim the method herein described, of preparing sole leather for the construction of boots and shoes with air cells between the outer and inner soles.

Second, I claim, as an article of manufacture and sale, sole leather corrugated or fluted, and hardened, substantially as described.

60,820.—HILLSIDE PLOW.—Frederick G. Bakes, Vevay, Ind.

First, I claim the provision in a hillside plow, of right and left wings, or mold boards, G, G', adapted to be alternately secured in the active and inactive positions, substantially as set forth.

Second, in the described combination, with the reversible share, F, and wings, G, G', I claim the lateral adjusting screw, L, L', M, M', eye, N, and hook, O, or their mechanical equivalents, for the purpose explained.

Third, the arrangement of duplicated wings, G, G', pivoted near their front ends to the sheath, and secured alternatively to their upper or inactive positions by the hook, Q, and the eye, R, or their equivalents.

60,821.—WOOL PRESS.—George Baldwin and Allen B. Chase (assignors to Allen B. Chase), Italy Hill, N. Y.

I claim the latches, D and D', rolling catch, E, provided with the weighted arm, G, and treadle, F, when constructed and arranged substantially as specified and used for the purpose set forth.

60,822.—DIE FOR CUTTING SCREWS.—E. D. Barrett (assignor to self and Julius B. Savage), New Haven, Conn.

I claim the combination of the lever, E, the wedge, I, cutter, c, and set screws, g and c, so as to operate substantially in the manner herein set forth.

60,824.—POWDER FOR FACING MOLDS.—William Batty, Cincinnati, Ohio.

I claim the molder's facing powder, composed and prepared in the manner described.

60,825.—CORN SHELLER.—Charles Beach, Penn Yan, N. Y.

First, I claim the adjustable ring, D, in combination with the shelling bed composed of the spring sections, b, b, operating substantially in the manner and for the purpose herein specified.

Second, the combination of the inclined wings, a, a, with the hopper, B, shelling bed, c, and cylinder or cone, E, arranged and operating as herein set forth.

Third, the combination of the curved arms, G, G', with the perforated floor, H, and cob outlet, f, when arranged in connection with the shelling mechanism, C, E, substantially as described.

Fourth, in combination with the subject matter of the preceding claim, the arrangement of the perforated chute, L, with hinged valve, N, and the reverse discharge board, M, the whole arranged and operating as described.

Fifth, the special construction and arrangement of the machine, consisting, essentially, of the bed, C, cylinder or cone, E, arms, G, G', perforated floor, H, discharge board, I, exhaust fan, P, and the inclined chutes, L, M, operating substantially as set forth.

60,826.—HORSE HAY RAKE AND SEEDER COMBINED.—John H. Bear, York, Pa.

First, I claim securing one or more seed hoppers, which are provided with seed and driver's feet of which are applied to said axle, substantially as described.

Second, the combination of the hopper box, G, axle-tree, A, driver seat, D, and lever for enabling the driver to hold the rake teeth down for harrowing in the seed, substantially as described.

60,827.—SAW.—Asa Bee, White Oak, West Va.

I claim the plane bit, or iron, a, when constructed with a groove or gutter, a', and secured to the blade of a saw, substantially as and for the purpose specified.

60,828.—GATE.—Edwin L. Bergstesser, Sunbury, Pa.

First, I claim pivoting the gate centrally to an overhanging sliding bearer, arranged substantially as and for the purpose specified.

Second, the sliding bearer with the gate pivoted, arranged to operate substantially as and for the purpose specified.

Third, the arrangement of the friction rollers, in the described relation to the post, and to the sliding bearer passing through said post, for the purpose specified.

Fourth, the employment of a weight or counterpoise, upon the outer end of the sliding bearer, which has the gate pivoted to its inner end, substantially as and for the purpose specified.

60,829.—ANTI-FRICTION OIL.—J. F. Boynton, Syracuse, N. Y.

First, I claim a material for lubricating machinery, formed by combining sulphur with hydro-carbon oils, tars, or their equivalents, substantially as described.

Second, the combination of linseed oil with the products of gas tar and sulphur.

Third, the combination of any of the petroleum series of hydro-carbons, with the gas tar series as herein described, for the purpose set forth.

Fourth, the combination of the petroleum and gas tar series of the hydro-carbons, with sulphur, for the purpose set forth.

60,830.—ROOFING MATERIAL.—John F. Boynton, Syracuse, N. Y.

First, I claim the combination of peat with gas

a magnet upon an oscillating arm, and so connecting the arm with a pedal, by intermediate mechanism that the leaves may be turned successively by the action of the foot of the player, substantially as described.

60,834.—PHOTOGRAPHIC BATH.—Amasa Cobbs, Pittsburgh, Pa. I claim the combination of the oscillating bottom, F, with the box, A, in a nitrate bath, substantially as described and for the purposes set forth.

60,835.—MANUFACTURE OF ALCOHOL AND OTHER PURE DISTILLATES.—John F. Collins, New York City. First, I claim the products derived from hydro-carbon, coal or mineral oils, petroleum or turpentine, distilled substantially as described.

60,836.—DEVICE FOR DETACHING RUNAWAY HORSES.—E. P. Connor, Jeffersonville, Ohio. I claim the arrangement of cap, E, e, G, notch, C, detent, F, and cam, H, or their equivalents, constructed and operating as set forth.

60,837.—CONVERTING RECIPROCATING INTO ROTARY MOTION.—John Cupps, Chicago, Ill., and Amos R. Harper, Grandville, Mich. We claim the employment of two rack wheels, or segmental circular racks in combination with two pinions on the driving shaft, arranged so as to be coupled alternately thereto, in such a manner as to produce continuous rotary motion, in one direction, substantially as and for the purpose herein specified.

60,838.—AUTOMATIC APPARATUS FOR REEFING SAILS.—John Davidson, Edinburgh, North Britain. First, I claim effecting the automatic reefing of sails by means of spring-lever, or equivalent mechanism arranged and applied to the sails, substantially as described, so that the extent of surface of the sails exposed to the action of the wind shall always be inversely proportionate to the pressure of the wind upon the sails, substantially as herein shown and set forth.

60,839.—MACHINE FOR WIRING BLIND SLATS.—Elijah F. Dunaway, Indianapolis, Ind. Antedated Dec. 19, 1866. I claim the arrangement of the cord, T, with the lever, C and J, and pulley, S, as herein described and for the purposes set forth.

60,840.—COAL STOVE.—B. Wells Dunklee, Boston, Mass. I claim the arrangement of the combustion chamber, B, with its smoke exits, E, F, and H, with respect to the air tubes, M, N, and O, of the furnace, substantially as herein described and for the purposes set forth.

60,841.—TABLE.—J. E. Dust, Hyattsville, Ohio. I claim the folding table, A, B, stationary legs, C, C', sliding legs, D, D', and rotary waiter, G, forming a convertible, self waiting and folding table and side board.

60,842.—GRATE FOR FURNACES.—John Alexander, Green Post, N. Y. First, I claim in grate bars, the grooves, e, and tapering holes, e', arranged in the manner and so as to perform the functions herein specified.

60,843.—DOVETAIL MACHINE.—Juan S. L. Babbs, New Albany, Ind. First, I claim the construction and arrangement of the two platforms, A, A', when applied in combination to the Hartwell patent dovetail machine, or its equivalent, substantially as and for the purposes herein described.

60,844.—HEATING STOVE.—William A. Barlow, Elkhorn, Wis. I claim the interior chamber, C, provided with a tilting or otherwise opening bottom, H, and a downwardly projecting pipe or flue, D, substantially as and for the purpose herein specified.

60,845.—HEATING STOVE.—William A. Barlow, Elkhorn, Wis. I claim a deflecting plate, B, in combination with one or more air supplying pipes, C, arranged and operating substantially as and for the purpose herein specified.

60,846.—SEEDING MACHINE.—D. C. Baughman, Fort Seneca, Ohio. First, I claim the combination of the two hoppers, G and J, with the shafts, g, spur wheels, a, a', pulleys, g1, g2, or their equivalents, and clutch, b, upon the axle, C, and lever, C', which is actuated by the bar, E, to which the drill teeth are attached, and which operate substantially as described.

60,847.—HEAD BLOCKS FOR SAW MILLS.—A. M. Beard (assignor to himself and Solomon McNeil), Hillsborough Bridge, N. H. First, I claim the rotatin index, A, supported on and carried by the log rest, B, and operated by a fixed rack, I, and pinion, 2, substantially as and for the purpose herein specified.

60,848.—ROOFING.—Edmund Becker, Cincinnati, Ohio. First, the bars, B, constructed substantially in the manner and secured at their base to the rafters of the roof as and for the purpose described.

60,849.—SLATE WASHER.—Otis T. Bedell, New York City. I claim a slate washer composed of a compressible water vessel, A, and absorbent wiper, B, combined substantially as herein set forth.

