

that of Fairmount, and the estimated expense is about \$10,000,000.



ISSUED FROM THE U. S. PATENT OFFICE
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Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required, and much other information useful to inventors may be had gratis by addressing MUNN & Co., Publishers of the SCIENTIFIC AMERICAN, New York.

56,343.—EVAPORATING AND DISTILLING LIQUIDS.—James Adair and H. W. C. Tweddle, Pittsburgh, Pa.

We claim the mode of distilling or evaporating petroleum or other liquids by passing through or over the liquid to be distilled or evaporated, heated carbonic oxide or carbonic acid, substantially as and for the purposes described.

Second, The combination of the air-tight furnace through the fire in which air and steam or either of them are forced, with the still or boiler for holding the liquid to be distilled or evaporated, and the pipes connecting the furnace and still or boiler, constructed and operating substantially as and for the purposes hereinbefore described.

Third, The air-tight furnace, A, constructed substantially as described for the production of carbonic oxide or carbonic acid, to be used in the manner of artificial combinations or mixtures of carbon with other fluid or solid bodies.

56,344.—CULTIVATOR.—Isaac Avery of Ottawa, Ill.

I claim, First, The attaching of the plow beams, A*, to pendants, a*, of the cross bar, C, by means of universal joints, D D', substantially as and for the purpose specified.

Second, The combination of the plow beams, A*, universal joints, D D', double-tree or evener, C, trace chains, E, and pulleys, e*, all arranged to operate in the manner substantially as and for the purpose herein set forth.

56,345.—EXTENSION IN CORSET SPRING.—S. H. Barnes, New York City.

I claim a corset spring, consisting of the parts, B, provided with pins, b, and slotted springs, B2, riveted as shown and having suitable clasps, C, and headed rivets, D, and of form corresponding to the body of the wearer, all constructed and operating in the manner and for the purpose herein represented and described.

56,346.—ANVIL AND VISE COMBINED.—J. D. Barton, F. S. Rogers and D. Fisher, Kalamazoo, Mich.

We claim the upright shaft, B, and levers, C and E, in combination with the several anvil appliances constructed and arranged substantially as described.

56,347.—SASH FASTENING.—Burroughs Beach, West Meriden, Conn.

I claim a sash supporter, consisting of the arms, A, in combination with the lever plate, K, and springs, E, when arranged together so that the said plate will act upon the said arms, substantially as described and for the purpose specified.

56,348.—GRAIN DRIER.—H. H. Beach, Rome, N. Y.

I claim, First, The within described grain drier, composed of the inclined perforated plates, B B' etc., and flues, G and H, the whole being arranged substantially as and for the purpose herein set forth.

Second, In combination with the above, I claim the vanes, x x', etc., arranged substantially as specified.

56,349.—BOTTLE STOPPER.—Josiah Beard and Moses Fairbanks, Boston, Mass.

We claim a protecting cap in combination with the stopper and fastening wire, passing through both the said cap and stopper as described.

56,350.—PLOW.—Charles Beidler, Allentown P. O., Pa.

I claim the segmental guide bracket, b, in combination with the screw rod, g, set nuts, i, handles, C C', and beam, A, and operating in the manner and for the purpose substantially as herein shown and described.

56,351.—MARINE CAR.—A. Blomquist, New York City, and C. Crook, Yonkers, N. Y.

We claim the arrangement of the drums, B B C, and paddle, D, in combination with the platform, A, constructed and operating in the manner and for the purpose herein specified.

56,352.—WATER DRAWER.—S. R. Boardman, New York City.

I claim, First, A well bucket, having three or more valves in the bottom thereof, and arranged at equal distances from each other, each valve being provided with a stem so arranged and operated that the ascent of the bucket will open those and those only that are upon that side of the bucket presented to the curb spout, as and for the purpose specified.

Second, In combination with a series of valves arranged around the bottom of the bucket as described, I claim a corresponding number of spouts attached to the bottom of the bucket, as and for the purpose set forth.

56,353.—PLASTER.—M. C. Bogiea, and H. B. Taylor, Philadelphia, Pa.

We claim a plaster consisting of mustard or other material or composition, permanently confined between layers of textile or other fabric, substantially as and for the purpose described.

56,354.—MECHANICAL MOVEMENT.—William Brant, Paris, Ill.

I claim the mode of imparting a reciprocating and alternate rotary movement to the shaft, G, by means of pulley, D, and thong, E, or devices substantially equivalent, all arranged to operate in the manner and for the purpose set forth.

56,355.—WELL PIPE OR TUBES.—S. Brewer and W. W. Winter, Cortlandville, N. Y.

We claim the device consisting of the springs, B B B, the shield, A, and the rod, D, all in combination, as and for the purposes herein shown and described.

56,356.—APPARATUS FOR PREPARING STARCH, SIZE, ETC.—John Briggs, Roxbury, Mass.

I claim in combination with stirrers, the tank, d, and foraminous cylinder, e, all operating together for the purpose set forth. Also the steam jacketed pipe, s, when provided with the screw, o and arranged to operate substantially as described.

56,357.—BEER FAUCET.—Charles Brown and C. McGhie, Chicago, Ill.

We claim the plunger, B, provided with the hollow stem, C,

having the holes, c, c' and c, therein as shown, in combination with the stem, D, having the spiral grooves, d, cut therein, when said parts are arranged to operate in connection with the body of the faucet, as and for the purpose set forth.

56,358.—TOY SLED.—John H. Brown, New York City.

I claim the combination of the button, G, rods, e f, and rudder, E, arranged with the horse, D, and sled, A, and operating in the manner and for the purpose herein specified.

56,359.—HORSE HAY FORK.—J. S. Brown, Washington, D. C.

I claim the employment of movable bars, D D, to cover and uncover fixed bars or shoulders, C C, substantially as and for the purposes herein specified.

I also claim a divided shaft, A, to be opened in dovetail or inverted wedge form, and closed in connection with the uncovering and covering of the bars, by movable bars, D D, substantially as and for the purposes herein set forth.

56,360.—CLOTHES DRIER.—O. C. Brown, Iberia, Ohio.

First, I claim broadly a clothes drying rack consisting of a series of supporting rods, bars or equivalents, attached to a flexible support to adapt the rack, as a whole, to be wound upon an axis or windlass, in any manner substantially as described.

Second, I claim a flexible clothes rack consisting of the straps, C C', blocks, D D', and supporting bars, F, all combined and operating substantially as described.

Third, I claim in combination with the above I claim the frames, A A', and windlass, z, arranged and operating substantially as described.

56,361.—LAMP BRACKET.—T. W. Brown, New York City.

I claim the improved socket plate made with the recess and its openings and the semicircular bearing arranged with the projection of such plate, substantially as specified.

I also claim the application of the reflector supporter, d, to the socket plate, B, instead of applying it to the ring arm in the usual manner, the same presenting advantages in the casting of the ring and its arm.

56,362.—HORSE POWER.—H. L. & J. A. Buckwalter, Kimberton, Pa.

First, We claim, in the construction of horse power, the combination in one wheel of the sprockets which engage the shafts of the chain and the cogs which communicate motion to the counter shaft, substantially as described.

Second, I claim in horse power placing two counter shafts in gear with the cog wheels of the machine, one within and one without their rims, in combination with the belt wheel, the same being so made and arranged that the belt wheel may be changed from the one to the other at the pleasure of the operator, substantially as described.

56,363.—ROOFING CEMENT.—M. Buell, Truxton, N. Y.

I claim, as a new article of manufacture and sale, the paint or composition which I have herein described.

56,364.—COFFIN.—John Burns (assignor to himself and Joseph W. Baker), Providence, R. I.

I claim, combining with a wooden coffin of the usual construction, a lid of marble or other elegant material, substantially as described for the purpose specified.

56,365.—CRIMPING MACHINE.—G. Cabell, Quincy, Ill.

First, I claim the combination and arrangement of an iron, F, in one or each of the hollow fluted cylinders, A, substantially in the manner and for the purpose as herein set forth.

Second, The sliding pivoted cap plates, G, as arranged in combination with the fluted cylinders and iron, substantially in the manner and for the purpose as herein set forth.

Third, The slotted curved spring, B, screw rod, C, projecting arm, D, and grooved collar as arranged in their connection with the up per fluted cylinder and vertical tongued bars, b, and operating substantially in the manner and for the purpose as herein set forth.

56,366.—POTATO DIGGER.—F. Caldwell, Oxford, Me.

First, I claim the combination and arrangement of the geared wheels, d and c, shaft, e, eccentric, f, and connecting rod, n, as and for the purposes herein described, the said wheel, c, shaft, e, eccentric, f, and the sifter, s, being attached, as set forth, to the tilting frame, F, and the shaft, e, being also employed to give motion to the endless apron, k.

Second, The combination and arrangement of the arms, g, h, and helical spring, i, to hold the sifter, as described.

Third, The arrangement of the tilting frame, F, upon the shaft, E, for the purpose herein set forth and described.

56,367.—TEAPOT.—Robert Carter, San Francisco, Cal.

First, I claim the bottom, n, n, figure 2, of the inner case, H, figure 2, being formed convex toward E, figures 1 and 2, the bottom of the outer case, D, figures 1 and 2, for preventing the violent ebullition of the water contained in K, figure 2, when boiling, as would ensue if the bottom of H, figure 2, was flat.

Second, And without confining myself to any particular shape, size, or material, I claim as mine the general combination of the two cases, with their surroundings and appurtenances, as in this specification show n, for the purposes described and in the manner substantially herein set forth.

56,368.—IMPLEMENT FOR OPENING SHEET METAL CANS.—Seth P. Chapin, Atlantic, N. J.

I claim the cutter, B, curved in its cross section and provided with sloping cutting edges a' or a2 as described, when secured upon a handle or stock provided with a shoulder, d, to operate substantially as herein set forth for the purpose specified.

56,369.—SKATE.—E. G. Chormann, Philadelphia, Pa.

First, I claim the combination of the plate, A, and its runner, C, the plate, A', and its runner, C', and the screw, B, and sliding block, e, or equivalent device whereby the runners may be adjusted at any required distance from each other, the whole being constructed and arranged substantially as described.

Second, The combination, substantially as illustrated in figure 4, of the adjustable plates, A A', with the rollers for the purpose described.

56,370.—MACHINE FOR SHELLING PEAS.—George Clark, Jr., Boston, Mass.

I claim the combination of rotating rollers, face plate and screw clamp, when with or without the scraper, for the purpose of expressing peas and other seeds from their containing vessels when the same are constructed and used substantially as described.

56,371.—CAR COUPLING.—D. Clinton, Peoria, Ill.

I claim the combination of the oblique faced hook, B, spring, c, and eye, g, the latter serving as a stop for the end of the spring, and constructed and arranged to operate together in the manner and for the purposes herein specified.

