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48,353.—Stop Washer for Nuts.—H. N. Armstrong, Erie, Pa. I claim cutting the edges of the fixed washer and turning up the corners thus formed to hold the nut from being forced back on its thread.

48,354.—Device for Removing Lamp Chimneys.—Geo. Asmus, Houghton, Mich. I claim as an improved article of manufacture, a lamp chimney holder, made substantially as herein described.

This invention relates to a very useful and novel chimney holder, or lamps, with which the chimney can be readily removed from the lamp when in a heated state, without burning the fingers.

48,355.—Furnace for Boiling Iron.—Christopher D. Baker, Wheeling, West Va. I claim, first, placing the iron chamber in the described position relatively to the exit flue for the purpose described.

Second, I claim shelving upwardly the margin of the floor of the chamber in the manner and for the purpose set forth.

Third, I claim shelving outwardly the "chill," or wall of the iron chamber for the purpose described.

Fourth, I claim making the throat or regulating point at the entrance of the neck, so as to limit the reverberation to the chamber itself.

Fifth, I claim making the lower end of the stack flue inclined, and as such leading to a waste flue which connects to the iron chamber, so as to favor the discharge of detritus collecting in the flues, into the said chamber.

[This invention consists in an improved construction of the chill or iron bed, in a peculiar method of locating the chimney aperture relatively to the iron chamber and in an improved structure of exit flue. The improvements insure the more economical working of the iron bed in respect to coal saved and in the actual effective influence on the iron itself.]

48,356.—Clasp for Holding Neckties and Shirt Collars together.—Wm. S. Barnes, Watertown, N. Y. I claim as a new article of manufacture a clasp for holding the necktie in place on the collar, substantially as described.

[This invention consists in the production of a neat little device, made of gold, silver, or other metal or material, intended for holding a gentleman's or lady's necktie or scarf in proper place on the collar, and it serves as a new article of ornament for both ladies and gentlemen.]

48,357.—Hat.—John P. Beatty, Norwalk, Conn. I claim as a new article of manufacture, a hat composed chiefly of straw, and provided with a supplementary brim of enameled paper, made and applied as and for the purposes herein specified.

[This invention consists in the application to the brim of a hat of a supplementary brim of a peculiar character, whereby it is strengthened and made more durable, and also improved in appearance.]

48,358.—Cultivator.—John T. Bever, Bethel, Ill. I claim the lever handles, I, containing uprights, d, with cross bars, X X, made in solid framing to vibrate upon pivot, P, in combination with beam or tongue, A, and clevis, N.

Second, I also claim the arrangement of the elevating levers, S, S, and guides, G, G, and notches, R, R, and corresponding clevis, N, as and for the purposes herein specified.

48,359.—Paper Collar.—G. F. Brigelow, Chicago, Ill. I claim a turn-down paper collar, made from two or more pieces, one or both of which are made of enameled card board or any other material, substantially as described for the purpose, constructed and operating substantially as described.

48,360.—Device for Converting Motion.—F. Brewer, Collinsville, Ill. I claim the employment or use of a toothed segment gearing into a stationary toothed rack, in combination with the piston rod of an engine or other equivalent part, and with the pitman shaft to which a rotary motion is to be imparted, all constructed and operating substantially as and for the purpose set forth.

48,361.—Apparatus for Tanning.—O. H. Brewer, Shannon, Ill., and Wm. Wimer, Freeport, Ill. We claim the herein-described apparatus, consisting of the vat, A, chamber, B, pipes, E, G, H, and valve, P, when these several parts are combined, arranged and operated as and for the purpose herein specified.

48,362.—Rotary Steam Engine.—Harrison T. Briggs, South Bend, Ind. I claim the arrangement of the ingress and egress pipes, L, M, N, O, with reference to the valves, I, K, and the adjustable partition, D, and central wheel, G, substantially as herein set forth.

48,363.—Binding Attachment to Harvesters.—Robert D. Brown, Covington, Ind. First, I claim the binding board, I, operated as described, for cutting up that end of the sheaf.

Second, The cradle, constructed and operated as described, that is to say, consisting of the stationary part, J, and the double jointed movable part, K, which is raised by means of the cam, L, and jointed slide, L, M, S, substantially as described.

Third, The arrangement of the spring or springs, J', on the inside of the cradle, for the purpose of adjusting its capacity to varying sizes of gavels, when said spring is employed for opening the said cradle, substantially as described.

Fourth, The combination of the non-rotating gripping fingers, P, P, and the rotating gripping jaws, O, O, whereby one end of the band is twisted around the other in the manner described.