60,850.—CAR BRAKE.—Charles Bemis, Mishawaka, Ind. I claim the arrangement of the lever, n, the chain, k, the pulleys, m, and the shaft, c, connected with the shoes, a, b, by the arms, e, e', and the rods, g, g', to operate as a railroad car brake as herein described.

60,851.—MANUFACTURE AND COATING OF LEAD PIPE.—Frederick Bennett, Watford, England, assignor to John S. George, Nassau, N. P. First, I claim the within described process of manufacturing lead pipe by the use of a stationary mandrel in contradistinction to the mandrel generally used which moves with the piston of the hydraulic ram, substantially as and for the purpose described.

60,852.—DIRECT ACTING ENGINE.—George F. Blake, Boston, Mass. First, I claim the tappet rod, F, arranged as described for the purpose specified.

60,853.—METHOD OF FASTENING BOILER TUBES.—James Bowden (assignor to himself, W. H. Colbanks, and Horace Theall), New York City. I claim the wedge-shaped ferrule, C, D, in combination with the nut, E, tube, B, and tube-sheet, A, substantially as set forth.

60,854.—WATER WHEEL.—Henry P. Bradbury, Springfield, Ohio. First, I claim the combination of the three sets of buckets, C, E, F, substantially as and for the purpose set forth.

60,855.—SAW MILL.—Samuel Bristow, Bedford, Indiana. I claim the grooved pulley, E, on the drum shaft, D, one end of said shaft having bearings in a movable standard, grooved pulley, C, on the driving shaft, A, chain, h, and lever, F, when constructed and arranged as herein set forth.

60,856.—TAG OR LABEL.—N. H. Bruce, Forge Village, Westford, Mass. I claim a tag having a cord or string, or its equivalent, secured to it by passing such cord through a metallic tube or casing, or its equivalent, attached to the tag, substantially as and for the purpose described.

60,857.—APPARATUS FOR CHARGING GAS OR AIR WITH HYDRO-CARBON VAPOR.—W. H. Burridge, Cleveland, Ohio. First, I claim the stopped or shelved partitions provided with basins or cups and flocculent material, in combination with the case, A, substantially as and for the purpose set forth.

60,858.—WEIGHING APPARATUS.—Benjamin Churchill, Wareham, Mass. I claim, connecting the auxiliary rod or beam, F, to the main beam by means of the arms, E, F', each side of the axis of motion of the beam, so that the point on the auxiliary beam may be traversed across the axis of the beam, outside of or beyond the axis of the beam, substantially as described.

60,859.—MACHINE FOR CLEANING COTTON, ETC.—Robert J. Clay, Williamsburg, N. Y., assignor to J. H. Clark, E. Walsh, J. Donaldson, and J. H. Walsh. First, I claim the machine for cleaning and reholting damaged cotton, constructed and arranged substantially as herein described.

60,860.—FLOUR BOLT.—William F. Cochrane, Springfield, Ohio. First, I claim the combination with the reel, reel-spout, and pump, of the reel, E, as and for the purpose described.

60,861.—STEAM ENGINE.—Stephen F. Davenport, Hallowell, Maine. I claim my improved steam engine, made substantially as described, viz.: of the cylinder, A, the internal piston cylinder, B, the piston, C, and their steam passages, ports and valves, arranged in manner as represented, and so to operate as described in order to cause the piston-head, B, to be moved by the in-expanded and expanded steam, substantially as explained.

60,862.—TARGET FOR AIR GUN.—Charles A. Demling, New York City. I claim, dividing a target into a series of parts, C, each of which is acted upon separately by the ball or projectile, but all of which are ruptured at the same time, by a combination of the rail, e, springs or weights, f, and rope, g, and the bar, B, rails, d, and post, A, substantially in the manner and for the purpose herein specified.

60,863.—TOY GUN.—Samuel R. Dummer, New York City. I claim a toy gun constructed substantially as described, to project a ball secured to the end of an elastic cord, which is stretched between the ends of the barrel portion.

60,864.—METHOD OF REMOVING BARS FROM RIVERS AND HARBORS.—Sydney S. Durfee (assignor to himself and Charles A. Gregory), Chicago, Ill. I claim the method of removing bars of sand, or mud, or gravel, in the beds of rivers, or at the mouths of ports and harbors, or similar places, by placing obstructions or agitators upon said bars, for the purpose of breaking up the current and thereby causing it to cut into and wash away the bar, all substantially as above shown.

60,865.—RAILROAD FREIGHT CAR.—Richard Eaton, Montreal, Canada. First, I claim the truck for freight cars with six wheels and wrought-iron housings, H, constructed and arranged substantially as and for the purpose described.

60,866.—SCAFFOLD BRACKET.—Charles Eddy, Grass Lake, Michigan. I claim the bar, A, provided with the arms, B, B, the said arms being provided with spurs, a, a', and e, e', either or both, for the purposes and substantially as shown and described.

60,867.—FURNACE.—William Ennis, Hudson, N. J. I claim the combination of the basket grate with its sides made of overlapping slats, as described, air chambers, G, and supply apertures, a, a', constructed and arranged substantially as and for the purposes herein specified.

60,868.—RAILROAD CAR.—Joseph S. Fairfax, Wheeling, West Va. I claim the arrangement of the vibrating pedestals, B, B, connected with and supported by the cross-braces, b, b, and the center block, c, combined with the rods, e, e', tie-rod, f, and the spring, g, g, when applied to a street railroad car, constructed and operating substantially as and for the purposes herein described.

60,869.—COMBINED FOOT-STOVE AND LANTERN.—D. P. Farnham and M. P. Farnham, Janesville, Wis. First, I claim plate, s, heat distributors, t, t', and lid, A, when constructed and combined substantially as and for the purposes described.

60,870.—STEAM GENERATOR.—Henry Feyh, Columbus, Ohio, assignor to himself and George T. Emery. Antedated Sept. 13, 1866. First, I claim pipes or tubes leading from the main water-chamber through the fire-box, communicating with pipes or tubes which also lead through the fire-box, but which enter a water-chamber, E, that extends above the water level, for producing a forced circulation of water in steam boilers, substantially as described.

60,871.—ATMOSPHERIC DENTAL PLATE.—Nehemiah T. Folsom, Laconia, N. H. I claim a packing-ridge applied to the surface of the atmospheric plates of artificial teeth, substantially as and for the purpose herein specified.

60,872.—WINDOW-BLIND FASTENER.—Charles B. Francis, Newark, N. J. I claim the metallic strap, D, and slotted bar or lever, E, for the purpose of holding the slats of window-blinds at any desired angle, substantially as and for the purposes herein described.

60,873.—PORTABLE FIELD FENCE.—Jacob J. Friend, Altona, Ill. I claim the rails, B, so arranged as to have chords project from the panels, A, of one section, on to the back edges of the panels of another section, and intervene between the rails of the panels thereof, and the bolt, E, and key, F, in combination with the panels, A, and foot-board, substantially in the manner and for the purpose as herein set forth.

60,874.—DRAWER LOCKS.—E. I. Gaylord, Terryville, Conn. I claim the adjustable wards, D, in combination with the bolt, B, and one or more tumblers, C, arranged substantially in the manner as and for the purpose herein set forth.

60,875.—PLOW.—P. M. Gilbert, Kewanee, Ill. Antedated July 1, 1866. I claim the arrangement and combination of the subsoil plow, F, the bar, D, loop, H, and clasp, E, with the beam of any ordinary mould-board or gang plow, as and for the purpose specified.

60,876.—AXLE FOR VEHICLE.—A. W. Gillett, Sparta, Wis. I claim the employment of the bands, B, B', in combination with the axle, A, the said bands being constructed of soft metal and confined to the axle in the manner as and for the purpose herein set forth.

60,877.—COOKING RANGE.—W. A. Goodher, Burlington, N. J. I claim the ovens, c, c', and fire-place, D, in combination with the casings, A, and B, and pipes, G, G', and J', or their equivalents, the whole being constructed and arranged substantially as and for the purpose described.

60,878.—FILE CUTTING MACHINE.—Isaac Goodspeed, Norwich, Conn. First, I claim the swinging hammer, H, operated through the medium of the arm, E, and crank pulley, B, in combination with the cutter-stock, I, substantially as and for the purpose set forth.

60,879.—COTTON CULTIVATOR.—Nicholas Gotten, Union Depot, Tenn. First, I claim the frame, A, provided with the slots, a, a', being at right angles in combination with the scraper, B, so that the scraper, B, may be adjusted and secured at different angles to the frame, A, substantially as shown and described and for the purposes set forth.

60,880.—MACHINE FOR RAKING AND COCKING HAY.—Francis Granger, Homer, Ill. I claim the elevator, I, carrying by its own gravity the hay up the rake teeth, G, in combination with the rake, G, H, the adjustable frame, M, and the hinged receiver, K, substantially as described.