56,372.—CORDAGE MACHINE.—Charles Cobb, Plymouth, Mass.

I claim the combination and arrangement of the self-adjusting guide with the layer arm and the notch thereof, such guide being to operate with the laying drum substantially as set forth.

56,373.—SPRING BED BOTTOM.—Alexander Cole, Lockport, N. Y.

I claim the combination of the slats, C C, hangers, E, guide rods, c, c, coiled springs, s, s, and stops or cross pieces, H H', the whole arranged and operating substantially in the manner and for the purpose set forth.

56,374.—CHURN DASHER.—E. G. Connelly, Jasper, Ind.

I claim the construction of the dasher, C and C', with the valves, g and g', with either a double or single dasher, operating in the

manner and for the purpose substantially as set forth in the above specifications.

56,375.—HORSE HAY FORK.—A. J. Cooley, Char-don, Ohio.

First, I claim the arrangement of the arms, C, shanks, A A', and links, a, with the catch, F, spring, d, and notch, c, as and for the purpose substantially as set forth.

Second, The hooks, B B', with the connecting ropes or chains in combination with the loops, G G', shanks, A A', and bands, D, substantially as and for the purpose set forth.

56,376.—INVALID BEDSTEAD.—Henry Cordes, Bell-ville, N. J.

I claim an invalid bed formed by combining the pipes, B and G, the plates, E C D and I, the sheet, F, valve, G, and spring, L, with each other, and with the bed or mattress, substantially as described and for the purpose set forth.

56,377.—TOOL HOLDER.—Francis T. Cordis, Long-meadow, Mass.

I claim as a new article of manufacture, the holder, constructed substantially in the manner herein set forth.

56,378.—APPARATUS FOR TREATING ORES.—J. C. Coult and J. Roach, San Francisco, Cal.

First, We claim the pipe, C, connecting with a furnace, and having a wide opening entering the condenser, E, thereby imparting a greater distribution of the fumes as they enter said condenser, or water tank, and equally spreading the fumes over the water, substantially as described and for the purposes set forth.

Second, We claim the tank, E, with an inclined bottom, and the partitions, b b, in the inverted tank or cover of the same, and the adjusting screws, F F, attached thereto, substantially as described and for the purpose set forth.

Third, We claim the perforated diaphragm, G, having sufficient openings to equal the opening of pipe, C, where it enters the condenser, E, as before stated, likewise the water bottom, G' and G", over which the fumes collect and are drawn into a fan or pump; also giving a water bottom, H, to the fan or pump, thereby bringing the fumes again in contact with the water for a long distance, and extracting all that it may be desirable to collect before allowing an escape into the chimney, substantially as described and for the purposes set forth.

56,379.—STOVEPIPE DAMPER.—B. F. Cowan, New York City.

First, I claim the rotating spheroidal valve damper above shown, constructed and operating substantially as described.

Second, I also claim the rotating damper above shown in combination with openings in both sides of that part of the pipe within which the damper revolves, substantially as described.

56,380.—PUMP FOR DEEP WELLS.—Benjamin Crawford, Allegheny, Pa.

First, I claim the detached rod, t, in combination with the lower valve, q, for the purpose of keeping the lower valve closed on the down stroke of the piston.

Second, The combination and arrangement of the lever, y, and valve rod, t, with the cam, a', and pendant, d', for raising and lowering the valve rod, t, to relieve the lower valve, q, of its pressure when the up-stroke begins, and hold it down on the commencement of the down stroke, substantially as described.

Third, The combination of the check valve, h, and g as pipe, j, e, with the working valve of a pump, constructed and arranged substantially as and for the purposes hereinbefore described.

Fourth, In its arrangement with the devices described in the third claim, the trap, c, in the flow pipe to prevent the passage of gas in that direction, substantially as described.

56,381.—WOVEN FABRIC.—George Crompton, Worcester, Mass.

I claim a textile fabric, woven with braided threads, substantially as described.

56,382.—EGG BEATER.—Joshua Davis, Schenectady, N. Y.

First, I claim an eccentric beater in combination with a revolving pan or vessel, substantially as and for the purpose set forth.

Second, The three bevel wheels, B C E, of differing diameters, one of which is adapted for carrying a pan or vessel, in combination with a revolving eccentrically-arranged stirrer or beater, substantially as described.

56,383.—SYSTEM OF CUTTING DRESSES.—Catharine Dittenhafer, Canton, Ohio.

I claim the within described patterns and system of cutting ladies' and children's dresses, saques, and basques, when used in the manner substantially as herein specified.

56,384.—SLIDE VALVE.—John B. Dougherty, Rochester, N. Y.

First, I claim the arrangement of the exhaust port, e, inlet ports, a a and m, in combination with the rollers, r r, and the steam pipe, p, which combination and arrangement avoids the necessity of a relieving or balance plate.

Second, The combination of the rollers, r r, in slide valves, with the shafts, f, when the same are used without a steam chest, as and for the purposes shown and described.

56,385.—SLIDE VALVE.—John B. Dougherty, Rochester, N. Y.

I claim the arrangement of the ports, c and e, in combination with one or more ports through the relieving plate, P, and the exhaust port, a, substantially as and for the purposes set forth, when the valve is used without a steam chest.

56,386.—ELEVATOR BUCKET.—Henry Dover and James Storms, Buffalo, N. Y.

We claim an elevator bucket constructed as herein described.

56,387.—PUMP.—Samuel S. Durbon, Lebanon, Ind.

I claim the tubular valve seats, 6, 6, the spindle gum valves, 7, 7, the self-adjusting leverage, 13, with valves, 15 15, the self-adjusting gum piston, composed of 1 2 and 3, and the elliptic, L, with the eccentric, L', all arranged and operating substantially as and for the purpose set forth.

56,388.—FLASK FOR CASTING STEEL INGOTS.—Zobeth Sherman Durfee, Pittsburgh, Pa.

I claim as my invention the mode of casting ingots of steel or other metals, by pouring or tapping such metal upon a piston, in a mold so arranged and constructed that, as the metal is continuously introduced, the piston may be caused or permitted as continuously to descend and be followed by the metal, while at the same time, the metal already poured, or the greater part thereof, remains at the same, or nearly the same height in the mold, that portion successively being introduced flowing through that already poured, and folding outward against the surface of the mold, at or near the surface of the piston as the piston gradually descends in the mold.

56,389.—HARVESTING MACHINE.—Rufus Dutton, New York City.

I claim the construction and arrangement of the track-board cap, D, in combination with the grass shoe and its projecting spur, a, and the track board and its spur, c, the whole arranged and operating substantially as and for the purposes set forth.

56,390.—FRUIT CAN.—B. F. Ells, Dayton, Ohio.

I claim the flanged top, A, provided with sealing wax, as set forth, and used with the can, B, in the manner and for the purpose described, whereby a can is formed which, when filled with fruit, will seal itself, substantially as specified.

56,391.—BOOTS AND SHOES.—Martin E. Ethridge, Lock Mills, Me.

I claim the combination, as well as the arrangement, of the two welts, a b, with the insole, B, the upper, and the outer sole, D.

I also claim the combination and arrangement of the metallic cap sole, E, with the wooden outer sole, D, the two welts, a b, the insole, B, and the upper, A, arranged and applied together, substantially as set forth.

I also claim the arrangement and combination of the cushion, C, with the insole, B, outer sole, D, and the upper, A, disposed together, substantially as set forth.

I also claim the combination of the perforated cap sole, E, and the gutta-percha sole, E', or its equivalent, applied to the wooden outer sole, D, as set forth.

I also claim the combination and arrangement of the layer, d of shellac, or its equivalent, with the wooden sole, the two warts, the insole, and upper, arranged and applied together substantially as explained.

56,392.—GATE.—Simeon F. Emerson, Seville, Ohio.

First, I claim the horizontal arm, E, of the pivoted hinge, F, operating with the top board, D, of the gate, substantially as described and for the purposes set forth.

Second, I claim the combination of the roller, H, and the arms, G, having projecting ends or lugs, with the top rail, I, of the fence, and with the top board, D, of the gate, substantially as described, and for the purpose set forth.

Third, the combination of the guide bar, K, and arms, J, with the post, A, and with the gate, substantially as described and for the purpose set forth.

56,393.—MACHINE FOR MAKING CORDED BINDING FOR INDIA-RUBBER AND OTHER FABRICS.—Chas. A. Ensign, Naugatuck, Ct.

What I claim is an organized, automatically-operating machine, substantially such as described, for making binding for india-rubber, or other fabrics.

56,394.—LOCK.—Philo S. Felter, Cincinnati, N. Y.

I claim, First, The combination of the wheels, E and F, tumbler, D, and key-hole guard or cover, C, arranged and operating together, substantially as described and specified.

Second, The combination of the handle, A, and F, tumbler, D, key-hole cover, C, with the arbor, H, and dial, G, arranged and operating substantially as described and specified.

Third, and in combination with the subject-matter of the above, I claim the detachable plate, K, arranged as described, for operating the lock without recourse to the numbers of the set by which it is locked, substantially as described and specified.

56,395.—OPERATING ORDINANCE.—John H. Field, Snugerties, N. Y.

I claim the combination of the circular rack, D, and endless screw, G, mounted on an eccentric shaft, G, and operated by levers and the double-acting pawls, h, h, substantially as and for the purpose herein specified.

56,396.—STEAM GENERATOR.—Matthew Fletcher, Louisville, Ky.

First, I claim the arrangement of the vertical steam boiler, with the round pan, I, and water leg, a, as herein described, and for the purposes set forth.

Second, I also claim the cone, M, in the chimney, d, substantially as described, and for the purpose set forth.

56,397.—HARVESTER.—Elias T. Ford, Stillwater, N. Y.

First, I claim the frame, C, hinged to the front extremities of arms, DD, in combination with the rod, E, adjusting bar, F, and pole-section, Q, embracing the tube, B, substantially as described.

Second, I claim the left arm, D, forming the pillow block or frame, constructed as described and provided with the bearings, e, f, hanger, R, and universal box, S, and arranged in relation to the tube, B, and frame, C, substantially as described.

Third, I claim the lever, K, constructed as described, and pivoted at v, v, to standards on the shoe, L, in combination with the flange tops, v3 v3, formed on said standard, in the manner and for the purpose specified.

Fourth, I claim the arrangement of the adjustable rod, F, hanger, R, box, S, bar, E, lugs, V, V, shoe, L2, and lever, a, in combination with the tube, B, arms, D, D, and frame, C, in the manner and for the purpose herein specified.

56,398.—RUBBER ROLLERS FOR WRINGING MACHINE.—James B. Forsyth, Roxbury, Mass.