Fifth, The combination of the sliding mandrel, T, and head, R, with the rotary sleeve, Q, furnished respectively with the toothed gripping fingers, P, P, and gripping jaws, O, O, which, by the protrusion or withdrawal of the mandrel are caused to open and shut in the manner described.

Sixth, The method described of producing the intermittent revolution of the sleeve, T, that is to say, I claim the combination of the wheel, V, with its pin, v, and the wheel, Y, with its teeth, y, and the sleeve pinion, A, which secures one complete revolution of the sleeve, to a revolution of the wheel, V, but periodically and then at a speed commensurate with the delay due to its intermittent functions.

Seventh, I claim the combination of the pivoted post, a, carrying the pins, d, or analogous holding devices with the piston sleeve, b, carrying a tucking hand, c, so that after advancing to the point where the tuck is to be made, the said sleeve shall be rotated by a

rack or other device, which is brought to engage therewith, and the hand caused to push the twist or knot under the band.

Eighth, Pushing the knot under the band by means of a device, which is independent of the sheaf-holding and twisting devices, and which is advanced for that purpose, in connection with a holder, without rotating until it reaches the desired point, when it is caused to rotate to push the knot under the band, while the latter is restrained by the holder from lateral displacement.

48,364.—Attaching Trace to Whiffletree.—Ezra Calderwood, Portland, Maine. I claim the sliding bars, B, B, provided with the pendent lips, e, e', to receive pins or rods, a, a, at the ends of the whiffletree, in connection with the sliding slotted plate, C, operated by a lever, E, all being arranged and applied substantially in the manner as and for the purpose specified.

[The object of this invention is to obtain a means for attaching traces to whiffletrees, whereby the horse, in case of necessity, as for instance in running away, may be instantly disconnected, and many accidents, which now occur from that and similar causes, be avoided.]

48,365.—Method of Treating Tan-bark.—James M. Callier, Salem, Mass. I claim the process hereinbefore described of producing a solid extract from tan-bark, by steam ing, leaching, and subsequent evaporation in vacuo.

[The object of this invention is to assist the tanning of skins of all kinds by facilitating the production of tanning compounds from the various barks commonly employed for tanning purposes. The extract of tannin is first made from the bark, and then evaporated by means of a vacuum apparatus, so as to produce a solid product of tannin. Tanning liquors of any desired strength are made by dissolving the product in water. This process avoids the oxidation of the tannin, and is said to produce a solid extract of much value.]

48,366.—Tremolo Attachment.—R. W. Carpenter, New York City. I claim the application of means to the instrument, by which the air may be agitated to produce a tremulous note, substantially as described.

48,367.—Process for Distilling Petroleum.—Robert A. Chesebrough, New York City. I claim the combination of bone dust, pulverized oyster shells and cotton cloth, or purifying, filtering and deodorizing petroleum, naphtha and heavy oil, as herein described.

48,368.—Boot and Shoe.—Edwin Chesterman, Roxbury, Mass. I claim a boot or shoe made as herein described as a new article of manufacture.

The object of this invention is to produce a boot or shoe which has all the advantages of india-rubber and leather combined without the objections of either. It is strong, firm, durable, impervious to water, and perfectly dry.]

48,369.—Cloth-guide for Sewing Machine.—Geo. F. Clemons, Springfield, Mass. I claim the spring, E, or its equivalent, when applied to a sewing machine, substantially in the manner and for the purpose described.

48,370.—Anchor.—Geo. Coffin, Jamaica Plains, Mass. First, I claim a form of the anchor stock herein described, consisting in making its end of a hook shape, with inclined or rounding sides, and with flanged or inclined side edges, either when combined together in one and the same stock, or when used separately, substantially as and for the purposes specified.

Second, Making the end of the shank to which the stock of the anchor is secured, in a forked shape, fastened to and within the stock by means of pins or their equivalents, substantially as described and for the purpose specified.

Third, Hanging the swackle ring to which the anchor is hung to and within the stock of the anchor, by means of a connecting band, arranged and operated as described and for the purpose set forth.

[This invention relates to a novel formation of the anchor stock, and in the mode of connecting it with the shank, whereby many important advantages are obtained, and the efficiency of the anchor much increased.]

48,371.—Arrow Projectile for Ordnance.—Wm. Cousins, New York City. I claim the combination of the elongated projectile, D, E, F, and guides, B, G, constructed and operating in the manner and for the purpose specified.

[This invention consists in a new projectile, formed of a blade or cutter connected to a ball, whose diameter should be equal to the bore of the ordnance from which it is to be fired, and which is caused to move in a plane level through its whole flight.]