60,881.—LIFTING JACK.—George F. Graves, Mount Upton, N. Y. I claim the thumb-piece, d, of the toothed locking bar, C, in combination with the lever, B, arranged with the standard, A, substantially as described for the purpose specified.

60,882.—TATTING SHUTTLE.—A. B. Greenwalt, Baltimore, Md. I claim the tating shuttle as an article of manufacture provided with a pin thumb knob and retracting spring, substantially as described.

60,883.—MEDICAL VACUUM APPARATUS.—George Hadfield, Cincinnati, Ohio. First, I claim the medical vacuum chamber or receiver, composed of several separable parts, A, B, and C, so as to be accessible from the ground level, in the described combination with an impervious and flexible envelop, L, N, adapted to tightly invest the receiver and the head of the patient, substantially as set forth.

60,884.—CONVERTING WHEEL-CARRIAGES INTO SLEIGHS.—O. B. Hale, Chicopee, Mass. I claim the runner, A, when the same is attached to the wheel by means of the clamp, H, K, and to the frame of the carriage by means of the arrangement of the nut, B, rod, E, and clamp, F, G, combined and operating substantially as herein set forth.

60,885.—INDELIBLE PENCIL.—Wm. B. Hale, Northampton, Mass., assignor to Northampton Indelible Pencil Co. I claim the combination by which the head of the pencil becomes the stopper or cap of the case, and thus serves as its own protector, doing away with the necessity which has heretofore existed, of inclosing the pencil in a glass vial with a cork stopper and protecting the vial by a wood, metal or paper holder.

60,886.—SHOE BRUSH AND CASE COMBINED.—Charles Hamilton, New York City. I claim the combination of a boot and shoe blacking brush, polishing brush, blacking box and case, constructed and arranged in the manner herein substantially set forth and described.

60,887.—PROPELLER.—Benjamin Handforth, Chicago, Ill. First, I claim, in combination with a reciprocating shaft, A, the buckets, G and E, arranged and operating substantially as herein described and for the purpose set forth.

60,888.—FEEDING DEVICE FOR SAWING MACHINES.—John Hanlon, Bridgeport, Conn. First, I claim the slotted T frame or cross, D, D', so constructed and arranged as to contain within its vertical slot the feed bar, E, substantially as described.

60,889.—FENCE POST.—B. S. Haviland, Fort Dodge, Iowa. First, I claim an improved cast or wrought iron fence post, A, constructed as herein described, having a portion, a', of the lower part which enters the ground bent over at right angles to the plane of the post, substantially as described and for the purposes set forth.

60,890.—MANUFACTURE OF SOAP.—Charles W. Hermance, Albany, N. Y. First, I claim combining and saponifying the tallow, resin, and oils herein specified by the process and in the proportions stated.

60,891.—CONDUCTORS' TICKET BOX.—Henry Hise, Ottawa, Ill. First, The box, A, provided with the apartment, F, spring, m, lid, C, and chamber, D, arranged and combined and operating in the manner shown and described and for the purposes set forth.

60,892.—CULTIVATOR.—J. C. Hoffeditz, Mercersburg, Pa. I claim the arrangement shown and described consisting of the adjust ble and pivoted spring standard, C, removable shares, I, J, and adjustable handles, E.

60,893.—MODE OF ATTACHING CULTIVATOR TEETH.—J. C. Hoffeditz, Mercersburg, Pa. I claim the arrangement of the cultivator standard, C, hanger, B, and wood pin, e, as described and represented.

60,894.—BUTTER MOLD.—H. W. Hopkins, Milford, N. H. I claim constructing butter molds of steatite or soapstone, substantially as herein described.

60,895.—DRILL.—Henry Hufendox (assignor to S. R. Fox, E. G. Pratt, and E. W. Fox), St. Louis, Mo. Antedated Dec. 12, 1866. I claim, First, The combination of two or more sets of corresponding bevel gear wheels, arranged substantially as shown by C and D, C' and D', with the change shaft support, when used as set forth.

60,896.—MODE OF ATTACHING CULTIVATOR TEETH.—J. C. Hoffeditz, Mercersburg, Pa. I claim the combination of the feed screw, b, and its actuating hand wheel, b', or their equivalents, with the drill shaft, B, all supported in the bearings, a, a', and a2, of A, in combination with the several sets of corresponding bevel gear wheels, C and D and D' and C', the changeable shaft support, G, and the work table, H, as set forth.

60,896.—PENMAN'S ASSISTANT.—Henry A. Hutson, Newburg, N. Y.

First, I claim the rings, 1, 2, 3 and 4, constructed and arranged in such peculiar manner as substantially described, for compelling the fingers to assume their respective positions, and to strengthen them in supporting the hand and forearm while writing.

Second, I claim the stem, B, for preventing a cramped position of the hand, by affording a prop or support to the fingers, with screw, H, for adjusting to different sized hands, and for dividing the assistant to secure it in a small case for the pocket.

Third, I claim the stem, C, for projecting to form a rest at I, for the pen holder, and forming a base for the stem, B, in the hollow of the hand.

60,897.—ALARM GUN.—Albert Johnson and Sydney E. Allen, Raleigh, N. C.

I claim the base, A, gun barrel, D, spring hammer and trigger arm, J, and arms, P and Q, attached to the barrel, when all are constructed and combined together substantially as and for the purpose described.

60,898.—PROCESS FOR OBTAINING THE PRECIOUS METALS FROM THE BEDS OF RIVERS.—John Johnson, Saco, Me.

I claim the system herein set forth for obtaining gold from the beds of rivers, substantially as specified.

I also claim the process by the means employed for the purpose intended, substantially as specified.

60,899.—MODE OF GATHERING AND TREATING AURIFEROUS SANDS FROM THE BEDS OF RIVERS.—John Johnson, Saco, Me.

I claim the process of raising and treating auriferous sands found at the bottom of rivers and lakes, substantially as described.

I also claim the combination of the pumping apparatus with separators, concentrators, agitators, and amalgamators, when they are operated on board a floating barge, substantially as described.

60,900.—MACHINE FOR MAKING WOODEN PICKETS.—Thomas J. Jolly, Versailles, Ind.

I claim, first, the arrangement of the sliding gauge or pattern, E, studs, G, compound lever, I, and fingers, J and K, for supporting of the saw palting, as set forth.

Second, in the described combination, the saw, upturning apparatus, and guides, I claim the double-headed raking planer, N N', adapted to operate as set forth.

Third, the arrangement of the segment roller, R, checks, S S', and planers, N N', substantially as and for the purpose specified.

60,901.—SAW FASTENER.—J. W. Judd, New Haven, Conn.

I claim the shaft, G, bolt, F, spring, I, and tail piece, L, constructed and combined as herein described, in combination with the lever, S, as set forth.

60,902.—SNAP HOOK.—Oliver S. Judd, New Britain, Conn.

I claim, as a new article of manufacture, a snap hook, constructed substantially as and for the purpose described.

60,903.—ANCHOR.—Charles T. Julius, Philadelphia, Pa.

I claim the anchor, e and e' hinged to and otherwise combined with an anchor, substantially as and for the purpose described.

60,904.—TRUSS.—John A. W. Justi, Savannah, Ga.

I claim in this combination a hermit truss, with an elastic metal plate, A, formed by bending in three distinct arches, the two outside arches being twisted and curved, proportioned and arranged with reference to the pads, a, a, substantially as and for the purposes herein specified.

60,905.—POCKET KNIFE.—George Kay and Joseph Kay, Esopus, N. Y.

I claim the arrangement of the bent spring, B, between the rivet, a, and flange, b, in combination with the side plates, A, A, constructed and operating in the manner and for the purpose herein specified.

60,906.—CATTLE CAR.—Moses T. Kehoo, Amsterdam, N. Y.

I claim the attachment to and combination with a railroad car, of chains or ropes, with a winlass for operating therea in the manner described, and for the purpose set forth in this specification.

60,907.—WASHING MACHINE.—John B. Kinney, Yellow Springs, Ohio.

I claim the arrangement of the compound lever, D, F, vibrating rubber, H, and shiftable bottom or washboard, J, the whole being constructed and adapted to operate as set forth.

60,908.—CURTAIN FIXTURE.—A. H. Knapp, Newton Centre, Mass.

I claim the combination of the projecting knob or milled head, D, with the cord spring, B, of which and pinion, E, and roller coupler, G, d, substantially as and for the purpose herein specified.

I also claim the square, angular, or equivalent form of recess, G, through the center of the roller, formed in connection with the wedge groove therein, for the purpose set forth.

60,909.—SPRUE FOR MOLDERS.—Patrick W. Lamb, Albany, N. Y.

I claim the toothed sprue pattern, C, constructed substantially as described, and applied so that the space, s molded by it communicates with the handle forms, c, at their center, over the handle shanks or rods, c, essentially as and for the purpose or purposes herein set forth.

60,910.—MAGAZINE FIRE-ARM.—Thomas W. Lane, Boston, Mass., assignor to the Spencer Rifle Company.