I claim "curing rollers of india-rubber, or other vulcanized gum, on a hollow core, substantially as and for the purpose described.

56,399.—BREECH-LOADING FIRE ARM.—Geo. P. and Geo. F. Foster, Mohawk, N. Y.

We claim the pintle, K, constructed and operated substantially as described, that is to say, being forced to the rear by the back pressure of the cartridge in loading, driven forward by the impingement of its rear end upon a projection on the abutment, or its equivalent, and sustained by the spring, L, in the annular groove, in position to hold the cartridge case free for subsequent retraction or ejection.

56,400.—SPITTOON FOR RAILROAD CARS.—F. H. Furniss, Crestline, Ohio.

First, I claim constructing a spittoon with a valve seat, C, and valve, C, as set forth.

Second, I claim the stem, B, and spring, D, in combination with the valve, C, and body, B, as and for the purpose herein set forth and described.

56,401.—HORSESHOE.—E. C. Gero, Galesburg, Mich.

I claim the shoe, d, d, of spring, a, springs, b, b, and pads, c, c, constructed and used substantially as and for the purposes herein set forth.

56,402.—BAG HOLDER.—Cyrus F. Gillett, Sparta, Wis.

I claim the ring, C, applied within the funnel, A, for the purpose of holding the upper end of a bag, substantially in the manner described and shown.

56,403.—MACHINE FOR GRINDING CUTLERY, ETC.—Russell S. Gladwin, Meriden, Ct.

I claim, in combination with a revolving grindstone and roller, or its equivalent, placed opposite its grinding point, an interspersed table, with suitable recesses for holding the knife or other blank to be ground, and series of cams under said table, and operating in connection with the stone and the roller, substantially in the manner and for the purpose set forth.

56,404.—STEAM ENGINE.—H. Goodrich and G. R. Edwards, Shawneetown, Ill.

We claim the combination and arrangement of the movable piston heads, 888, with the piston rods, 121212, ports, A A and B B, with the tubes, C, C, pitmans, 456, and rock-shaft arm, 1, substantially in the manner and upon the principle as herein set forth.

56,405.—Suspended.

56,406.—IMPLEMENT FOR STRIPPING AND CUTTING SORGHUM.—James Guckian, Camden, Ohio.

I claim an implement for stripping and cutting sorghum, and other analogous uses, constructed with a fixed blade, B, a movable blade or jaw, C, and a lever, D, or its equivalent, said parts being respectively constructed, and the whole combined for use, substantially as set forth.

56,407.—MUSICAL ATTACHMENT TO BIRD CAGES.—G. Gunther, New York City.

I claim the application to a cage, A, of a musical device, such for instance as an ordinary music box, in combination with a suitable lever, b, and bar, c, substantially as and for the purpose described.

56,408.—COAL HOD.—E. R. Hall, Buffalo, N. Y.

I claim the spout, B, constructed substantially as described, in combination with the cover, C, and bail, D, provided with cross-ribs, e, or its equivalent, arranged and operating as set forth.

56,409.—STEAM SAFETY VALVE.—Edward Hamilton, Chicago, Ill.

First, I claim the combination and arrangement of the valve, e, provided with the stem, F, spiral spring, a, and set screw, E, with the case, D, all located within the case, A, as shown and described.

Second, in combination with the valve, e, arranged as set forth, I claim the lever, G, arranged to operate as set forth.

56,410.—FOLDING CHAIR.—B. J. Harrison and J. Condie, New York City.

We claim the transverse bar, G, so arranged in relation with the pivoted back seat rail, C, the back, E, F, and the legs, B, as to serve as a brace to hold the back in position when the chair is opened, and as a handle by which the chair may be carried when closed, substantially as herein set forth.

Second, A folding chair of the crossed legs, B, A, flexible seat, D, back, E, F, pivoted back seat rail, C, and transverse bar, G, the whole constructed, combined, and arranged substantially as herein set forth.

56,411.—RAILROAD.—C. T. Harvey, Tarrytown, N. Y.

First, I claim a coupling clutch for connecting the car, or other vehicle or body, to a moving cable which is jointed so as to be capable of opening and releasing the cable, and has its divisions which clasp the cable or the heads thereof, so shaped as to become of less diameter toward the forward end, substantially as described.

Second, I claim joining the divisions of that part of a clutch which engage the cable so that they can be raised separately clear of the cable guide, substantially as described.

Third, I also claim a coupling clutch with divisions swing on the rod on which the clutch slides in combination with springs, I, I', or their equivalents, whereby the clutch, and the vehicle are relieved from sudden shocks when connected to a moving cable, substantially as set forth.

Fourth, I also claim the pendulous buffers for brading a clutch into engagement with the cable, when the clutch is made in two or more parts, substantially as described.

Fifth, I also claim the cam shafts and their cams, G, in combination with the buffers, substantially as shown.

Sixth, I also claim hinging the divisions of a divided clutch upon a rod or shaft parallel with the length of the car or other vehicle to which it is applied, substantially as described.

Seventh, I also claim a hollow coupling clutch which connects a car or other vehicle to a moving cable, by embracing or straddling the cable and its ferrules, in combination with a shaft on which it slides, substantially as described.

Eighth, Placing an elastic cushion or cushions, or their equivalents, in the interior of the heads or ferrules of a moving cable, when such ferrules are joined, substantially as described.

Ninth, Giving a conical form to that part of the clutch which enters into the cable guide, so that when it receives one of the ferrules of the cable it lifts it out of frictional contact with the guide, substantially as described.

Tenth, Making the ends of the ferrules of the cable of conical form, substantially as described.

56,412.—GATE.—C. P. Hawley and E. B. Murdock, East Galway, N. Y.

I claim the levers, J, K, H, L, M, and connecting rods, N, O, R, S, and T, U, W, constructed and arranged as herein described, in combination with each other, with the supporting posts, A, B, C, and with the gate, G, substantially as herein described and for the purpose set forth.

56,413.—COMBINED PIANO, COUCH, AND BUREAU.—Charles Hess, Cincinnati, Ohio.

I claim a combination of piano, couch, and bureau, arranged and operating substantially as represented and set forth.

56,414.—PISTON FOR DEEP-WELL PUMPS.—J. W. Hoagland, New Brunswick, N. J.

I claim the combination of valve, G, rod, C, shoulder, B, neck, D, gaskets, I, and walls, E, arranged with a pump cylinder, and operating in the manner and for the purpose herein specified.

56,415.—ERASER.—A. H. Hook and H. B. Adams, New York City.

We claim forcing erasers substantially as and for the purposes herein described.

56,416.—STEAM WATER-POWER DEVICE.—W. L. Horne, Batavia, Ill.

I claim the arrangement and combination of the float, d, chamber, S, condenser, n, perforated pans, y and q, slats, p, and connected by pipes, u and r, as herein described and for the purpose set forth.

56,417.—FIRE ESCAPE.—W. L. Horne, Batavia, Ill.

I claim the arrangement and construction of the windlass, E, with its ropes, H and J, square frame, C, with its rollers, G, when arranged and combined to operate as herein described.

56,418.—ROLLER FOR CLOTHES WRINGERS, WASHERS, ETC.—R. B. Hugunin, New York City.

I claim the elastic rollers herein described, made by vulcanizing rubber or equivalent gum, upon raw rubber, prepared cloth, or wire cloth, or both combined, the cloth being first wrapped around the central core, and the rods or their equivalents secured within the said cloth and grooves of the core, substantially in the manner and for the purposes specified.

56,419.—LATHE FOR TURNING WHIP STOCKS.—Liveras Hull, Charlestown, Mass.

I claim, for the purpose set forth, the combination as well as the arrangement of the two adjustable pattern bars, I, K, the furcated levers, G, H, the carriage, F, its ways or guides, E, E, the mandrel, A, and chuck, C, or the equivalent of the latter, the cutter, q, and the self-adjusting I piece, b; and I also claim the combination of the same and the slide, i, o.

I also claim the combination and arrangement of the adjustable throat lever or piece, s, with the cutter, q, when applied to the upper furcated lever, so as to be adjustable thereon, as specified.

56,420.—PISTON.—Lafayette Huntton, Milford, Mass.

I claim the combination of the separate springs, C, C, with a connection, G, or its equivalent, substantially as described, whereby half of the excess of pressure of one spring may be transferred to the other, so as to equalize the pressure of both on the rings, as specified.

56,421.—NEEDLE FOR CANING CHAIRS.—Mrs. Mary E. Hurley, Baltimore, Md.

I claim a needle, A, for caning chairs, having an eye, b, through the front end, constructed and operating substantially as shown and described and for the purpose set forth.

56,422.—ADJUSTABLE STORE SHELVES.—S. L. Latta, Ligonier, Ind.

I claim, first, The adjustable cleats, C, and thumb-screw rods, E, operating on beveled guides, D, for the adjustment of the shelves, A, A, substantially in the manner and for the purpose as herein specified.

Second, The screw lever, rod, F, and screw nut, G, as arranged in connection with the shelves and operating in the manner and for the purpose substantially as herein specified.

56,423.—COMBINED STOVE HOOK, HAMMER, ETC.—Theodore C. Law, Green Island, N. Y.

I claim the household implement, combining the appliances, substantially as described.

56,424.—CUTTER FOR WOOD-PLANING MACHINES.—Chas. Livingston, Redwood City, Cal.

I claim the arrangement of the cutters, C and G, upon a suitable cutter head, having a wedge-shaped center piece, B, substantially as and for the purpose described.

56,425.—CHURN.—T. E. Lockwood, Cincinnati, O.

I claim the arrangement of spur wheel, F, pinion, E, crank shaft, D, and pitman, G, in combination with the adjustable lever, I, when provided with the series of apertures, K, L and M, all arranged to operate substantially as and for the purpose herein described and set forth.

56,426.—SAWING MACHINE.—Donald R. MacLennan, Cincinnati, Ohio.

First, I claim the rocking socket, G, mounted directly on the drawing shaft, A, in combination with the guide rod, F, for the purposes specified.

Second, The arrangement of the lever, L, removable bracket, N, socket, n, rod, M, and roller box, K, relatively to each other and to the sawing apparatus, A, B, C, D, E, as and for the purposes set forth.

56,427.—ARTIFICIAL HAND.—J. F. Maguire, East Boston, Mass.

I claim connecting the fingers, D, of the hand, to and with the slide, R, having thumb nut, U, through angular lever arm, N, connecting rod, L, and cross head, F, I, substantially as herein described and for the purpose specified.

56,428.—STRAW CUTTER.—Joseph Marchant, Cambridge City, Ind.

I claim the arrangement and combination of the balance wheel, A, adjustable plate wheel, B, thumb screw, C, rod, E, pawls, F, and G, ratchet wheels, H, H, and rocker arm or shaft, I, constructed and operating substantially as and for the purposes set forth.