48,372.—Artificial South Coal.—Richard Covert, Brooklyn, N. Y. I claim as a new article of manufacture the artificial lump coal, consisting of coal dust, gas, tar, pitch or artificial asphaltum, and a heavy oil, mixed by heat and stirring, and aggregated by pressure, as hereinbefore described.

48,373.—Carriage Knob.—R. P. Cowles, New Haven, Conn. I claim the herein-described knob as a new article of manufacture.

48,374.—Pen and Pencil Case.—F. W. Cox, Brooklyn, N. Y. First, I claim extending the longitudinally revolving revolving pencil tube, b, throughout the entire length of the case, A, substantially as described, so that long leads can be inserted, and at the same time the tip can be fetched in.

Second, The circular groove, s, in the tube, b, in combination with the pin, j, substantially as herein set forth, so that sufficient hold for the said pin is obtained without the necessity of a cap over the tube, e, and at the same time the pencil tube, b, is prevented from moving in a longitudinal direction.

Third, The collar, o, applied in combination with the tube, f, and shell, h, substantially as and for the purpose specified.

Fourth, The reserve lead chamber, p, extending partially or wholly around the tube, b, and from end to end of the shell, h, as shown and described.

[The object of this invention is to produce a pencil case which is capable of carrying a long lead, and to fetch the point in, and which is provided with a case to carry some reserve lead of the full length. When the pen is applied the reserve lead case is arranged by the same and cannot be used for carrying lead.]

48,375.—Washing Machine.—John Danner, Canton, Ohio. I claim a roll or cylinder for washing machines, the perimeter of which is covered with india-rubber rings, to make a washing or scrubbing surface, substantially as herein described and represented.

48,376.—Saw.—Alfred Dawes, Waltham, Mass. I claim attaching a saw blade to and within its frame by means of the screw shafts, f and g, handles, H, and thumb nuts, n, or their equivalents, arranged and operating together substantially as herein described and for the purposes specified.

[This invention consists in attaching a saw blade to its frame in such a manner that it can be turned in any direction desired, and tightened or loosened at pleasure.]

48,377.—Bung for Barrels and Other Vessels.—Austin G. Day, Seymour, Conn. I claim providing in the bung or stopper or other part of a cask or other vessel for the transportation or storage of petroleum or other liquids in which vapors or gases are naturally generated a valve which operates automatically, substantially as and for the purpose herein described.

48,378.—Deep Well Pump.—Nehemiah Dodge, New York City. I claim the slip joint of the lower part of the barrel, in combina

tion with a hollow piston rod, made in the manner and for the purposes herein described.

Second, I also claim the making of the contact part of the valve and valve seat of the section of a sphere, in combination with the cylinder, concave of the under surface of said valve, substantially in the manner and for the purpose set forth.

Third, I also claim, in combination with said valve, hinge pin, substantially in the manner and for the purpose set forth, so that the bearing of the pin against the cylindrical concave of the pump shall hold it firmly in its place.

48,379.—Hydro-Carbon Burner for Cooking and Heating.—H. W. Dopp, Buffalo, N. Y. I claim needle point, A, in combination with spindle, A2, perforated plate, C, crank pin, sliding block and slot, substantially as shown and described.

Second, I claim the commingling tube, C, in combination with perforated plate, C, arranged and operating substantially in the manner described.

Third, I claim the mode of connecting the retort, B, with reservoir, E, for the purpose described.

Fourth, I claim the application of reservoir, E, for the collection of the residue of hydro-carbon liquids.

Fifth, I claim the use of water or other liquid of suitable specific gravity for the purpose described, but only in connection with hydro-carbon stoves for cooking and heating purposes.

Sixth, I claim the safety valve, i, for the purpose set forth.

Seventh, I claim the draw-off faucet, g2, in combination with reservoir, E, for the purpose herein set forth.

Eighth, I claim supplying vapor to two or more acro-vapor burners, or a generating apparatus.

Ninth, I claim rucks, creels, B, and feed tube, F, when constructed as and for the purpose set forth.

Tenth, I claim the use of a pipe or tube in connection with a chimney or other apertures for the removal of noxious gases obtained from hydro-carbon liquid, the pendent of combustion, as described and set forth.

48,380.—Sad Iron Heater.—H. W. Dopp, Buffalo, N. Y. I claim the acro gas burner, B and W, as constructed and for the purpose described.

I claim the regulating screw, A1, in combination with commingling tube, B, substantially as and for the purpose described.