I claim an oscillating retractor, working in the body of the rolling breech, and which is depressed during the backward rotation of the breech by a positive movement, and elevated by a spring when the breech is rolled forward into its locked position, as described.

I also claim the combination and arrangement of the shaft, t, arm, h, groove, w, and pin, x, in the manner and for the purpose set forth.

60,911.—LOUNGE FOR INVALIDS.—Robert Leaman, Hillsborough, Ohio.

I claim, first, the jointed rods, g, g, in combination with cleats, P, P, and buttons, i, h, the whole arranged and operating as and for the purpose herein set forth.

Second, the employment of pulleys, m and v, cord, a, and frame, R, when used in combination with jointed rods, g, g, the whole constructed and operating in the manner and for the purpose herein specified.

60,912.—SHAFT COUPLING.—J. F. Light, Worcester, Mass.

I claim the combination with the ends of two shafts or rods, of a friction coupling piece, C, tightening nuts, D, and splines or splines, E, substantially as set forth.

60,913.—BED BOTTOM.—Charles P. Loeser, Hartford, Conn.

I claim the hook and eye plates, d, d, of a framework, a, springs, b, supporting cord, c, with the supporter, g, and stops, i, substantially as and for the purpose described.

60,914.—CORN PLANTER.—Charles Long, Paris, Ill.

First, I claim the arrangement of cog wheel, J, balanced on yoke, I, and engaging with pinion, K, upon the ground wheel axle, at the option of the husbandman, by means of the lever, L, rod, M, and catch, N, substantially as and for the purposes set forth.

Second, the combination in a power corn planter of the frame, A, wheels, B, engaging and releasing mechanism, K, E, the whole being combined with the elements of the preceding claim in the manner set forth.

60,915.—MODE OF FINISHING FIRE ARMS SO AS TO PREVENT OXIDATION AND CORROSION.—J. Allen, New York City, and S. P. Townsend, New Providence, N. J.

First, We claim the finishing of fire arms of all descriptions by the mode and means hereinbefore described, and for the purpose of preserving them from damage by oxidation or corrosion as set forth.

Second, the restoration of damaged arms to good condition by the method and means above set forth.

60,916.—CULTIVATOR.—Theophilus F. Bertrand and Peter Sames, Rockford, Ill.

First, We claim the combination, substantially as described, of the tongue with the axle, arranged as set forth for the purpose specified.

Second, the combination on with the tongue, of the single cross-piece, E, so arranged as that it shall serve as a brace for the segment and a fulcrum for the levers that control the auxiliary frame.

Third, the combination of two spring bolts with two supporting levers and two catches and with the axle, arranged and operating substantially as and for the purpose set forth.

Fourth, the combination of the rigid frame with the auxiliary frame, when the former is hinged to the latter, substantially in the manner and for the purpose described.

Fifth, the combination of the auxiliary frame with the tongue, when the former is hinged to a latter, substantially as and for the purpose set forth.

Sixth, the combination of an adjustable support for the driver's feet, with the auxiliary frame, substantially as and for the purpose set forth.

Seventh, the swiveled eye bolt or double block constructed, arranged and operating substantially as and for the purpose set forth.

Eighth, the combination of the eye set and standard, with the auxiliary frame, substantially as and for the purpose set forth.

60,917.—INSTRUMENT FOR ACUPUNCTURE.—Anson R. Brown, Litchfield, Mich., assigns one-half interest to Gardner Herrick, Albion, Mich.

I claim the channeled puncturing point formed by two or more converging points substantially as described.

I also claim the perforated block, G, for retaining the medicine in the reservoir except at the needle holes, substantially as specified.

60,918.—PEAT MACHINE.—Samuel Marden (assignor to himself and Dustin Lancy), Newton, Mass.

First, I claim the tearing apparatus composed of metallic plates notched in the manner of saw plates, and arranged at different angles in the drum beater, H, in combination with the flexible apron, A.

Second, I claim the vibrating sieve operated upon by the cam, d, as applied to or in combination with peat machines, substantially as described.

Third, I claim the cam, d, arranged and operating upon the sieve arm, e, so as to sift the rejected peat, substantially as described.

Fourth, I claim the cam, f, so constructed and arranged with respect to the sliding molds, m, m, etc., and the guard, n, that the pressure on the guard by the sliding molds ceases for a space equal to the width of the sliding molds as they emerge from the guard.

Fifth, I claim the circular mold carrier, E, revolving about the fixed cam, C,

as combined and arranged with the compressing wheel, n, it being also provided with radial grooves, i, etc., converging towards its center and supporting sliding molds, m, m, etc., operated upon by the cam, l, and the spiral springs, p, p, etc., which keep the sliding molds in proximity to the cam, all combined and arranged for the purpose of compressing peat, and as applied to peat machines substantially as described.

60,919.—PUMP.—Reuben A. M. Canley, Baltimore, Md.

First, I claim the pump, A, with its side chambers, E and F, piston chamber, B, openings, o and r, receiving and discharging ports, e f j and k, arranged, constructed and operating in the manner substantially as shown and described, and for the purpose set forth.

Second, in combination with said pump, pipe, J, and the connecting quick sleeves, h, constructed, arranged and operating in the manner substantially as shown and described and for the purposes set forth.

60,920.—CAR COUPLING.—J. McLaughlin, Duncommon, Pa.

I claim the slide, provided with the pendulum pin, e, and connected with the suspended weight, F, in connection with the coupling pin, B, and link or shackle, C, all arranged to operate substantially as and for the purpose herein set forth.

60,921.—ARTIFICIAL ARM.—A. McOmber, Schenectady, N. Y.

First, I claim the permanently attached clasp, g, g', on the stump section of the arm in combination with the slotted plate, a, e, e', of the opposite section, substantially as and for the purpose set forth.

Second, the application to a spring thumb of an artificial hand, of a latch or its equivalent for holding said thumb open when desired, and means for releasing the thumb from the latch, substantially as described.

60,922.—MACHINE FOR SQUARING TILES.—Andrews T. Merri man, Rutland, Vt.

First, I claim the vertical pin, e, in combination with the plate, c, to which the tiles are clamped substantially as here in described, so that the plate can rise and fall and sweep over the grinding disk in a circular or oscillating motion.

Second, the adjustable collar, g, in combination with rising and falling swinging plate, e, constructed and operating substantially as and for the purpose set forth.

Third, the clamp, i, composed of a hinged lever with thumb screw and elastic pad as and for the purpose described.

Fourth, the adjustable gage, m, in combination with the clamp, i, and plate, c, constructed and operating substantially as and for the purpose set forth.

60,923.—CAR COUPLING.—F. H. Meyers, Wilming ton, Del.

I claim the combination of the lever, H, spring catch, G, the sliding rod, C, and coiled spring, D, with each other and with the bolt, I, and bumper, A, substantially as herein shown and described.

60,924.—HANDLE FOR SAWS.—Eli Morris, Jr., New Haven, Conn.

I claim constructing the handle of a saw frame of metal integral for the most part with the frame, and joined by riveting or otherwise to another separate piece to complete the whole as set forth.

60,925.—LUBRICATING DEVICE.—G. M. Morris, Cohoes, N. Y.

I claim the within-described lubricating device, consisting of the slotted member, A, slotted journal box, C, disk, D, spring, h, oil cup, D, and groove or channel, e, c, all combined and operating as and for the purpose set forth.

60,926.—LOGGING SKID.—G. W. Nichols, River Falls, R. I.

I claim the application to a skid of the props, D D, in combination with the ledge, B, or its equivalent, the plate, F, and its spur, and bolt, G, constructed substantially as and for the purposes specified.

60,927.—WIND MILL.—Wm. D. Nichols, Chicago, Ill.

I claim the combination of the sail cranks, p, p, and sliding head, H, constructed, arranged and operating as and for the purpose herein specified.

I also claim the adjustment of the force of the counter spring or springs, O, by means of the fixed pin or pins, q, and the turning of the spring itself, or the equivalent thereof, substantially as and for the purpose herein set forth.

I also claim the arrangement of the governor weights, S, S, attached to radial sliding rods on the sails themselves, and connected by means of the quadrant arms, B R, and connecting rods, v, v, or their equivalents, with the regulating sliding head, H, substantially as herein described.

60,928.—THRASHING MACHINE.—Nelson Palmer, Hudson, N. Y., assignor to himself and T. G. Palmer, Schultsville, N. Y.

I claim a concave, so connected with a thrashing machine that it may be adjustably placed on one side or the other of the thrashing cylinder, for varying the character of the work, substantially as set forth.

60,929.—THRASHING MACHINE.—Nelson Palmer, Hudson, N. Y., assignor to himself and T. G. Palmer, Schultsville, N. Y.

First, I claim a thrashing cylinder when constructed with longitudinal ribs which are smooth upon one side and rough upon the other, substantially as and for the purpose set forth.