56,429.—FURNACE FOR PUDDLING, HEATING, ETC.—Oscar F. Mayhew (assignor to W. H. Weeks, and G. M. Levette), Indianapolis, Ind.

First, I claim the construction and arrangement of the throat or opening, C, and air passages, F, and H, when placed in such relation to the incandescent fuel as to operate in the manner and for the purpose substantially as set forth.

Second, The damper, G, in combination with the air passage, F, and throat, C, when arranged as and for the purpose substantially as set forth.

Third, The zig-zag divisions of the air passage, F, in combination with the throat, C, when arranged as and for the purpose substantially as set forth.

Fourth, The upper air passage, H, in combination with the throat, C, when arranged as and for the purpose substantially as set forth.

56,430.—MACHINE FOR PLANTING COTTON SEED.—I. W. McGaffey, of Chicago, Ill.

I claim, First, The rotating flanges in the seed box, for moving and setting the seed, constructed and arranged in the manner and for the purposes specified.

Second, I claim the rotating fingers in combination with the flanges or agitators in the seed box, arranged and operated as shown.

Third, I claim the construction, arrangement, and combination of the fingers and adjustable slide for regulating the quantity of seed discharged, substantially as specified.

56,431.—EXTRACTING BUNGS FROM BARRELS.—Henry Myers, Hyde Park, and A. Webb, Scranton, Pa.

We claim a bung, A, provided with a staple, b, and depression, d, as a new article of manufacture.

Also, the hook, d, in combination with a screw or lever, and with the staple, b, in the bung, A, substantially as and for the purpose set forth.

56,432.—RAILROAD SWITCH.—T. S. Mitchell, Pittsburg, Pa.

I claim, First, The automatic switch-moving apparatus composed of the bar, D, links, E, F, H, bar, I, levers, R, K, shafts, r, r, arms, S, S, frames, T, U, and weights, P, U, or their equivalents, when they are arranged and operating as specified.

Second, The pieces of steel, V, V, in combination with the rail, a, and frame, F.

Third, Operating a switch automatically by the action of the weight of the train itself on the frames, T, U, in the manner described and for the purpose of preventing such train from running off the track.

56,433.—QUARTZ MILL.—Albert Moore, San Francisco, Cal.

First, in combination with the radial feeding furrows, B, B', I claim the plain surface beyond the ends of the furrows, substantially as described, for the purposes set forth.

Second, I claim the manner of breaking the joints in constructing and laying the shoes and dies, so that no continuous straight lines shall be employed from the feed center of the miller to its circumference, substantially as described and for the purpose set forth.

56,434.—BROOM HEAD.—W. B. Moore, Philadelphia, Pa.

I claim the combination of the cam or eccentric roller, with the bow, and with a lever for turning said roller to clamp the broom corn or other material between the bow and cam roller; and this I claim whether the lever for turning the roller be the screw, or the handle, or the handle and screw, or whether it be a separate or removable lever, substantially as described.

56,435.—PUMP FOR DEEP WELLS.—W. E. Morrison and W. L. Betts, Funkville, Pa.

We claim attaching to the piston, or sucker rod of a pump, and above the upper valve, secured to it, a perforated receiver, substantially as herein described and for the purpose specified.

56,436.—SOUNDING APPARATUS.—S. E. and G. L. Morse, Harrison, N. J.

We claim, First, arranging fluids of different specific gravities in glass vessels, so that when sunk in water, or submitted to pressure otherwise, mark of the amount of compression of one or more of these fluids at the greatest depth, or at the point of greatest compression, is retained for inspection on the return of the instrument to the operator, substantially as described.

Second, We also claim the arrangement of two liquids having unequal specific gravities, with a meter tube, in a vessel closed except at one end of the meter tube, in such a way that external pressure, caused by the descent of the instrument in water, or otherwise, will force a portion of the lighter liquid through the heavier liquid, into the body of the vessel, to supply the vacancy there made by the compression of its contents, and that then, under a relaxation of the external pressure, caused by the ascent of the instrument in water, or otherwise, the expansion or reaction of the liquids in the body of the vessel will force the heavier liquid into the meter tube, to the amount of the compression, thus forming a meter of the compression, and, by inference, of the greatest depth to which it has descended, substantially as described.

Third, We also claim the introduction of a minute quantity of air or other elastic fluid, into the vessel containing the liquids, as described in the clause next preceding, to make the instrument sensitive as a meter of depth in comparatively shallow water.

Fourth, We also claim the application to the bathometer of a meter tube, so constructed that the liquids can easily pass each other in the bore of the said meter tube, thereby enabling the operator to restore them to their original positions for a new operation merely by turning the instrument, substantially as described.

Fifth, We also claim attaching a bag of india-rubber, or other suitable flexible material, to the outer end of the meter tube, for the purpose of preserving the exact quantities of the fluids in the vessel, as at first adjusted, and of enabling the operator, by pressure on the bag, to discharge the contents of the meter tube into the vessel, and therefore to use a meter tube of small bore, substantially as described.

Sixth, We also claim attaching a buoy and weight to a bathometer in such a way that when the instrument, or its appendage, touches the bottom, the weight shall be detached, and allow the buoy to carry the instrument to the surface, substantially as described, thereby dispensing with a line.

Seventh, We also claim the method of releasing a submerged buoy, by causing a small weight attached to the long arm of a lever, to support on the short arm the larger weight, which sinks the buoy, till the smaller weight, touching the bottom, is supported thereon, thus causing the short arm, no longer counterpoised, to fall and discharge the greater weight, substantially as described.

Eighth, We also claim attaching to a bathometer a rod or pole in such a way that on its return to the surface of the water, it will attract attention at a distance so as to facilitate the recovery of the apparatus of which it forms a part, substantially as described.

56,437.—SCAFFOLD.—P. Newbanks, and H. M. Powel, Lincoln, Ill.

We claim the brackets as constructed in combination with the scaffold board, A, and traces H, G, the same being used substantially in the manner and for the purpose herein specified.

56,438.—STAYS, SPRINGS, AND EXTENSORS IN WEARING APPAREL.—J. L. Newton, Boston, Mass.

I claim a stay, extensor or spring, in wearing apparel, raw hide cut in strips or otherwise adapted for giving stiffness to and supporting corsets, stays, waists, and skirts of dresses and other articles of wearing apparel, as and for the purpose above set forth.

56,439.—HORSE HAY FORK.—Frederick Nishwitz, Williamsburg, N. Y.

First, I claim the combination with the shank, the tine and the traversing bar of the sliding collar, G, all arranged and operating substantially as described.

Second, I claim the combination with the shank and traversing

bar of the locking lever, when constructed and arranged as and for the purpose described.

56,440.—HORSE HAY FORK.—F. Nishwitz, Williamsburg, N. Y. and B. S. Heyers, Pekin, Ill.

First, We claim the combination in a horse hay fork of two shaped prongs or tines pivoted near their centers to move in parallel planes, so arranged that when entering the hay, the lower arms of the tines unite to form a spear to penetrate more easily, and when expanded, the hay is grasped in two separate bundles between the lower arm of one prong and the upper arm of the other respectively, substantially as described.

Second, The arrangement of the tines, pivoted on opposite sides of the rigid shank or draw-bar, as described, for the purpose of avoiding clogging.

Third, The combination of the tines, pivoted to the shank with the sliding collar, toggles and stops, substantially as described, for the purpose of locking the tines when holding.

Fourth, The combination with the shank, the tines and the sliding collar, and the toggle links, when arranged to operate as a stop to limit the backward movement of the tines in entering the hay, substantially as described.

56,441.—FENCE.—A. W. Olds, Green Oak, Mich.

I claim the braces, E E, when secured to the uprights, B B, as described, in combination with the upper rail and binding wire, H, as and for the purpose set forth.

56,442.—WASHING MACHINE.—Norman Olin and E. L. Hopkins, Homer, Mich.

We claim the combination with each other of the endless belt or apron, D, passing over the rollers, B, the rubber, E, shaft, F, carrying the rollers, G G, and the springs, I I, arranged and operating substantially as described.

56,443.—MACHINE FOR FOLDING FLEECES OF WOOL.—John Porter, Ruggles, Ohio.

I claim the sectional table, B B, C C, and leaf, L, in combination with the brace, G, strap, L, and roller, E, when arranged in the manner and for the purpose set forth.

56,444.—ROOFING CEMENT.—Wm. L. Potter, Clifton Park, N. Y.

I claim an improved composition for roofing and similar uses, formed by mixing raw coal tar and powdered clay with each other, substantially in the manner described and for the purpose set forth.

56,445.—TENON MACHINE.—William Pruet, Kokomo, Ind.

I claim, First, The hereinabove described device for feeding the tail block toward the cutters with the upward motion of the cross head, by means of the lever, G, cam lever, C, rod, P, teeth, Q, and pawl, P', attached to the tail block, N, the said several parts being constructed, and the whole arranged for use, substantially as set forth.

Second, In combination with the knives, L and K, so arranged as to cut the shoulders and sides of the tenon at the same time, I claim a device for giving a forward feed to the tail block, actuated by the same lever that communicates motion to the knives, substantially in the manner set forth.

56,446.—BROOM HEAD.—M. Quinby and J. C. Sturdevant, Skinner's Eddy, Pa.

We claim the movable jaw, H, furnished with a hinge, A, and a shank, C, in combination with the stationary jaw, G, binders, D, D, and screw, B, as described and for the purposes set forth.

56,447.—HAT.—C. L. Rahmer, Brooklyn, N. Y.

I claim the combination of the band, a, and bent arms, v, with the sweat lining, B, applied to the hat, A, forming the space, f, all in the manner and for the purpose herein specified.

56,448.—SOCKET COUPLING FOR GAS FIXTURES.—Thomas L. Reed, Providence, Rhode Island. Antedated July 13, 1866.

I claim forming the packing of the coupling with two flanges and an intervening space externally, and a swelling ridge, internally, substantially as described for the purpose specified. I also claim making that flange of the packing, by which it is confined in the shell of some comparatively inelastic material, substantially as and for the purpose specified.

56,449.—CLOTHES WRINGER.—Orrin Reeves, Greenport, N. Y.

I claim the steel springs, S S, and the adjustable journal box, g, the rollers, G G, and friction rollers, B, the several parts being constructed, combined and arranged, as and for the purpose herein described and represented.

56,450.—PADLOCK.—Cyrus W. Saladee, Newark, Ohio.

First, I claim as constructed the tumbler, "A" with the guard ring, C, attached as described, and operating as set forth, in combination with the spring, E, for the purposes set forth and described.

Second, I claim the key stud, X, and short stud, S, on tumbler, "A" constructed as described and for the purposes set forth.