I claim the screw, or its equivalent, in the upper part of said iron, for the purpose set forth.

48,381.—Wagon.—James Dowd, Boston, Mass. I claim the combination of the oil-holding chamber, f, with the tubular pivot, d, and step, e, applied to the rocker plates, and the transom bolt, as specified.

Also the combination of the slider, L, with the spring and wagon, body or truck, in manner and so as to operate substantially as described.

Also the combination and arrangement of the auxiliary or the bars, c, c, with the truck, F, and the springs, H, H, and their sliders, I, I, applied thereto substantially as specified.

48,382.—Mode of Reclaiming Marsh and Swamp.—Spencer B. Driggs, New York City. I claim the construction of a wall impervious to water for the reclamation of swamp or marsh lands on the shores or banks of the ocean, lakes, rivers, creeks, or other waters, by the insertion into ground, at a suitable distance from the margin of the shore or bank, of a series of iron plates, with water-tight joints, extending to a suitable height above the surface of the ground to shut out the ordinary tidal or other flood, substantially as herein specified.

48,383.—Nut Machine.—George Dunham, Unionville, Conn. I claim the sliding plate, o, operated by the plate, d, with its inclined edges, for gauging the width of the bar just before the blank is cut therefrom, substantially as described.

Second, I claim the combination of the conical shape recess, Q, with the spring or yielding table, P, substantially as and for the purpose described.

Third, I claim the employment of the lifting holders, S, S', substantially in the manner and for the purpose described.

Fourth, I claim the clearer bar, a, for holding, clearing and carrying the nut from one point to another, substantially as described.

I claim forming a screw upon the upper end of the punch, k, in combination with the threaded socket, l, substantially as described.

48,384.—Hat.—Robert Dunlap, New York City. A new article of manufacture, I claim a head covering with its side made of two thicknesses of woven or knitted material, formed upon a block and cemented to ether with gutta percha or india rubber by the aid of wet heat, as herein specified.

[This invention consists in a novel construction of hats and caps wherein the crown of a hat and the body of a cap are severally made of an outer cloth and an inner cloth, united together after they are formed by means of gutta percha or its equivalent.]

48,385.—Manufacture of Printers' Ink.—George Duryee, New York City. First, The improved ink prepared of the materials and in the manner substantially as herein set forth and described.

Second, I claim as a basis for the manufacture of various kinds of printers' ink the material derived from the residuum of petroleum, and herein designated as petroleum wax, the same to be used substantially as set forth.

48,386.—Carriage Top.—Joseph Enders, Louisville, Ky. The pillars, E, and open ribs, F, or their equivalents, formed by the rear of the rail, B, in combination with braces, I, lay back, D, and top, C, constructed and operating substantially as and for the purpose set forth.

Second, The hooks, d, and catches, e, in combination with the rail, B, and straps, J, secured to the seat, A, substantially as and for the purpose specified.

[An engraving and description of this invention has been published on page , Vol. XII. New Series, SCIENTIFIC AMERICAN.]

48,387.—Plow.—Valentine Felker, Cannel Me. I claim elbow, C, upright, D, and lever elbow, B, combined and arranged to operate substantially as and for the purpose set forth.

I further claim rod, G, lever, H, truck, G, and adjustable collar, J, when arranged and combined to operate substantially as described, whereby the depth of the furrow is not only controlled, but the direction of movement of the truck, G, always corresponds to the line of draft.

I further claim the arrangement of the plow holder, as constructed of parts, C, D, B, and b, attached to plow, A, with plow governor, G, H, G, and J, operating as described and for the purposes set forth.

I also claim the combination of two plows in one gang, when combined and arranged to operate substantially as and for the purposes specified.

48,388.—Boring Artesian Wells.—W. A. Fisher, Lower Merion, Pa. I claim, first, The drill, B, composed of two or more detachable sections, each having a cutting edge, and the whole being arranged and secured together by the winch described devices, or their equivalents, substantially as and for the purposes specified.

Second, A drill, with a central straight cutting edge, x, and a curved cutting edge, y, at each side of the same, arranged in respect to each other as described.

Third, The tube, D, combined with the casing, A, drill, B, and its valve, substantially as and for the purpose specified.

Fourth, The case, A, its cross piece, F, and drill, B, in combination with its lifting rod, H, and its plate, h, all being arranged and operating substantially as and for the purpose described.

48,389.—Postage and Revenue Stamp.—Samuel Ward Francis, New York City. I claim incorporating with or applying on to stamps, either before or partially before and partially after being used, ingredients such as chemicals or dyes, to produce a dark color or stain under the action of moisture, substantially as and for the purpose set forth.