Second, in a thrashing machine, the use of two ribbed concaves or rubbers, on one of which the ribs are smooth on their faces and on the other rough, and substantially as and for the purpose set forth.

Third, so constructing the concaves of thrashing machines that the straw may in the action of the machine be brought into contact with either smooth or roughened ribs or faces of ribs as desired, substantially as and for the purpose set forth.

Fourth, a thrashing cylinder when so connected with the motive power and related to the concave or concaves and other parts of the machine that it may be operated revolving in either direction, substantially as set forth.

Fifth, in combination with a thrashing cylinder having ribs smooth upon one side and rough upon the other, I claim a ribbed concave or ribbed concaves so constructed and arranged as to present smooth faces to the smooth faces of the thrashing cylinder when revolving in one direction, and roughened faces to the rough faces on the ribs of the thrashing cylinder when revolving in the reverse direction, substantially as and for the purpose set forth.

60,930.—CAR BRAKE.—Phineas Pardee, New Haven, Conn.

I claim the arrangement of the shoe, E, in combination with a holder and the shaft, I, or its equivalent, when arranged in such relative positions to the wheels as to operate in the manner substantially as herein set forth.

60,931.—DAMPING BRUSH.—J. K. Park, Marlborough, N. Y.

I claim the construction of a brush with a central part, A, of india rubber or equivalent elastic material, and a covering of cloth, felt or other absorbent material, substantially as herein set forth, for the purpose specified.

60,932.—STEAM-ENGINE VALVES.—Samuel J. Peet, New York City.

I claim the pair of valve plates, b, b, in combination with the conical wedge, h, on screw, C, or its equivalent, arranged and operating substantially as and for the purpose herein described.

60,933.—HORSE-POWER.—W. L. Peet, Maple Rapids, Mich.

I claim the combination of the sliding frame, B, wheel, Q, endless chain, P, and driving wheel, F, constructed and arranged to operate in the manner and for the purpose herein specified.

60,934.—REFRIGERATOR.—Chas. F. Pike, Providence, R. I.

First, I claim the horizontal tubes or pipes, I, substantially in the manner and for the purposes hereinbefore specified.

Second, in a refrigerating apparatus, I, in combination with the ice box, B, with or without the upright pipes or tubes, J, and pan, R, and its appendages and appurtenances, substantially in the manner and for the purpose hereinbefore stated.

Third, I claim the air pipe, K, and also the air pipe, L, or their equivalents, in combination with the ice box or receptacle, H, the upright tubes or pipes, J, or the horizontal tubes or pipes, I, and also in combination with either of them, and for the purposes hereinbefore stated.

60,935.—HOISTING TACKLE.—J. C. Price, New Philadelphia, Ohio.

I claim the clamp, G, in combination with the plates, A, A, wheels, B, B, ropes, C, D, collar, E, and ring, F, all arranged to operate in the manner substantially as and for the purpose described.

60,936.—SELF-CENTERING TOOL.—A. Puckett, Terre Haute, Ind.

I claim the sleeve screw, C, and the center drill, D, in combination with the scroll chuck, A, constructed, arranged and operating in connection therewith, substantially as and for the purpose herein specified.

60,937.—LAMP CHIMNEY.—Charles H. Reichman, New York.

I claim a glass chimney for lamps constructed of two sections, the adjoining parts of which are provided with flanges, a, b, held together by a narrow metal band slipped over the upper part and resting on its flange and sprung over the flange of the lower part.

60,938.—PLOW.—Freeman F. Reynolds, Burke County, Ga.

I claim the adjustment of guide bar, J, to helve, G, by bolts, P, P, the advantage and object of which will be seen in above description, and as incident to and necessary to the proper running of this stock; also the adjustment of brace, H, to helve, G, by shoulder, S, and bolt, K, and to beam, A, B, by perpendicular bolt, N, by virtue of which the plows are more easily adjusted to the stock, and less liability to choking, and strength added thereto, the several parts being in combination, as specified.

60,939.—MACHINE FOR MAKING EYELETS.—Levi Richards (assignor to himself, Thos. R. Rathbun and Charles J. Richards), Providence, R. I.

First, I claim the combination of the sliding rod, M, punch, N, tube, O, flanged socket, F, and spring, Q, with the finishing die, L, substantially as described, and as and for the purpose specified.

Second, the conveyor of carrier, H, provided with the chamber, I, and arranged to operate in connection with the female dies and tubes, substantially as and for the purpose specified.

60,940.—FIBER FROM PINE LEAVES, FOR HYGIENIC AND OTHER PURPOSES.—Adolphe Rogue, Brive, France, assignor to Jacques Guedin, New York City.

I claim the within-described process of producing a hygienic wool from pine leaves, by treating them substantially as specified.

60,941.—HAND HOE.—C. A. Rose, Columbus, Georgia.

First, I claim making the eye, A, and blade, B, separate, and securing them to each other by bolts and nuts substantially as herein shown and described.

Second, making the blade, B, of the hoe reversible, and with two cutting edges substantially as herein shown and described.

60,942.—PRESERVING BUTTER, MEAT, ETC.—William Ross, of Day's store, Pennsylvania.

I claim a chemical preparation for preserving butter and meats, composed of the ingredients and in about the proportions substantially as herein specified.

60,943.—STEAM ENGINE.—Hamilton Ruddick, Boston, Mass.

I claim the arrangement of piston heads, B, B', rods, b, b, connecting rod, D, and crank, E, relatively to each other and the cylinder, A, substantially as described.

60,944.—COMPOSITION FOR LINING OIL BARRELS.—John P. Schenck, Jr., Matteawan, N. Y.

I claim an improved composition for lining and coating the interior of oil barrels, and other surfaces, formed of diluted acetic acid, water, lime, and carbonate of iron, combined with each other in the proportions and in the manner herein specified and described.

60,945.—CARRIAGE JACK.—H. S. S. Shepardson, Shelburne Falls, Mass.

I claim the standard, B, and lift, C, in combination with lever, F, and toggle, G G', constructed substantially as described.

60,946.—CHURN.—R. W. Shriner, Woodland, Mich.

I claim the screw, g, and its combination with the nut, I, slide, D, and driving wheel, C, constructed as shown for the purpose of imparting the aforesaid motion to be d as e & c.

60,947.—SCAFFOLDING FOR DRY DOCKS.—James E. Simpson, Brooklyn, N. Y.

I claim the combination of the stationary guide and support rail, a, the sliding shoe, b, and the hinged or folding upright, f, arranged to operate substantially as described.

And in combination with the folding upright, I claim the folding arms, i, hinged to and folding up against the upright, and maintained in horizontal position when in use substantially as set forth.

I also claim in combination with the folding upright and its hinged arms the folding top piece, o, applied and operated substantially as described.

60,948.—FERTILIZER.—Amor Smith, Cincinnati, Ohio.

I claim the hereinbefore described process for preserving the fleshy parts of boiled animal matter from decomposition by subjecting it to pressure, substantially as set forth.

60,949.—MITTENS.—A. P. Smith, Sterling, Ill.

I claim a mitten cut in sections, the thumb formed in part of the material taken from the thumb space without being wholly detached in the cutting, all the parts united with the lining by a simple operation, substantially as described.

60,950.—LATHE RESTS.—Henry K. Smith (assignor to Charles Osgood), Norwich, Conn.

First, I claim the combination of the friction clutch, X, or its equivalent with the worm gears, A, connected together by pinion wheels, B, B' slotted shaft, C, and intermediate gear wheel, W R N and E, with the latter engaging with the toothed or geared rack bar, K, of the lathe bed, when all combined and arranged together so as to operate substantially in the manner and for the purpose described.

Second, in combination with the above, the friction clutch, U, or its equivalent, connected together with its loose gear wheel, T, with the pinion wheel, P, of a screw shaft, M, screwing into and through the lag, N, of the sliding lathe rest frame, A, substantially as described for the purpose specified.

Third, the combination of the divided nuts, I, I', and thumb screw, H, with the two sections, C, and D, of the tool rest frame, A, substantially as and for the purpose described.

60,951.—CURCULIO TRAP.—Jeremiah Smith, New Market, Ohio.

I claim the impervious elastic joint, D a b, connecting the two parts of the trough, A B, so as to permit its expansion as set forth.

60,952.—CHURN.—Zealous Sperry, Potter's Corners, Pa.

First, I claim the lever, E, slide, D, and guide, C, combined in relation with each other and with the spirally grooved dash rod, B, substantially as herein set forth for the purpose specified.

Second, the arrangement of the pivoted stud or spur, I, and the pin, G, with reference to each other and with the spiral groove, h, of the dash rod, B, whereby the said stud or spur may be removed from the groove, h, when desired, substantially as herein set forth for the purpose specified.

Third, the construction of the lower portion of the spirally grooved dash rod, with a hinged or pivoted section, e, arranged in relation with the set or socket e, thereof, substantially as herein set forth, for the purpose specified.

60,953.—MAGNETIC LOCKS.—L. C. Springer, Chicago, Ill.