56,451.—PADLOCK.—Cyrus W. Saladee and William Armstrong, Newark, Ohio.

First, We claim the wheel hasp, A, or its equivalent, constructed and operating in the manner and for the purpose substantially as shown and described.

Second, We claim the center pin or pivot, C, in combination with the wheel hasp, A, in the manner and for the purpose substantially as shown and described.

Third, We claim the spring, B, or its equivalent in combination with the hasp, A, spring, B, or its equivalent, in the manner and for the purpose substantially as shown and described.

Fourth, We claim locking the wheel hasp, A, by taking hold of the notch, O, or its equivalent, in the manner and for the purpose substantially as shown and described.

56,452.—SAFE.—Rufus S. Sanborn, Ripon, Wis.

First, I claim the combination of the case, A, with the cylinders, B C D, constructed and arranged substantially as and for the purpose herein specified.

Second, The use of the vessels for holding water when used in connection with the cylinders as herein fully set forth.

Third, The arrangement of the box, E, with the cylinders and outer case, A, substantially as and for the purpose herein set forth.

56,453.—MANUFACTURE OF LAGER BEER.—John Schneider, Williamsburgh, N. Y.

First, I claim the above described process and production of an improved lager beer, substantially as described and set forth.

Second, I claim the peculiar manner of extracting the essence or flavor of hops by means of the boiling wort or unfermented beer, and mixing the same with the fermented beer for the purpose substantially as set forth and described.

56,454.—COMBINED SEEDER AND CULTIVATOR.—Silas C. Schofield, Freeport, Ill.

First, I claim the bifurcated double cam rod, H h h, suspended by a swinging link, k, and operated by an odd number of pins, I, substantially in the manner and for the purpose set forth.

Second, I claim the combination of the adjusting rock shaft, J, with an actuating cam rod, H, substantially in the manner and for the purpose specified.

Third, I claim the compound lever, M m, for operating the seed slide, r, as herein shown and explained.

Fourth, I claim the stay braces or reinforcing rods, e, e, in combination with extended axle ends, f, when employed as draft wrists for attaching the outside plow beams, E E, substantially in the manner and for the purpose set forth.

56,455.—PEN AND ERASER COMBINED.—Joseph Scott, Chicago, Ill.

I claim the combination of the folding drawing pen with sliding eraser, the whole arranged as above described and for the purpose herein specified.

56,456.—BALING PRESS.—Leopold Seeberger, and N. Levy, Cincinnati, Ohio.

We claim, First, The provision in a baling press of the sliding shaft J, so arranged as to allow a fast or slow motion of the

follower, by coupling or uncoupling a train of spur wheels, D E F G, and pinions, e e', in the manner described and set forth. Second, We claim a binding trunk, all of whose sides, T, are hinged to the bottom or floor, R, of said trunk, in the manner specified.

Third, In combination with the elements of the clause immediately preceding, we also claim the staples, U, catches, V, and stops, W, all arranged and operating as and for the purpose specified.

56,457.—MACHINE FOR POLISHING ENAMELED PAPER.—S. Shepherd and A. M. George, Nashua, N. H.

We claim, First, The combination of the metallic burnishing roller, G, endless apron, F, and table, B, when the burnishing roller revolves at a higher velocity than that of the endless apron, and a driving shaft, all of whose sides, T, are hinged to the bottom or floor, R, of said trunk, in the manner specified.

Second, Providing an elastic tie bearing for the paper under the burnishing roller by making either the apron or the table elastic, substantially as herein set forth.

Third, Giving the burnishing roller, G, a reciprocating movement transversely to the endless apron simultaneously with its rotary motion, substantially as herein set forth for the purpose specified.

Fourth, The pressing plate, T, applied in relation with the burnishing roller, G, endless apron, F, and table, B, substantially as herein set forth for the purpose specified.

56,458.—BEVERAGE.—Henry Smith and Hiram F. Snow, Dover, N. H.

We claim a beverage prepared from the ingredients and substantially in the proportions and manner herein specified.

56,459.—HOLLOW AUGER.—J. H. Smith, Pineville, Pa.

I claim the frame or stock A, and the two adjustable jaws, D D', operated by the right and left screw, F, and the cutter, G, all constructed and arranged to operate in the manner substantially as and for the purpose herein set forth.

56,460.—SCREW WRENCH.—Atkins Stover, New York City.

I claim, First, The traveling worm, F, fitted upon the rod, E, and working in a screw thread made upon the back of the bar of the wrench, in combination with the movable jaw, C, and bar, A, substantially as specified.

Second, The combination of the rod, E, worm, F, slot, e, pin, f, movable jaw, C, bar, A, and stationary jaw, B, substantially as shown and described.

56,461.—BROOM HEAD.—W. Paine and R. E. Cavinness, Fairfield, Iowa.

We claim the plate, A, having the flanges, a, and the teeth, t, hinged to the handle by means of the staples, C, in combination with the clamps, w, and bolt, D, all arranged as shown and described.

56,462.—HARNESS.—Washburn Peabody, Dixmont Center, Maine.

I claim the arrangement as described of the two rump hooks, A A, with the back strap of a harness, the same being for the purpose specified.

56,463.—ADJUSTABLE HAND CUFF.—O. C. Phelps, New York City.

I claim the spring, g, and sliding bolt, e, arranged so that said bolt shall catch into notches on the inner or concave side of the bow, or long section, a, substantially as described.

56,464.—EVAPORATOR.—E. W. Taylor, Franklin, Ind.

I claim the reversing of the heat from the furnace, which heat plays on the bottom of the pan and passes through the pan, C, by means of small flues.

I also claim the regulating of the heat by means of the shut-offs H and N.

I also claim the drum, E, and the movable connection flues, L L and c, and the stationary ones, M M and c.

56,465.—PORTABLE PICKET FENCE.—A. L. Thorp, Vandalia, Mich.

I claim the slots, a, in the rails, A, as constructed, and the picket, B, as arranged therein, in combination with the cross-pieces, D, as constructed, substantially in the manner and for the purpose as herein set forth.

56,466.—REVOLVING FIRE-ARM.—William Tibbals, South Coventry, Conn.

First, I claim recessing the front face of the breech, B, to receive the smaller rear end of the cylinder, D, when said recess is provided with the annular flange, c, substantially as shown and described.

Second, I claim the removable anvil, a, or its equivalent, when constructed and arranged to operate as and for the purpose set forth.

Third, I claim the annular flange, c, or its equivalent, whether used with or without the anvil, a, for the purpose of holding the cartridge in the cylinder, as described.

56,467.—RAILROAD-STATION PUMP.—A. W. Todd, Chicago, Ill.

I claim the arrangement of the cylinder, B, with the stay rod, I, cork, n, and o, cock, E, spigot, J, F, handle, H, being secured to the cylinder B at K, pipe, C, substantially upon the principles, and in the manner herein set forth.

56,468.—PUMP.—F. W. Tully and T. Reece, Philadelphia, Pa.

First, We claim the combination of the disk, I, with its slots, L L', blocks, I', and vibrating link, N, with a single or double-acting lift and force pump, constructed substantially in the manner set forth.

Second, The crab or saddle, D, with its fixtures, d and e, in combination with the foregoing, and with the pipe, C, for attaching and giving support or steadiness to the pump, substantially as described.

56,469.—WASHING MACHINE.—Philip Van Bussum, Henderson, Ky.

I claim the slatted rotating or semi-rotating cylinder, B, in combination with the concave, E, formed of the parts, e, e, connected by hinges, f, and attached by hinges, g, to arms, h, projecting from shafts, F F, and having a weight, H, applied, all arranged substantially in the manner as and for the purpose set forth.

56,470.—CALENDAR.—W. Powell Ware, New York City. Antedated June 29, 1866.

I claim the dial b, containing the days of the month in seven radiating columns, the dial, a, denoting the days of the week, and the dial, c, indicating the months, and visible through an opening in the dial, b, when constructed and arranged in the manner and for the purposes herein set forth.

56,471.—BURGLAR ALARM.—R. M. Webb, New York City.

I claim the combination of the tube, E, rod, F, having a swiveled piece, J, and spiral or other suitable spring, H, with the key hole of a lock or door, when arranged together and with regard to such key-hole, and connected to a bell or other alarm, so as to operate substantially in the manner and for the purpose described.

56,472.—MACHINE FOR FLUTING WASH-BOARDS.—Calvin J. Weld, West Wardsboro', Vt.

First, I claim the feeding arm, V, attached to the feeding shaft, P, in combination with the slot, Z, in which it moves, for feeding the blanks for a new cut during the return movement of the carriage, substantially as described.

Second, I also claim the springs, R R, for lifting the carriage out of gear at the end of its forward movement, in combination with the lugs, b b', and slots or recesses, c, in the top rail of the boxes, S S, substantially as described.

Third, I also claim the combination of the springs, R R, for lifting the carriage, with the spring, U, for effecting its return movement, substantially as described.

Fourth, I also claim the spring, W, with its stops, W, made and operated as shown, in combination with the adjacent holder, M, substantially as described.

56,473.—STOVE-PIPE DRUM.—C. C. Webber, Calmar, Iowa.

I claim an adjustable pipe, F, operated by the rod, G, or its equivalent, and employed in conjunction with the flues, A B C, and damper, D, to make a direct or indirect communication through the drum, as and for the objects specified.

56,474.—LOOM.—Joseph Welsh, Philadelphia, Pa.

I claim giving the described different motions to the heddles of the loom, for the purposes specified, by means of the hooked cords or straps, A B, on the roller, C, or their equivalents, operating in combination with the pulley, E, or its equivalent, substantially as and for the purposes described.

56,475.—HORSESHOE.—Albert S. Wilkinson, Pawtucket, R. I.

I claim the combination of the shoe, A, and web, B, having its inner edges curved, in the manner and for the purpose set forth.

56,476.—HORSESHOE.—Albert S. Wilkinson, Pawtucket, R. I.

First, I claim the metal plates, A a, in combination with the rubber or other elastic sole, D, and rivets, c c', as illustrated by figures 1 and 2, of sheet 1, substantially as described.

Second, I claim the hidden calkins, c c', operating substantially in the manner and for the purpose set forth.

56,477.—HORSESHOE.—Albert S. Wilkinson, Pawtucket, R. I.

I claim the bar, A, in combination with the toe clip, a, and heel clip, a', as indicated in figures 1 and 2, the whole being constructed and operated substantially in the manner and for the purpose set forth.

56,478.—(A)—STENCH TRAP.—F. H. Williams, Syracuse, N. Y.

I claim the siphon, B, provided with a floating valve, E, in combination with the sink or traps in a house or building and with the pipe or pipes leading to the sewer, substantially as and for the purpose described.

56,479.—(B)—STENCH TRAP.—F. H. Williams, Syracuse, N. Y.