48,390.—Puddling Furnaces.—William and John Groves Providence, R. I. We claim the employment or use of fire chambers on opposite sides of the body of the furnace, substantially as specified.

48,391.—Apparatus for Carbureting Air.—Frederick Hainsworth, Chicago, Ill. First, I claim the combination and arrangement of the regulating cock, M, provided with a diagonal series of perforations, c, with the dial and pointer, as and for the purposes herein specified and shown.

Second, I claim the peculiar arrangement of the vertical porous partitions, B, with the tubes, b, leading from the pipe, C, operating as specified and described.

Third, I claim, in combination with the carbureter, A, the employment of the fan, H, and regulating cock, M, with the dial and pointer, arranged and operating as described.

48,392.—Broom Head.—Caleb C. Hand, Cincinnati, Ohio: I claim the parts, A B E F G H J and K, in the described combination, for the purpose set forth.

48,393.—Sleeping Car.—Charles Thompson Harvey, New York City: I claim, first, The adjustable standards, D, whether solid or hollow, either surrounded by, or if hollow, inclosing within, spiral or other form of springs, combined with the berth of a sleeping car, in the manner and for the purpose herein set forth.

Second, The combination of the air tube, G, tube, h, flexible tubes, H, and air valves, I, when used in connection with the berth of a sleeping car, for the purposes of ventilation, in the manner and for the purposes herein described.

Third, I also claim suspending and nesting the berths upon the upper sockets, or upon the parts which constitute the upper portions of the standard of the berths when the berths are out of use, substantially as described.

Fourth, I also claim supporting the berths upon adjustable elastic bearings, when in use as shown at D, in Fig. 2, substantially as described.

Fifth, I also claim preventing and controlling violent oscillations and noise from the movements of the berths on their standards and sockets by means of elastic diaphragms or rings, when combined with the bottom of the berth, substantially as described.

Sixth, I also claim applying elastic curtains to adjacent berths, so that the same will yield and conform to the motion of the supporting springs thereon, so as to isolate the berths from the common passageway and from each other, substantially as described.

48,394.—Gold Beating Machine.—Matthew Hastings, Philadelphia, Pa.: I claim, first, The employment for beating gold of a vertically-guided hammer, which is raised and permitted to fall with uniform force by the mechanism herein described, or the equivalent to the same.

Second, The shaft, K, with its arms, L, the rock frame, H, and cam, F, the whole being arranged for joint action on the rod, F, substantially as and for the purpose herein set forth.

48,395.—Machine for Cutting Paper into Sheets.—Jonathan Hatch, South Windham, Conn.: I claim the crank, L, slotted lever, E, slide, D, band, C, clutch, A, pulley, A4, lever, and cam, F, in combination with each other and with the feed rolls of a paper-cutting machine, substantially as and for the purpose herein specified.

48,396.—Manufacture of Malt Sirup.—Thomas Hawks Rochester, N. Y.: I claim the method and process of producing a sirup of sugar from malt and meal of Indian corn, substantially as herein described.

I also claim as a new product a sirup of sugar produced from malt and the meal of Indian corn without any separation of the fecula thereof, substantially as set forth.

48,397.—Sorghum Evaporator.—Samuel Heaton, Kings-ton, Iowa: I claim, first, The levers, E, E, constructed in the manner and for the purposes specified, substantially as set forth.

Second, The cross bar, D, constructed in the manner and for the purposes specified, substantially as described.

Third, The swinging hooks, G, Z, constructed in the manner and for the purposes specified, substantially as described.

Fourth, In combination with an evaporator the levers, E, E, the cross bars, D, and the hooks, G, Z, constructed and operated substantially as and for the purposes herein specified.

48,398.—Composition for Lining Barrels.—Ludwig Heid, Harlem, N. Y.: I claim, first, The within described composition when the same is applied in combination with carbonate of lime, substantially as and for the purpose set forth.

Second, The within described composition when applied in combination with carbonate of lime and graphite brown spar, copperas or other material containing iron particularly as a lining for barrels or other vessels.

48,399.—Fruit Jar.—Robert Homingray, Cincinnati, Ohio: I claim the peculiar form of the neck of the jar from the spiral shoulders gradually contracting to the top, as herein shown and described.

48,400.—Railroad Frog.—Gibbons G. Hickman, Down-ington, Penn.: I claim the rail, B, applied and secured in such a manner as to be caused to assume its normal position by the influence of gravity after it has been moved by the wheels of a passing train and also adapted to be retained in position by the pressure of the wheels when the latter are running upon it, substantially as herein described and represented.