First, I claim unlocking a safe or withdrawing the bolts thereof by closing and forcing an electro-magnetic circuit passing through a series of movable or adjustable points, substantially as and for the purpose set forth.

Second, I claim operating upon and adjusting the said movable points in said electro-magnetic circuit by means of a corresponding series of auxiliary circuits, substantially as described.

60,954.—DOOR AND GATE SPRING.—James Stephenson, Canandaigua, N. Y.

I claim the spring, C, and pintle, D, applied to the door or gate as described, in combination with the lever, F, and roller, G, or other circular bearing fixed to the stationary frame, when said parts are arranged and operate in the manner and for the purposes herein specified.

60,955.—COMPOUND FOR SWEETENING, COLORING AND FLAVORING TOBACCO.—Frank W. Sterry, Morrisania, N. Y.

I claim a compound for sweetening, flavoring and coloring tobacco, which is made of the aforesaid ingredients in about the proportions herein set forth.

60,956.—MODE OF STORING PETROLEUM AND OTHER LIQUIDS SO AS TO PREVENT LOSS FROM FIRE.—Simon Stevens, New York City.

I claim the mode herein described for the storing of petroleum or other similar inflammable liquids, so as to prevent accident by fire.

60,957.—COMPOSITION PASTE OR CEMENT FOR ROOFING.—R. B. Stevenson, York Township, N. Y.

I claim the compounding of burnt brick or well burned clay with asphaltum or coal tar, thereby forming a composition paste or cement.

60,958.—GLUE POT.—Henry C. Stewart, Cincinnati, Ohio.

I claim the parts, B, c, d, and g, or their equivalents, constructed as above described and for the purpose set forth.

60,959.—CLAMP.—William Strevell, Jersey City, N. J.

I claim the improved clamp herein described, the same consisting of two jaws, A, B, straps or clasps, D, and wedge strip, E, when all combined together, substantially in the manner and for the purpose described.

60,960.—BURGLAR ALARM GUNS.—P. Swisher, Versailles, Ohio.

First, I claim in the construction of a burglar-alarm gun, the combination of the fixed barrel, No. 1, and the revolving barrels, 2 and 3, with the breech pin, C, for firing simultaneously in different directions, substantially as and for the purposes herein specified.

60,969.—HOOP SKIRT.—Hunneville Vincent, New York City, assignor to Hugh B. Brown, Brooklyn, N. Y.

I claim the arranging of the wires or hoops in such a manner that each hoop crosses or intersects itself once or more in its passage around the skirt, substantially as and for the purposes herein set forth.

60,970.—DOOR LOCK.—Rudolph Vollschwitz (assignor to himself and J. J. Schlaepfer), New York City.

I claim the mortice, g, in the tumblers, D, to operate in combination with the notched bit of the key, n, E, and bolts, C, substantially as and for the purpose described.

60,971.—GRANARY.—James Walsh, Valley Town, Ill.

I claim the granary and measurer, constructed of removable parts, substantially as described and represented.

60,972.—HOLLOW AUGER.—Joseph Ward, New York City.

I claim, First, The arrangement within the case, A, of the cutter stocks, B, constructed with discharge throats, C, and adapted for adjustment by means of the cam, E, and guides, A, as and for the purposes specified.

Second, I claim the within-described tool, adapted for cutting tenons and boring holes simultaneously, constructed and operating in the manner and for the purpose specified.

60,973.—MECHANISM FOR OPERATING DIES.—Hervey Waters, Northbridge, Mass.

I claim the combination with an eccentric hammer, crank press, or other similar operating machine or machines of a means or system of mechanism by which the action of the machine or machines may be controlled substantially as set forth in such system of mechanism is so connected with the machine or machines as not to enter into the active operating structure thereof.

60,974.—LOCK AND KEY.—H. B. Weaver, Hartford, Conn.

I claim, First, The combination of the two spindles, D and D', the bolt, B, plate, C, and the tumblers, F, or their equivalents, the whole being constructed, arranged for joint operation, and applied to a lock case, substantially as and for the purpose herein set forth.

Second, The combination of the above and the fence, k', the whole being constructed, arranged, and operating as described.

Third, The bell crank, tumbler levers, F, hung to the spindle, D', and arranged in respect to the recess, k, of the plate, C, substantially as described.

Fourth, The tumblers, F, arranged in respect to the slot, l, in the stem of the handle, E', as described.

Fifth, The slot in the tubular stem of the handle, E' in combination with notches, p, in the edges of the key.

60,975.—RECTIFIER FOR STILLS.—A. Werne, New York City.

First, I claim the spiral channels formed in the covering plate, C, and in the box, B, by the spiral flanges, d and g, respectively, substantially as and for the purpose herein shown and described.

Second, I claim the angular plate, b, made substantially as and for the purpose herein shown and described.

Third, I claim the combination of the plate, b, box, B, and cooling cover, C, with the rectifier, A, substantially as and for the purpose herein shown and described.

60,976.—CULTIVATING HOPS.—E. A. Wightman and W. C. Williams, Livingstonville, N. Y.

We claim the sliding rod, B, arranged with the poles, A, as shown, adapted to be drawn therefrom when desired, substantially as represented and described.

60,977.—CORN HUSKER.—J. F. Winchell, Springfield, Ohio, assignor to himself and George C. Steele.

I claim the corn husker, consisting of the metal plate, A, and the strap, B, made adjustable in size, when constructed and arranged as herein shown and described.

60,978.—CHAIR.—G. C. Winchester and M. V. B. Howe (assignors to C. and G. C. Winchester), Ashburnham, Mass.

We claim combining the seat, a, with the stationary stool or base, b, by means of ball and socket joints, arranged not only to act as hinges but otherwise, substantially as described.

Also combining with such arrangement or construction, the spring, i, fixed to the bar and bearing against the rear part of the seat, substantially as shown and described.

Also the combining of the ratchet bar, pawl plate, shaft, and cam, when arranged to lock the seat in horizontal or inclined position, substantially as set forth.

Also, forming each side rail, f, and its leg, p, from a single strip of wood bent into shape, substantially as shown and described.

60,979.—CONSTRUCTION OF ORDNANCE.—W. E. Woodbridge, Little Falls, N. Y.

I claim, First, The employment, in the structure of cannon, of helices of wire of reversed obliquity, applied one over another, and brought into union by the intervention of a more fusible metal, employed as a solder.

Second, I claim, in general terms, the construction of cannon, substantially as herein described, modifying the selection and use of materials as herein set forth.

Third, I also claim the application of the mode of construction herein described, to tubes other than cannon, when the mechanical requirements are similar.

60,980.—BRIDLE BIT.—L. D. Woodmansee, Dayton, Ohio.

I claim the combination of the rigid bars, A and B, joined directly to the mouth piece of a bridle bit, and operating in the manner substantially as and for the purpose described.

60,981.—GRATES.—Charles J. Woolson, Cleveland, Ohio.

I claim the tipping frame, A, provided with journals and bearings, B, in combination with the shackle or grate bar, D, arms, E, and link, O, and duplicate bearings, S.

60,982.—CULTIVATOR PLOW.—S. A. Wray, Greenfield, Ind.

I claim the combination of the beam, B and B', elastic plate, D, and hinge joint, C, in combination with the device for retaining the beam in position, substantially in the manner set forth.

60,983.—WATER WHEEL.—Anthony Wreash and William Burns, Springfield, Ohio.

We claim, First, The buckets, D, when constructed with two or more faces, d and d', upon different radial planes, substantially as set forth.

Second, Constructing the inner set of concentric buckets or faces of the same bucket, d and d', shorter than the outer set, substantially as and for the purpose set forth.

Third, The combination of the guide wheels, E, intermediate plate, F, and gate ring, H, when constructed and arranged substantially as set forth.

Fourth, The raised crown of the intermediate plate, F, as arranged in relation to and serving as a bearing for the guide ring, H, substantially as and for the purpose set forth.

Fifth, The plate, F, when constructed and arranged between the guide wheel, E, and gate, H, substantially as and for the purpose set forth.

Sixth, The elevated bush, G, supported upon braces, resting upon the crown of the intermediate plate, F, and with the guide ring, H, substantially as and for the purpose set forth.

60,984.—COMPOSITION OF GLUE OR GELATINE AND OTHER MATERIALS CALLED DUROGEL.—Henry Wurtz, New York City.

I claim the combination of bichromate of potash with ordinary glue or gelatine, in the manner and for the purpose substantially as described in the foregoing specification.

60,985.—HOLLOW AUGER.—Emanuel Young, Amanda, Ohio.

I claim, as an article of manufacture, the hereinbefore-described tool, formed with the knives, C and E, attached to the hollow tapering body, B, formed with the shank, A, for attaching the tool to a brace, substantially as described.

60,986.—IMPONDERABLE FLUID AND MODE OF GENERATING THE SAME.—Martin Ziegler, Mulhouse, France.