I claim the inclined apron, C, tray, D, and valve, E, in combination with the sink, A, constructed and operating substantially as and for the purpose described.

56,480.—ORE AND TIMBER CAR FOR MINES.—George Williams, Sterling, Colorado.

I claim, First, The construction of the doors with a wider portion, b, to adapt them to be supported by the sides of the car, substantially as described.

Second, A car constructed with end doors adapted to be folded over the top for the purpose of converting it into a timber car.

Third, In combination with the above a trigger C, provided with an inward projection, adapted to be tripped by the post, D.

56,481.—ELEVATOR.—George Williams, Sterling, Colorado.

First, I claim the elevating bucket, E, with the discharging levers, F F, applied to the bottom of the bucket, substantially as described.

Second, And in combination with the above, I claim the deflecting rollers, D, and curved guide ways, K K', arranged and operating substantially as described.

Third, I claim the adjustable sections, J*, employed to enable the bucket to be discharged at different heights, substantially as described.

Fourth, I claim the hinged chute, O*, in combination with the levers, O and p, operating substantially in the manner and for the purpose described.

Fifth, I claim the bucket, E, in combination with the hook, W or its equivalent, the roller, V, substantially as described.

56,482.—TRUNK.—L. H. Wolff, Detroit, Mich.

I claim a new article of manufacture intended for a chest for a trunk, made of metal and constructed substantially in the manner above described.

56,483.—APPARATUS FOR APPLYING LIQUIDS TO CASKS.—James O. Woodruff, Albany, N. Y.

First, I claim the process for applying liquids to the interior of casks so as to penetrate into the pores of their bodies, by the employment of condensed air cold or at the temperature of the atmosphere, as described.

Second, The apparatus described in the within specification to effect the process of forcing liquids into the pores of cask bodies, that is, the frame, B, suspended on its axis, E, the disks, C, with their screw rods, R, the flexible tube, H, with its nozzle, J, and tube, k, substantially as described and for the purposes set forth.

56,484.—SPRING BED BOTTOM.—Joshua Barnes (assignor to Isaac A. Singer), New York City.

First, I claim in combination with a bed slat a wire spring having two parallel coils at the base and two parallel coils at the top, the coils at the base, C, turning adversely to those at the top, B, substantially as above described.

Second, In combination with the two adverse springs, I claim the hook or hinge, substantially as above described and for the purposes set forth.

Third, The combination of the cross bar, I, rod, E, pin, D, and slat, A, with the wire springs, as above described.

56,485.—MACHINE FOR MAKING CORDAGE, WEBBING, ETC.—James A. Bazin, Canton, Mass. (assignor to himself, A. B. Hall, West Roxbury, Mass.), C. Scott, and W. J. Town, Newton, Mass.

First, I claim, in a machine for making cordage, webbing, and other similar fabrics, so actuating the spooling mechanism, consisting essentially of the revolving platform, K, furnished with a series of gears, L M N, sliding plates, P, and recesses, O, in combination with the toothed ring, B, and a series of carriers, V, with their spool frames, that each stand will be carried around two stationary ones, and thereby form an interlocking twist, as set forth.

Second, I also claim the above-described mechanism in combination with the rack, W, for the purpose specified.

Third, I also claim the sliding plates, P, operated by a cam wheel, Q, in combination with the platform, K, and a series of carriers, V, with their spool frames and spools, operating substantially as set forth.

Fourth, I also claim the combination of the gear, L, with its shaft, h, gears, S R, and cam wheel, Q, for operating the sliding plates, P, as described.

Fifth, I also claim adjusting the cam wheel, Q, by means of the eccentric pin, s, on the gear, R, as set forth.

56,486.—CASTER BOTTLE.—Burroughs Beach (West Meriden, Ct.) assignor to himself and E. A. Thorp, North Haven, Ct.

I claim the combination, with a caster bottle, of a shaft or spindle extending through the same in the direction of its length, and arranged to be turned therein in the manner and for the purpose described.

56,487.—QUARTZ MILL.—Smith W. Bullock, Elizabeth, N. J., assignor to the Bullock Ore Dressing Machine Company, New York City. Antedated July 3, 1866.

I claim, First, The combination of the rotating trough, D, with the crushing wheels, G G, and gear wheels, E and F, so as to govern the rotary motion of the trough while its vertical action is independent of, and disconnected from, the gear wheels.

Second, I claim the application of springs to the adjustable bed, so arranged as to form a binding link or tie between the supports of the crushing wheels, G G, and the supports of the trough, D, each of the several features being arranged and operating substantially as and for the purposes herein set forth.

56,488.—BOILER FOR COOKING STOVE.—Esek Bussey, (assignor to himself and Chas. A. McLeod), Troy N. Y.

First, I claim a water reservoir, or tank, constructed of cast

iron, and entirely covered or coated upon the inner and outer surfaces thereof by zinc, or an alloy of zinc, substantially as aforesaid, in combination with a cooling stove, in the manner substantially as herein described and set forth.

Second, I claim the water reservoir or tank for cooking stoves, constructed entirely of cast iron and then covered or coated upon the inner and outer surfaces with zinc, or an alloy of zinc and tin, in the manner, and by the means, and for the purposes, substantially as herein described and set forth.

56,489.—MACHINE FOR FILLING CARTRIDGES.—Wm. C. Dodge and R. D. O. Smith (assignors to W. C. Dodge and W. S. King) Washington, D. C. We claim, First, A machine for filling cartridges, in which the powder is entirely inclosed during the operation.

Second, A series of measuring tubes, so arranged that they can be adjusted to contain a greater or less quantity, at will, substantially as described.

Third, The combination and arrangement of the lever, P, for operating the slides with springs of different tension, for causing the slides to operate alternately, with a single movement of the lever, substantially as and for the purpose set forth.

Fourth, The auxiliary charger, C, arranged in relation to the hopper bottom, B, and the tubes, Y, and operating in connection therewith, substantially as described.

Fifth, The bars, a, or their equivalents, arranged over the openings, b, of the hopper bottom, substantially as and for the purpose set forth.

Sixth, Providing the slide, C, with the raised rim, n, with or without the flange, as shown and described.

Seventh, The combination of adjusting devices, for regulating the charge, with the index lever, s, and graduated plate, T, as and for the purpose set forth.

Eighth, The slide, H, provided with cells for receiving the cartridge cases, substantially as described.

Ninth, The drawer, G', in combination with the cover, I', provided with the tubes, t, arranged to operate as and for the purpose set forth.

Tenth, The frame or guide, M, for inserting the cases in the cells of the drawer, G', substantially as described.

56,490.—SCREEN FOR GAS PURIFIER.—Edward Duffee (assignor to himself and Geo. A. Kimball), Haverhill, Mass. I claim constructing screens for dry coal gas purifiers of strips of thin wood, crossing each other, and either riveted together or interlaced in the form of basket work, supported by a framework of metal, or its equivalent.

56,491.—DRAW BRIDGE SIGNAL.—Luther B. Edgecomb (assignor to himself and Van Rensselaer Powell) Troy, N. Y. I claim the combination of a rack, a, a pinion, b, and a swinging or adjustable signal bearer, c, or their equivalent operating devices, with a draw bridge, in the manner substantially as shown, and for the purpose, operating the signals of draw bridges in the manner as described.

Second, I claim the combination of a spring, d, and a stop, f, with a pinion, b, with its stud, e, and a signal bearer, g, in the manner substantially as shown and for the purpose set forth.

Third, I claim the combination of the swinging or adjustable signal bearers, g and i, with the yokes or double transmitting arms, k and k', connected by means of ropes or wires, l, in the manner substantially as and for the purpose as shown.

Fourth, I claim the combination of a signal and its swinging or adjustable bearer, i, and the double transmitting arms or yokes, k and k', with each other, and with the double arms or yoke, l, and its adjustable signal bearer, m, arranged relatively to, and in the manner substantially as described, and for the purpose set forth.

56,492.—MACHINE FOR TRIMMING PERCUSSION CAPS.—James H. Fowler and A. J. French (assignor to the American Flask and Cap Company), Waterbury, Conn. First, We claim the feed plate C (one or more), provided with a series of feed holes, h, which are arranged in curved lines to correspond to the position of the holes, b, in the conveyor, B, and operating in combination with said conveyor, substantially as and for the purpose described.

Second, The revolving conveyor, B, in combination with the plunger, b', trimming dies, E, and knife, F, constructed and operating substantially as and for the purpose set forth.

Third, The supporting plate, D, and spring, F, in combination with the conveyor, B, constructed and operating substantially as and for the purpose described.

Fourth, The stationary bracket, h', and pin, g', in combination with the spring, F, supporting plate, D, and conveyor, B, constructed and operating substantially as and for the purpose set forth.

Fifth, The reciprocating slide, c, and dog, c', in combination with the supporting plate, D, and conveyor, B, constructed and operating substantially as and for the purpose described.

Sixth, The revolving trimming dies, E, and clamping spring, n', in combination with the reciprocating knife, F, constructed and operating substantially as and for the purpose set forth.

Seventh, Giving to the cutting edge of the trimming knife an upwardly inclined position, substantially as and for the purpose described.

56,493.—LOOMS FOR WEAVING SLAT BLINDS.—Martin Free (assignor to Alfred Louderback) Philadelphia, Pa. First, I claim the application to a slat blind loom of the slat ending device, D' d', the same being constructed, arranged, and operated substantially as and for the purpose described.

Second, I also claim the employment or use in a slat blind loom of either or both of the automatically acting cutters, E, E', the same being applied so as to operate substantially as and for the purpose described.

56,494.—MACHINE FOR SECURING STRIPS OF SHEET METAL TOGETHER.—W. J. Gordon (assignor to J. S. Mason & Co.), Philadelphia, Pa. First, I claim the roller, H, with its flange, c, in combination with the disk, F, and its lugs, a', the whole being arranged for joint action, substantially as and for the purpose described.

Second, The detachable disk, G, with its flange, b, in combination with the disk, F.

56,495.—MAKING GEAR CUTTERS.—Lewis F. Grant, Thomaston, Conn. assignor to himself, Joseph R. Brown, and Lucien Sharpe, Providence, R. I. I claim forming the blades of cutters for gear cutting with the oils and in the manner substantially as described.

56,496.—MACHINE FOR MOLDING MATERIALS ADMITTING OF COHESION.—John Greacen, Jr., and Ambrose Foster, New York, and John H. Cooper, Philadelphia, Pa. assignors to the American Building Block Company, New York. First, We claim the use, in combination with a machine constructed substantially as described, of two or more cylinders and pistons connected to separate operating parts of the machine and operating in unison, substantially as and for the purpose specified.

Second, The use, in combination with the above described machine, of cylinders having openings, c, arranged in respect to and communicating with the exhaust ports, substantially as and for the purpose set forth.