48,401.—Pump.—Benjamin S. Hill, New York City: I claim, first, The cylinder having openings, F, combined with the piston, P, and arranged in relation to the discharge pipe, H, substantially as and for the purpose herein specified.

Second, The combination of the discharge pipe, H, with the piston by means of the cap, G, of the cylinder, G, and the pipe, F, the latter pipe serving also as a means of securing the cap, G, tightly to the cylinder, C, and of forming an airtight chamber, e, within the said cylinder, all substantially as herein specified.

Third, The combination and arrangement of the piston, P, cylinder, G, chamber, E, and discharge pipe, H, substantially as herein specified.

48,402.—Washing Machine.—W. R. Hill, Detroit, Mich.: I claim the lower disk, fastened and constructed as described, and acting as a washboard and filter.

Second, The combination of the central part, stepped into the stud as described, and having the two shoulders which act reciprocally upon the washboard disk and the rubber disk, to maintain them in their relative positions.

[This invention relates to a washing apparatus of very simple construction, which is adapted to be placed within a common tub of any size, therein to perform its work.]

48,403.—Straw Cutter.—Edward F. Holloway, Kings-town, I. d.: I claim the combination and arrangement of the knife, F, shaft, C, coiled spring, S, collar, I, metal iron, B, box, A, fly wheel, G, and guard, P, substantially as shown and described.

48,404.—Ambulance.—Benjamin Howard, New York City: I claim the combination of transverse seats and sliding litters or beds resting on a frame placed within the body of the vehicle, supported and balanced by counterpoise springs within the body of the vehicle, and this, in combination with the compartment for the beds beneath the main floor of the body of the vehicle, in which the litters or beds may be placed for convenience, when not in use, as in the manner described above.

48,405.—Beverage.—A. C. Howell, Vienna, N. J.: I claim the drink composed of the material and prepared in the manner substantially as herein described.

48,406.—Extracting Turpentine and other Products from Resinous Wood.—Duane Hull, Newburgh, N. Y.: I claim the distillation of pine or other resinous wood for the purpose of obtaining spirits of turpentine or other products, under reduced pressure or pressure less than the atmosphere, substantially as herein set forth and described.

48,407.—Self-closing Cock.—Nathaniel Jenkins, Boston, Mass.: I claim, first, The screw follower, H, in combination with the valve of a self-closing faucet, substantially as set forth and for the purposes described.

Second, The combination of the swivel, P, screw follower, H, valve, K, and spring, O, substantially as and for the purpose described.

48,408.—Electro-phonetic Telegraph.—Royal E. House, Binghamton, N. Y. Patented in England July 21, 1864: First, I claim in combination a magnetized needle or helix, and an adjustable torsion suspension apparatus existing both above and

below the needle the combination being substantially such as is described.

Second, The combination with a magnetized needle suspended by torsion wire or thread, I claim limiters for limiting its motion and which give sounds when struck by the needle, the combination being substantially such as described, and in combination with these a gong or bell, substantially as specified.

Third, I claim in combination with a torsion suspended magnetized needle a knife edge applied to the needle and acting substantially as set forth, and also in combination with a magnetized needle, a knife edge and limiters, arranged with reference to the needle, substantially as described.

Fourth, I claim a suspension torsion apparatus consisting of wires or threads attached to collars or rings as described in combination with a magnetized needle supported in the collars, substantially as described, and also a magnetized needle in combination with a torsion suspension apparatus both ends of which can be adjusted as set forth and also a magnetized needle, in combination with a torsion suspension apparatus both ends of which can be adjusted at once by reason of being geared together, both these combinations being substantially as set forth, and also in combination with a magnetized needle an adjustable torsion suspension apparatus extending both above and below the needle and having one thread or wire attached to a weight, substantially as described so as to compensate for the varying length of the wire.

Fifth, I claim a magnetized needle in combination with limiters, and a gong or bell and concentrating cone and in combination with these an outer cone all these parts being substantially such as set forth; and also a sounding apparatus consisting of a bell and a truncated conical cone arranged with reference to each other as described and in combination with such an apparatus an outer cone arranged with reference to a ball and interior cone, as described.

Sixth, I claim sections of a helix composed of members connected to and insulated from each other substantially as set forth.

Seventh, I claim a helix made up of sections of varying diameter insulated from each other as described.

Eighth, I claim a helix made up of sections connected to and insulated from each other as described.

Ninth, I claim a helix made up of sections composed of members when both the members and the sections are connected to and insulated from each other, substantially as set forth.