I claim, First, Producing a new imponderable fluid in the manner and by the means herein set forth and described.

Second, The combination of two substances, the one containing azote, and the other containing carbon, in the manner substantially as herein described, so as to generate an imponderable fluid, and to excite or produce a current of the same, as and for the purposes set forth.

RE-ISSUES.

2,430.—PROCESS FOR PURIFYING METALLIC OXIDES.—Alfred Monnier, Philadelphia, Pa. Patented March 21, 1865.

I claim the treatment of metallic oxides for their purification, substantially as herein set forth.

2,431.—REFINING HYDRO-CARBON OILS AND UTILIZING WASTE PRODUCTS THEREFROM.—Henry Pemberton, Alleghany City, Pa. Patented Aug. 2, 1859.

I claim, First, Rectifying the sulphuric acid contained in the residuum of the process of refining coal oil, petroleum and other hydro-carburets, by exposing the residuum, which is a compound of acid and tarry matters, to the combined action of water and heat, under the influence of the high temperature, the attraction of the tarry matters for the acid is overcome by the superior affinity of the acid for the water, so that the acid separates itself from the tarry matter, and dissolves in the water, from which it may be obtained, in a concentrated state, and purified by various means, substantially as hereinbefore described.

Second, Purifying the dilute sulphuric acid recovered from the residuum which results from the refining of coal oils, petroleum and other hydro-carburets, by repeated processes of concentration and dilution with water, whereby the coloring matter is separated, and may be removed, substantially as hereinbefore described.

Third, The use of the sulphuric acid recovered from the residuum resulting from the refining of coal oil, petroleum and other hydro-carburets, for the decomposition of salt, in the production of sulphate of soda, as a step in the manufacture of soda ash.

2,432.—DRYING APPARATUS.—Edward Y. Robbins, Cincinnati, Ohio, assignee by mesne assignments of himself. Patented July 19, 1864.

I claim, First, So arranging the drying chamber, and drum or flue, B, and the furnace or stove for heating the wash water, that the drying chamber shall be heated by the surplus heat passing from the furnace or stove through a drum or flue, K, placed in the drying chamber, substantially as set forth.

Second, The application of a condenser to a drying chamber as above described, or any equivalent arrangement for producing the same effect, substantially in the same manner.

Third, I claim the netting when placed over the drum or flue to catch the clothes in case of falling, and thus prevent their being burned, the same being arranged substantially as set forth.

2,433.—LAP JOINT.—Henry Underwood, New York City. Patented Feb. 9, 1858.

I claim the union of the plates or straps, b, with the rive's, a a', which pass through outer and inner ends, A, B, of the belt, substantially as and for the purposes described.

2,434.—MACHINE FOR MAKING NUTS.—William E. Ward, Port Chester, N. Y. Patented Oct. 7, 1856.

I claim as a new and as my invention, the two punches arranged side by side and operated substantially as described for punching the central hole, cutting of the blank from the bar, and discharging the same, substantially as described, in combination with the two dies or two dies, so that a bolt is punched in the bar for another nut during the continued motion of the punch to discharge the nut which was cut off during the previous part of the same motion.

I claim in combination with the punching and cutting mechanism either without or with the mandrel, or its equivalent, for entering the central hole of the nut blank, the employment of the spring jaws, or the equivalents thereof for transferring the nut blank from the die to the mandrel and there holding it until the mandrel enters the hole, substantially as described.

I also claim the mandrel holding the nut blank in combination with the swaging surfaces by which the face of the nut are formed, substantially as described.

I also claim in combination with the mandrel for holding the nut blank substantially as described, the hammers for hammering or swaging the edges of the nut, substantially as described.

I also claim the combination of the swaging surfaces for forming the face of the nut with the hammers for forging the edges of the nut, substantially as specified, and for the purpose set forth.

2,435.—HEATING STOVE.—William A. Barlow, Elkhorn, Wis. Patented June 3, 1862.

I claim the base, A, composed of top and bottom plates only so formed and united as to inclose a hollow or space, under the whole body of the stove, and occupied throughout by the products of combustion in passing from the descending flue or flues, substantially as and for the purposes herein specified.

I also claim the combination and arrangement of the projecting base, A, composed of top and bottom plates inclosing a space, the projecting top, C, similarly composed of top and bottom plates, and the pipes or flues, E, E, and F, outside of and distinct from, the body of the stove, substantially as and for the purposes herein set forth.

Combination with the above, I also claim the dividing plates, a, a, substantially as and for the purpose herein described.

2,436.—HEATING STOVE.—William A. Barlow, Elkhorn, Wis. Patented June 3, 1862.

I claim a heating stove having a double projecting top and an opening therein of the full or nearly full size of the interior of the stovebody, and closing by a removable cover, substantially as and for the purposes herein specified.

In combination therewith I also claim a top, C, made of top and bottom plates with a heat-circulating space between them and projecting beyond the body of the stove sufficiently to admit flues or pipes extending from the top to the base of the stove, outside of the stove body, substantially as and for the purpose herein set forth.

2,437.—CAPSTAN FOR STEAM BOATS.—John Schaffer, St. Louis, Mo. Patented Oct. 21, 1856.

I claim the arrangement of the capstan barrel, A, with the wheels, e, f, g, h, i, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z, and the shafting, when said wheels and shafting are used for connecting and rotating a capstan barrel by an auxiliary engine, said capstan and auxiliary engine being placed forward of the steam boilers on the bow of the boat, substantially as herein described and for the purpose set forth.

2,438.—RAKE FOR HARVESTER.—C. Aultman, Canton, Ohio, assignee by mesne assignments of S. A. Lindsay. Patented Dec. 11, 1860.

First, I claim a support for the revolving rake and reel shaft attached to and moving with the platform of a hinged rake machine.

Second, A support for the revolving rake and reel shaft, attached to and moving with the platform, in combination with a hinged platform suspended to the main frame.

Third, A support for the revolving rake and reel shaft, attached to and moving with the hinged platform in combination with the universal joint for drawing said shaft, and conforming the rake and reel to the movement of the platform.

Fourth, An automatic revolving rake, wit a universal joint for driving it.

Fifth, The combination of a revolving rake and reel, a hinged platform, and a jointed tumbling driving shaft.

Sixth, A support for the revolving rake and reel shaft attached to and moving with the hinged platform in combination with a driving mechanism, which elevates itself to the rising and falling of the platform in passing over uneven ground.

Seventh, The combination of a revolving rake and reel, with a mechanism for adjusting the rake and reel together, with the cutting apparatus and platform so arranged that the driver can operate it without stopping the machine.

Eighth, The combination of a floating finger beam machine, a revolving rake and reel, so combined and arranged that the rake and platform shall rise and fall together while reaping, and that the rake and platform may be readily removed for converting it into a mower.

Ninth, The combination of a hinged platform and a continuously revolving rake shaft, support located on said platform, between the center of the draft frame and the outer divider.

Tenth, A support, or support, which sustains the sweep rake above the draft frame or driving wheels thereof, said support being mounted on the hinged platform.

Eleventh, In a harvesting machine, which has its cutting apparatus hinged or jointed to the main frame, in such manner as allows it to conform to both ends of the undulations of the ground, and has a rake support mounted on the hinged platform, I claim so constructing and arranging the several parts that the support of the rake can occupy a position outside of inner drive wheel, or a position which is between the point of suspension of the platform and the outer divider, and so that said platform can also be hung or suspended below the draft frame.

Twelfth, An inclined rake shaft, a platform and spring, so arranged that the rake teeth shall be elevated sufficiently to pass above the main frame by the mere inclination of the axle, and shall be guided in passing across the platform by the sliding of the rake teeth on the platform, thereby dispensing with the use of a cam for elevating or guiding the rake.

Thirteenth, A continuously revolving rake, in combination with a shaft inclined toward the platform for forcing the rake down to the platform, and then elevating it up and out of the way of the wheels and main frame, in its revolution.

2,439.—HARVESTER.—C. Aultman, Canton, Ohio, assignee by mesne assignments of S. A. Lindsay. Patented Aug. 2, 1859.

First, I claim an automatic rake, delivering the grain in the arc of a circle in combination with a hinged platform.

Second, The combination of a revolving rake and reel, and a hinged platform suspended from the main frame.

Third, The combination of a revolving rake and reel, with a hinged platform suspended from the main frame.

Fourth, In a harvester, having a revolving rake and reel, I claim suspending the hinged platform to the main frame at one or more points between the driving wheels.

Fifth, The combination of a revolving rake and reel, with a hinged cutting apparatus, in such a manner that the said cutting apparatus can be raised and lowered without changing the relative position of the rake and reel to the platform.

Sixth, The employment of radial reel and rake arms attached to the central head or axis, by independent hinges or pivots for each radial arm.

Seventh, Attaching the beaters and rake heads at such an angle with a radial line, that the rake heads and beaters shall approach to and pass over the cutter in a line nearly parallel to the cutter when the axis of the rake and reel is located in the rear of the cutter bar.