Third, The combination of the reciprocating feed box, J, and its opening, n, with the sharpened edge, z, for the purpose described.

Fourth, The combination of the mold box and anvil so adapted to each other that the former can descend while the anvil and mold block remain stationary, for the purpose explained.

Fifth, The combination of the mold box, I, connecting rod, R, arm, Q, and shaft, M', the whole being arranged and operating substantially as and for the purpose herein set forth.

Sixth, The spring, T, or its equivalent, interposed between the mold box and any stationary part of the machine, and operating as and for the purpose herein set forth.

56,497.—LAMP.—Bertrand J. Hoffacker (assignor to himself and August W. Steinhaus) New York. First, I claim the improved lamp, consisting of the oil-well or

base, A, movable neck, C, chimney stay, D, E, and glass tube, G, in combination with the usual parts of a lamp, substantially as described.

Second, The glass tube, G, containing a wire, g, filled on ends with cotton and in the middle with bone dust or equivalent, substantially as described.

Third, The mantle, J, of the wickholder, n, capable of being raised or lowered by means of the forked lever, H, substantially as described.

56,498.—STAMP CANCELING PRESS.—Francis Hovey (assignor to himself and Charles H. Clayton) New York. I claim the hollow screw, C, in combination with the central stem, c, plunger and frame of a cancelling stamp or press, substantially as herein set forth for the purpose specified.

56,499.—TRUNK.—Luther Jackson, Newark, N. J. (assignor to Edgar Farmer and William II. Cleveland, New York). First, I claim the spring stops or braces, B, in combination with the inside cover, C, of a trunk constructed and operating substantially as and for the purpose described.

Second, The bellows-shaped or expanding tray or cover, C, in combination with the trunk, A, constructed and operating substantially as and for the purpose set forth.

56,500.—VALVES FOR RELIEVING STEAM CYLINDERS OF WATER.—Charles W. Kimball and Mary E. Norcott, of Springfield, Mass., administratrix of the estate of W. J. Norcott, deceased. Claim the combination of the valves, P P, and the rod, A, formed as described with the cylinder of a steam engine, and suitable mechanism for operating the same, substantially in the manner and for the purpose herein set forth.

56,501.—UMBRELLA.—George B. Lego (assignor to David K. Brown) New Haven, Conn. I claim an umbrella having the handle in two sections connected by a sleeve and attachment, substantially as described.

56,502.—BORING WELLS AND LAYING PIPES.—D. B. Tiffany (assignor to himself and Robert E. Richardson) Xenia, Ohio. I claim the boring tube, D, in combination with the tubular screw, C, arranged to operate in the manner and for the purpose set forth, as shown and described.

In combination with the tubular screw, C, and rod, D, I claim the adjustable ring, e, as shown and described.

56,503.—APPARATUS FOR CARBURETING GAS.—William M. Wright (assignor to himself and James E. Pilkington) Baltimore, Md. I claim the use of division plates covered with cloth or its equivalent material, with their openings, notches, and adjustment in an inclosed box, so to form a continuous air-tight chamber when the lower part of the box is charged with a fluid, as and for the purpose described.

I claim the use of the flat tubular arrangement for preventing the heavier portions of the fluid, hydro-carbon, from remaining at the bottom of the box, thereby securing a uniform volatility from all the fluid till it is consumed, as and for the purpose described.

I claim a combination of division plates, openings, notches, cloth coverings, and flat tube in an inclosed box, substantially as and for the purpose described.

56,504.—METHOD OF MANUFACTURING TILES, &C.—William Boulton and Joseph Worthington (assignors to Malkin & Co.), Burslem, England. We claim the improved mode and arrangement of apparatus for forming ceramic tiles, slabs, and other articles, substantially as above described and represented in the accompanying drawings.

56,505.—MANUFACTURE OF ACETATE OF LEAD.—Jules Edmond Fournier, Courville, France. I claim, first, The direct manufacture of acetate of lead or salt of saturn, in the process herein described, that is to say, by means of pyrolytic anhydrous distilled or saturated with lime and decomposed by sulphuric or muriatic acid, then saturated with lead or its derivatives evaporated, crystallized, pressed, or submitted to the action of a turbine, and finally redissolved, evaporated, decolorized, clarified, and recrystallized.

Second, In the process of manufacturing acetate of lead, as described, I claim specially the employment of the turbine or press as and for the purpose herein set forth.

56,506.—ADJUSTABLE STOCK OF FIRE-ARM.—Chas. William Jones, Cheltenham, England. First, I claim dividing the butt of the arm in such manner and so combining and connecting the parts together by suitable mechanism that a double and simultaneous motion of the parts of the butt is obtained at will. The one action causing an extension of the heel, straightening the stock, and thus allowing the butt to rest against the shoulder, the other motion extending a cheek piece to form an efficient rest for the cheek in the altered form of the butt, in the manner more fully described herein and illustrated in figures 1 and 2.

Second, I claim the lever arm, p, designed to receive an orthopedic or telescopic back-sight.

56,507.—SILVERING MIRRORS.—Rudolph Heck (assignor to F. W. Wood, Solon D. Stanbro, Josiah Warren, and Julius H. Royce) Chicago, Ill. I claim the method of precipitating upon glass plates nitrate of silver, or other suitable substance, or substances by means substantially such as herein described, or any other equivalent means.

56,508.—STORING HYDRO-CARBON LIQUIDS AND OTHER MATERIALS.—P. C. P. L. Prefontaine, Paris, France. I claim the system of warehousing, as herein described, by immersing in water any number of vessels or receptacles of any form or dimensions hermetically sealed and joined together, arranged in combined or separate series, strengthened and held together as herein described, and covered either by a roof or by planking on the top and around the sides, as described, the said system being adapted and fitted for the warehousing of all liquids and other substances.

REISSUES.

2,313.—STEAM GAGE.—Ralph Allen, Rock Stream, N. Y., assignee of Albert J. Allen, Buffalo, N. Y. Patented Oct. 4, 1859. First, I claim the improved pressure gage, herein described, consisting of the following parts, to wit: a thin-walled elastic capsule having faces formed of sheet metal, neither convex nor concave, to be connected with the boiler, to receive and be expanded by the pressure of the steam; and 2d, multiplying levers and index, the whole being so arranged as to render available the elasticity of two opposite faces of said capsule at the same time in operating the index through the medium of self-acting operating levers, substantially as and for the purpose herein set forth.

Second, I claim mounting such capsule in combination with the other parts so that the steam is admitted at the center of one of the said faces or ends, substantially as and for the purpose herein specified.

Third, I claim the employment of the capsule, G, of peculiarly acting having the steam admitted at one side and through the center of that side, and using the flexibility of both sides (such capsule being made of a permanently-elastic metal and not injuriously oxidized by steam or water, preferring for that purpose the metal used in making midgeton rods), in combination with fulcrum block, F, lever, L, spring, R, rod, O, rod, I, spring block, J, radius bar, K, and segment, B, having tail piece, k, motion, N, index pointer, E, dial plate, D, and friction-pressure spring, M, substantially as shown and described.

Fourth, I claim radius bar, L, in combination with rod, I, swivel block, J, segment, K, having tail piece, k, pinion, N, index pointer, E, and dial plate, D, having increasing divisions on its face, substantially as shown and described.

2,314.—CAR SPRING.—T. F. Allyn, Canandaigua, N. Y. Patented June 20, 1865. Antedated March 28, 1865. I claim the construction of a metallic car spring of rectangular, rhombic or other equivalent-shaped plates, which plates are curved diagonally, and have central and end or corner bearings and fastenings, substantially as and for the purpose set forth.

2,315.—HAY PRESS.—Levi Dederick, Albany, N. Y. Patented July 14, 1863. I claim in the above-described press the use of two toggle levers placed at opposite sides of the press box, in combination with links having fixed ends located at or near the bottom of the frame, so the upper ends of the levers will move up on the outside of the press box in pressing a bale.

I claim the use of toggle levers in combination with a suspended follower.

I claim suspending the follower to the upper ends of the levers through the perpendicular slots or openings in the sides of the press box.

I claim the rigid bracket connections or their equivalents, in combination with the ends of the follower timbers projecting through the slots in the sides of the press, in the manner and for the purpose substantially as described.

2,316.—PROCESS FOR DISTILLING ROCK OIL AND OTHER HYDROCARBONS.—E. F. Prentiss and R. A. Robertson, Philadelphia, Pa., by their assignees, W. D. Philbrick and W. J. Parsons, Boston, Mass. Patented March 8, 1864. Antedated July 31, 1862. First, We claim drawing off the residuum during the process of distillation from a steam-heated still, substantially as described.

Second, We claim feeding crude oil into the still through one or more condensers so that the crude oil serves as a surface-condensing agent to the air vapor coming from the still, and at the same time the crude oil itself undergoes a separate, partial distillation before reaching the main still.

Third, We claim simultaneous fractional-surface condensation by means of crude oil on its way to the still.

Fourth, We claim the employment of superheated steam for maintaining a series of baths at graduated temperatures, in carrying on the process of fractional distillation, substantially as described.

2,317.—APPARATUS FOR DISTILLING ROCK OIL AND OTHER HYDROCARBONS.—E. F. Prentiss and R. A. Robertson, Philadelphia, Pa., by their assignees, W. D. Philbrick and W. J. Parsons, Boston, Mass. Patented March 8, 1864. Antedated July 31, 1862. We claim, first, The combination of the still, A, the injecting worm, av, av, av, and the central tube, G, G', G".

Second, Roughening the surface of the injecting worm or tube, av, av, av, to render the ebullition regular and quiet.

Third, The combination of the still, A, with the series of columns, two or more, each column being set and maintained at the temperature necessary to separate the product condensable at such temperature, whereby at one continuous operation the crude oil is separated into the various products due to condensation at the different temperatures fixed upon.

Fourth, The arrangement of the vapor tubes and oil spaces in columns, B B' or C C', whereby the crude oil on its way to supply the still, A, is made to act as a condensing bath to the vapors in these columns, coming from the still, A.

Fifth, The arrangement of the columns, B B', and C C' in combination with the still, A, and the movable exit tube, g", whereby the operation of the still is rendered continuous.

Sixth, The air regulator, or its equivalent, for regulating the temperature of the respective columns, or either of them, in combination with the pipes of supply of the heating and cooling media.

Seventh, The water legs, X, and the floats, Z, for regulating the escape of water from the columns.

Eighth, The auxiliary heads, V V', for enabling the oil bath in each column to act as a still.

Ninth, The warming of the bottoms of the chambers which are the bases of the columns, by means of steam chambers, arranged and operating as shown.

Tenth, The warming of the bottom of the column on which the still, A, is supported, substantially as above described.