Tenth, I claim a helix made of decreasing area to the ends as described, and also a divided helix or helix made in two parts so that one part may be drawn away from the other and also a divided helix in combination with a divided case, all substantially as specified.

Eleventh, I claim apparatus substantially such as is described for registering the power or force of reaction in combination with a telegraph line and a signalizer whereby the locality of excessive leakage may be determined as described.

Twelfth, I claim a helix making part of a signalizer in combination with branch lines, and ends of a main line capable of being advanced toward and drawn away from each other, the combination being as described.

Thirteenth, I claim a helix making part of a signalizer in combination with branch lines and ends of a main line capable of being operated as described and containing liquid as described whereby varying amounts of currents of electricity may be caused to pass through a helix, substantially in the manner and for the purposes specified.

Fourteenth, I claim in combination a helix making part of a signalizer, branch lines or conducting wire, an electric adjuster located between the branch lines and the main wire, both these connected to the main wire, and a key or circuit breaker also located between the points where the branch wires are connected to the main line and operating when open to send the whole current through the helix.

Fifteenth, I claim a helix making part of a signalizer and united to a main line by branch lines or wires, substantially as described in combination with an electric adjuster in connection with or making part of the main line and located between the points where the branch lines are connected with the main line as described whereby the relative proportions of electricity passing through the adjuster and the helix may be governed and regulated as described.

Sixteenth, I claim a helix of a signalizer in combination with a line by means of a tube an adjustable several wires as described whereby the rate is provided with a resistor or index as set forth whereby the condition of a helix or of the batteries that work the line may be tested in the manner specified.

Seventeenth, I claim an apparatus substantially such as is described whereby the apparatus for adjusting torsion, and the apparatus for adjusting the relative position of the ends of a main line may be put in operation at the same time, substantially as set forth.

Eighteenth, I claim in combination with a line a series of helices of different size at each station thereof and proportioned each to the other in proportion to the length of line between each helix and the most distant extremity thereof, the combination being substantially as set forth.

Nineteenth, I claim the new telegraphic signalizer herein described consisting of a helix, a torsion suspension apparatus, all substantially such as herein before specified.

Twentieth, I claim in combination with a helix, making part of a signalizer and connected to a line by branch wires a key or commutator located in the line and capable of breaking the current through both the main line and the branch wires the combination being substantially such as described.

And finally, in combination with an ordinary protector such as is described applied to the ordinary wire of a line, I claim a protector such as is specified applied to a line wire inserted in and making part of the main line for the purposes specified.

48,409.—Lathe for Turning Tool Handles.—H. K. Jones, Kensington, Conn.: I claim, first, The spindle, F, provided with spurs, and arranged in a revolving head, B, and operating in combination with the longitudinally sliding centers, K, in the revolving drum, E, substantially as and for the purpose set forth.

Second, Giving to the spur centers a sun and planet motion by means substantially such as herein described, for the purpose set forth.

Third, Giving to the centers, K, an automatic reciprocating motion by means of a spring and cam or other equivalent means, substantially as and for the purpose specified.

Fourth, The pins, L, and hook, S, applied in combination with the trough, F, and centers, K, substantially in the manner and for the purposes described.

Fifth, The use of stationary cutters, G, I, in combination with the centers, F, K, arranged in revolving heads, substantially as and for the purpose set forth.

48,410.—Carpet Fastener.—J. O. Jones, Boston, Mass.: I claim the application and arrangement of the above-described apparatus, substantially in manner and to operate as before described.

48,411.—Tea Kettle.—Anthony Kipp, Brooklyn, N. Y.: I claim the tea kettle above described, the lower half of the kettle, including the spout, being made of copper, and the upper part above the spout and line, C, being made of tin, as a new article of manufacture.

[This invention has for its object an improvement in tea kettles, meaning thereby those covered vessels used for boiling water which have sunken bottoms that fit in boiler holes of stoves and flanges, and which have spouts for pouring water thereinto.]

48,412.—Hat Frame.—Albert Komp, New York City: I claim a hat frame composed of a series of arched stays, B, radiating from a common center, and fastened to a ring, A, substantially as set forth.

[This invention consists of a hat frame, composed of a series of arched stays rising from a ridge, made of curved metal wire in such a manner that a light, cheap and durable article is produced which, when covered, produces a hat of superior beauty.]

48,413.—Process for Making Beer.—Ernst J. Krause, Lancaster, Pa.: I claim the mode of manipulating or process for making bottom fermenting beer, as herein set forth and distinctly specified.