Eighth, The boxes or bearings, K, K, for carrying the pivoted radial arms in combination with the central revolving hub.

Ninth, The combination of a revolving rake and reel, a vibrating frame or its equivalent, and a hinged platform.

Tenth, Arranging the revolving rake and reel supported to vibrate about a central pivot, in such a manner that the swinging of the cutter does not interfere with the operation of the driving mechanism.

Eleventh, The combination of a revolving rake and reel apparatus which is supported between the driving wheels and a hinged platform by means of an intermediate connecting piece for the purpose of conforming the movements of the rake to the platform in passing over uneven ground.

Twelfth, The combination of a quadrant platform, a hinged finger beam, and a frame supported on two wheels.

Thirteenth, The combination of a quadrant platform and a hinged finger beam suspended from a frame supported on two wheels.

Fourteenth, The combination of a quadrant platform, a hinged finger beam, a two-wheeled frame, and a rake moving in the arc of a circle.

2,440.—CORN HARVESTER.—George Gear, Douglas, Ill. Patented June 2, 1863.

First, I claim the endless chain, M, provided with pivoted teeth, n, substantially as set forth for the purpose set forth.

Second, The serrated wheels, f, f', arranged and applied to operate as and for the purpose specified.

Third, The cutter, U, operated by the treadle, n', and arranged and applied as and for the purpose set forth.

Fourth, The bar or guard, L, arranged and applied underneath the cylinder, H, substantially as and for the purpose set forth.

Fifth, The plate or guard, N, attached to the plate, J, as and for the purpose specified.

2,441.—FRUIT BOX.—Nicholas Hallock, Flushing, N. Y. Patented Sept. 7, 1858.

I claim, First, A fruit box constructed of thin sheets or strips of material which form the body and bottom of the box, and secured together, substantially as set forth, and also claim in combination with a box constructed of thin sheets or strips of material, substantially as described, so arranging the handle, as that it may be attached to and folded closely within the box substantially as described and specified.

Third, I also claim defining the outline or shape of the box by means of grooves in the material forming the box, substantially as described and specified.

Fourth, I also claim in fruit boxes constructed substantially as described, making the bottom so that boxes may be placed one above the other without injury to the fruit in the one below it and for better ventilation of the fruit, substantially as described and specified.

2,442.—SPRING HOLDER FOR WIPING CLOTHS.—Henry Johnson, Chicago, Ill., assignee by mesne assignments of W. J. Johnson. Patented Feb. 21, 1860.

I claim the spring holder for cloths consisting of two or more curved spring fingers, arranged substantially as and for the purposes described.

2,443.—NICKING SCREW HEADS.—George L. Morris, Taunton, Mass. Patented June 12, 1866.

I claim the improved nicked screws made either by casting or cutting, having the said nicks flaring at their outer ends and with the separating part between strengthening the head, the two nicks being made on the line of one and the same diameter of the screw head, all as and for the purposes specified.

2,444.—MACHINE FOR MAKING CLINCH RINGS.—G. M. Paten, Bath, Me. Patented May 2, 1854.

I claim the combination of the retainer and clearer or part, g, and its springs, or the equivalent thereof, and the elastic seat, H, with the dies, E and F, the upper die being provided with mechanism for operating it, as described.

I also claim the combination as well as the arrangement of the retainer or part, G, and its springs, or their equivalent, with a pinch and die or dies, E, F, the said part, G, being to operate therewith, substantially as described.

2,445.—BRECH-LOADING FIRE-ARMS.—William Mont Storm, New York City. Patented July 8th, 1856.

First, I claim a breech piece, hinged at its front end, and swinging upward and over, substantially as described, in combination with a stationary or fixed recoil-bearing at its rear end, having the characteristic features of being firmly connected with the barrel, and being extended above the line of the bore of the barrel, substantially as and for the purpose set forth.

Second, I claim cutting away the recoil-bearing surface, substantially as described for the purpose set forth.

Third, I claim the internal bolt, e, operated by a positive motion to lock in place the movable breech piece of a breech-loading fire-arm during the fall of the hammer, or its equivalent, substantially in the manner described.

Fourth, I claim forming a space or recess between the lower side of the breech piece and the seat into which it shuts, for the accommodation of dirt which would otherwise prevent the descent of the breech piece, as hereinbefore explained.

2,446.—BRECH-LOADING FIRE-ARMS.—William Mont Storm, New York City. Patented July 8, 1856.

First, I claim a chambered breech piece, when such breech piece is hinged at its forward end to the barrel, and arranged to swing over, substantially as described for the purpose set forth.

Second, I claim, in combination with the barrel and movable breech, a packing tube or ring, arranged to slide within the breech piece, and formed at the front end to enter the barrel, so that by the force of the discharge the said tube will be forced forward and into the barrel, and made to pack the joint between the barrel and breech piece to prevent the escape of the explosive gases.

Third, I claim the manner, substantially as shown and described, of coupling the bolt, e, with the said packing tube, so that although said bolt is operated by a positive motion, as described, the lock can be removed regardless of the barrel and bolt, as hereinbefore set forth.

DESIGNS.

2,533.—TRADE MARK.—Charles C. Buckley and Louis Dovell, New York City.

2,534.—COACH LAMP.—E. R. P. Cowles (assignor to C. Cowles & Co.), New Haven, Conn.

2,535.—STOVE.—Harrison Eaton, Amherst, N. H.

2,536.—MEDALLION.—Orion Frazee, New York City.

2,537 and 2,538.—ROUND COMB.—W. S. Minges, New York City. Two Cases.

2,539.—HANDLE OF A FORK OR SPOON.—John Polhamus, New York City.

2,540.—HANDLE OF A CASTER.—Horace C. Wilcox (assignor to the Meriden Britannia Co.), West Meriden, Conn.

2,541.—CASTER FRAME.—Horace C. Wilcox (assignor to the Meriden Britannia Co.), West Meriden, Conn.

EXTENSIONS.

MACHINE FOR DRILLING STONES.—Joseph J. Couch, Brooklyn, N. Y. Letters Patent No. 9,415, dated November 23, 1852.

I claim the improvement of making the drill rod to slide through the piston rod, substantially in the manner above set forth.

And I also claim the combination of the rocker lever, K, the wedge, M, the bolt, P, with the lever, the two cam plates, N, O, the spring catch, Q, the spring and the two projections, c, d, as applied to the drill shaft, the carriage or block, I, and the slide ways thereof, and made to operate together, and to actuate the drill, substantially in the manner as hereinbefore set forth.

KNITTING MACHINE.—Daniel Tainter, Worcester, Mass. Letters Patent No. 9,435, dated November 30, 1852.

I claim to combine a draft and take-up roller and mechanism for revolving it, with a rotary series or set of needles and other mechanism of the above-mentioned peculiar kind for knitting, that such draft roller shall rotate simultaneously, or with the same velocity with such series of needles, so as to prevent the longitudinal rows of stitches from being produced in helical lines, and the evil consequences resulting to the fabric therefrom.

I also claim the arrangement of the draft and take-up mechanism, in connection with the knitting mechanism supported by two separate frames, A, T, and also their connection with the mechanism for producing an equal and simultaneous rotation of these frames, A, T, all substantially as described, whereby there shall not only be no connection between the frames, A, T, to extend through the fabric, but no projection from the frame, A, to come in contact with the presser, stitch wheels, and cam bar, or their respective supports, during the simultaneous and equal rotations of both or either of the said frames, A, T.

GRAIN SEPARATOR.—John R. Moffitt, Chelsea, Mass. Letters Patent No. 9,432, dated November 30, 1852. Reissue No. 540, dated March 23, 1858. Again reissued No. 716, B 1, May 17, 1859.

I claim, in combination with a receptacle in which the tailings are deposited by the winnowing apparatus, the arrangement of the screw elevator, O, in relation to the thrashing cylinder, for the purpose of returning the tailings to be thrashed, as set forth.

MORTISING MACHINE.—Joseph Guild, Buffalo, N. Y. Letters Patent No. 9,431, dated November 30, 1852. Reissue No. 333, dated December 11, 1855.

I claim, First, The sliding wrist, o, connected with the chisel, and also with the driving power, in the manner described, in combination with the mechanism described, or the equivalent, for sliding said wrist, so that the operator can, during the motion of the machine, vary the depth of cut of the chisel, or cause it to be suspended without disconnecting the driving power.

Second, The combination in a mortising machine, substantially as described, of the treadle and opposing spring or weight connected to a toggle, one end of which being pivoted to the frame, the other is pivoted to a sliding wrist upon a vibrating arm, actuated by the power, the said wrist being slid out upon the arm with varying power, as specified, by the action of the said toggle and its attached weight or spring and treadle, as explained, or their equivalents.

MACHINERY FOR MAKING PILLS.—Erasmus A. Pond, Rutland, Vt. Letters Patent No. 9,4