Eleventh, The arrangement of the column, B B', so as to act inmediately as a still to C C', and the column, C C', so as to act as a still to D D', and so on if crude oil is fed into the main still through more than two columns.

Twelfth, The arrangement of the oil spaces in B B' and C C', in combination with the still, A, whereby the operation of the still is made continuous, and the fresh oil is introduced at a high temperature into the still, A.

2,318.—REAPING MACHINE.—David Wolf, Lebanon, Pa. Patented January 31, 1865. I claim a platform for reapers, constructed in such a manner that it may either automatically, or at the will of the driver or attendant, be made to tilt on a sliding axis arranged parallel with the finger bar, or nearly so, and by said movement throw or discharge the cut grain from it, substantially as set forth.

I also claim the constructing of the platform of two or more parts connected by a joint or joints and arranged to operate in the manner substantially as described.

I further claim the arrangement of the crank, G, and springs, c, substantially as described, for operating the platform.

DESIGNS.

2,356 and 2,357.—PAPER CUFFS.—B. G. Briggs, (assignor to himself, J. A. Hanley, and T. Hilton) Providence, R. I. Two Cases.

2,358.—PAPER COLLAR.—B. G. Briggs (assignor to himself, J. A. Hanley, and T. Hilton), Providence, R. I.

2,359 and 2,360.—CLOCK CASE.—F. F. Fracker, Boston, Mass. Two Cases.

2,361.—STOVE.—John Martins, Jacob Beesley, and John Currie (assignors to Lake, Beader & Co.), Philadelphia, Pa.

2,362.—DOOR OF A CLOCK CASE.—Noah Pomeroy, Hartford, Ct.

2,363.—BURIAL CASKET.—Wm. W. Roberts, Hartford, Ct.

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MESSEURS LES INVENTEURS—AVIS

Important. Les inventeurs non familiers avec la langue Anglaise, et qui prefereraient nous communiquer leurs inventions en Français peuvent nous adresser dans leur langue natale. Envoyez nous un dessin et une description concise pour notre examen. Toute communication seront regues en confiance. MUNN & CO., Scientific American Office, No. 37 Park Row, New Yo

Improved Oiler for Machinery.

The overflow of oil in the common can, and the difficulty of keeping the outside clean and free from grease, make it a source of much annoyance when used on nice machinery, or about sewing machines, and machinery for weaving such fabrics as silk and other delicate goods. In using the oiler with the greatest care, a minute drop of oil will be left at the top of the tube and will find its way to the outside of the can. The illustration represents an improvement intended to obviate these difficulties.

A represents an oiler, which may be of any convenient form and proper material. A small pipe projects from the delivery tube down into the oil, and is furnished with one or two branches extending upward to a cup, B, surrounding the tube, or to the top of the screw flange, C, which is made concave. The lower end is provided with a globe valve, D, which contains a hollow sphere, through which a pipe runs and debouches at the bottom of the weight, E. When the can is erect these pipes are all in line, admitting the air through the apertures in the tube to the oil, and allowing whatever oil is left, after using the can, to find its way back to the interior. When the oiler is canted for use, the connection between the oil in the interior and the orifices at the side of the tube is broken (see dotted lines), so that no oil can pass out except through the top of the tube. At the bottom is a ring, F, of lead, or some heavy metal, which gives security to the base, and the bars, G, which extend across it from side to side, prevent the spring of the bottom from setting. The valve is put together with a screw thread, and the parts can be readily removed for cleaning. This device can be applied to any ordinary oiler at a small expense.

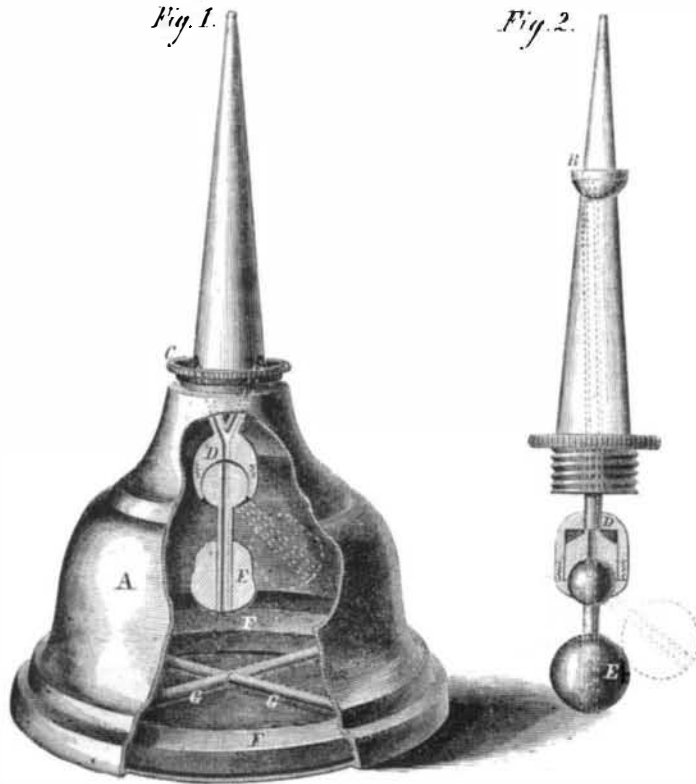
Patented April 24, 1866. For further information address J. M. Thompson, 2d, or G. L. Holt, Box 1,058, Springfield, Mass.

Improved Gas-pipe Tongs.

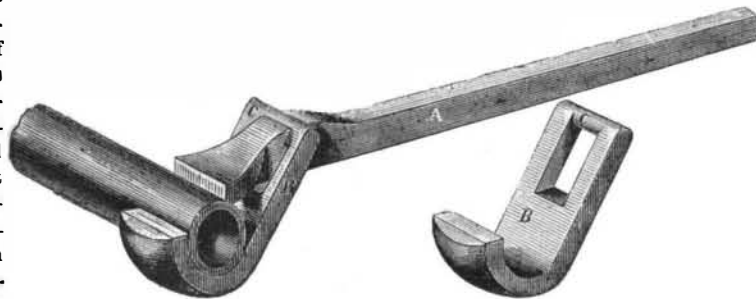
Pipe tongs are now universally used, not only for the work of the gas-fitter, but for many purposes in the shop and the manufactory, and about oil wells. For almost every differing size of pipe, or shaft, another and separate instrument must be provided. Of course, the common tongs are costly. The improvement represented in the engraving is designed to afford a cheaper tool, and one that can be easily adjusted to different sizes of pipe. Its construction and operation can be plainly seen by the illustration.

A is the handle, or lever, with edge to gripe the pipe, and having a jaw, B, entirely disconnected, but resting in a recess in the lever, by the spade-handle joint, C. The location of the notch in the lever and the length of the hook jaw are such that when the pipe is engaged the edge of the lever touches the pipe at a point insuring a hold and preventing slipping. The ease with which the hook, B, may be disengaged from the lever, A, and other sizes substituted, and the facility with which alterations of size and form may be made, show peculiar advantages for this device.

Patented May 1, 1866. Those desirous of purchasing the tongs or right to manufacture, will please address John H. Cooper, People's Works, corner Front street and Girard avenue, Philadelphia, Pa.

**HOLT & THOMPSON'S IMPROVED OILER.**

in a bath prepared in the ordinary way, and containing a full amount of silver (say forty grains to the ounce) and about four drops of nitric acid to each pint of solution. The plate should stay in the bath not less than five minutes. After its removal, wash the plate moderately well, for about half a minute, under a gentle stream of common water, and finally with a little distilled water. The plate may now be placed to dry spontaneously or by gentle heat. No preservative being required, one of the difficulties and uncertainties of dry plate photography is left out. The time of exposure in the camera may be very readily determined by one or two experiments.

**BANNISTER'S GAS-PIPE TONGS.**

It should not exceed double that of wet plates. Before developing, it is advisable to run a little varnish round the edges of the plate with a camel-hair pencil, or the film is apt to get loose. Slightly wash the dry plate, and pour over it the ordinary iron solution, letting it well penetrate the film. Pour off into the measure, and add two or three drops of a 30-grain solution of silver. Proceed again with the development, and the picture will make its appearance almost as rapidly as a wet plate. Viewing it by transmitted light, the details should all be well out ere washing off and proceeding to intensify with pyrogallic acid; or, should it be found that the plate has been rather under-exposed, the first development may be continued by the gelatino-iron solution, after

Resin in Collodion.

BY WM. ENGLAND.

In a few words as possible I will give you the mode of working which, in my hands, has produced the best and most certain results. Prepare the collodion by adding to ordinary bromo-iodized collodion two grains of bromide of cadmium and two grains and a half of common resin to each ounce of collodion. It will readily dissolve by shaking the bottle a few times. Allow this to stand an hour or two, and, when required, coat the plate and sensitize

as much detail as possible has been brought out by the ordinary iron. In fact this mode of development enables one to give very short exposures. Ten seconds I have found quite sufficient for a portrait in a glass room with moderate light. The fixing may be done with either cyanide or hypo, in the usual way.

Now a word or two on the subject of the bath. See that it is in good condition by trying a wet plate before preparing the dry, or failure will be the result. After having passed two or three dozen plates through the bath, it may show signs of fogging; therefore, after each batch of plates is prepared, a few drops of ammonia, or solution of carbonate of soda, and a few drops of a solution of cyanide of potassium, should be added, and the bath placed in the sun till wanted again, when, after filtering and adding a few drops of nitric acid (just sufficient to make it slightly acid), it will again be found to work perfectly. This method may be adopted from time to time as may be found necessary. Where a large number of plates is required, two baths may be used, so as to have one or the other continually exposed to the sun. This "doctoring" of the bath may be thought very troublesome, but in practice I have not found it so. Probably Mr. Cooper, who has already worked with resins, or some other experimentalist, may discover some substance which may give the necessary qualities to the collodion without exercising a baneful effect upon the bath. The whole of the resins I have tried—such as amber in chloroform, mastic, copal, Canada balsam, guaiacum, etc., have all the same effect, both on the bath and the results obtained. No doubt they act mechanically in breaking up the structure of the film and giving it the necessary qualities to receive the developer.—*Photographic News.*

Patents in Canada.

A few days since we wrote to Canada for information in regard to the proposed change in the Provincial patent laws, and have received the following from Mr. Tache, Superintendent of the Bureau of Agriculture, at Ottawa:—

"I am in receipt of your letter, and all I can say in reply is, that the Government have officially intimated their intention, during the debates of the Legislative Assembly, not to alter the existing patent law on account of Confederation being so close, although they have made up their mind that alterations must be made in the said law as soon as possible; the reason for further delay obviously being that the Sister Provinces are to have their voice in such alteration.

**INVENTORS, MANUFACTURERS.**

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