48,414.—Hoisting and Lowering Apparatus.—Isaac J. Lancaster, Vancouver, W. T.: I claim the employment in connection with a ratchet wheel and windlass of pawls, D, D', springs, G, G', a retainer, H, and lever, E, the whole being arranged and operating substantially in the manner and for the purpose set forth.

48,415.—Breeching Hook.—Joseph H. Littlefield, Cambridge, Mass.: I claim the hook, A, with its swell, D, and slot, I, the standard, B, with its tongue or continuation, C, and the spring, F, all constructed, arranged and combined substantially as described and for the purposes set forth.

48,416.—Whiffletree.—Joseph H. Littlefield, Cambridge, Mass.: I claim the combination of the ferrule, B, having its guard, h, and socket, k, the hook, c, having its lever, l, spindle, i, and pin, p, the spring, D, and the cord and chain, F and E, or their equivalent, all arranged substantially as described and for the purposes set forth.

48,417.—Apparatus for Attaching Mourning Badge to Hat.—Thomas H. Lowerre, New York City: I claim the implement herein described for securing bombazine to hats.

[This invention relates to a novel and useful tool for securing mourning badges to and around hats, by the use of which it is accomplished with great facility and ease, and without injuring the hat in the least degree.]

48,418.—Valve Gear of Steam Engine.—J. W. Maloy, Boston, Mass. Antedated June 9, 1865: I claim actuating the link that forms the communication between the eccentric rod and sliding-valve rod, by means of an auxiliary steam cylinder and piston, when supplied with steam by the movement of the regulator rod, as set forth.

48,419.—Brick Machine.—Henry Martin, Springfield, Mass.: I claim, first, The slotted levers, I, 12, and cogwheel, it, or their equivalents, in combination with the gate, f, plunger, d, mixing box, A, and press box, C, constructing and operating substantially as and for the purpose set forth.

Second, The adjustable tapering slide, i, in combination with the lever, 12, pins, 13, or its equivalent, and plungers, d, constructed and operating substantially as and for the purpose described.

Third, The rising and falling slide or gate, m, in combination with the press box, C, constructed and operating substantially as and for the purpose specified.

Fourth, The plunger, E, arms, f, and rock shaft, e, in combination with the roller platform, D, and with the mechanism constructed and operating substantially as and for the purpose set forth.

48,420.—Bracket.—Maurice H. Matsinger, Philadelphia, Pa.: I claim the plate, A, with its sockets, c and c', the whole being constructed and adapted for the reception of a rod or staff, substantially as described.

48,421.—Faucet.—John Matthews, Jr., New York City: First, In combination with a flexible lining tube, C, applied within the passage of a cock or faucet, I claim a stopper, the operation of which is so controlled by a spring as to compress and close the said tube, C, automatically, substantially as herein specified.

Second, I claim the combination of the flexible lining tube, C, stopper, D, d, e, fixed diaphragm, a, spring, E, and cap, F, the whole applied in relation to each other, and to a cock or faucet, to operate substantially as herein specified.

48,422.—Instrument for Opening Bottles.—John Matthews, Jr., New York City: I claim, first, An instrument for opening and holding open the inwardly closing stopper of a bottle, consisting of an internally operating device for pressing back the stopper from its seat, and an attached externally operating means of holding the said internally operating device in position, to keep the stopper open, substantially as and for the purpose herein specified.

Second, The combination of the collar, A, tube or hollow hub, C, elastic packing ring, D, and spring clasp or clips, B, B, substantially as and for the purpose herein specified.

48,423.—Breech-loading Fire-arm.—Edward Maynard, Washington, D. C.: I claim the combination of the retaining spring, S, with the plunger, B, in the hinged block of a breech-loading musket or other fire-arm, when the said spring is contained in a hole extending from the under side of the breech block to the aperture in which the plungers work, substantially in the manner and for the purpose herein set forth.

48,424.—Molding Machine.—Josiah F. Melcher, Bloomington, Ill.: I claim, first, Forcing a stream of water through or upon the articles to be washed simultaneously with the operation of the plunger, and in a contrary direction to the movement of the plunger, by means substantially as described.

Second, The combination of the plunger, D, in combination with a perforated washboard, C, and a plunger, G, substantially as described.

Third, The combination of a reciprocating plunger, G, a water passage, D, and a perforated washboard, C, substantially as described.

48,425.—Grate.—James Miller, St. Louis, Mo.: I claim the combination and arrangement of the horizontal tubular or hollow grate bars, b, b, with the lateral chambers, A, A, substantially in the manner and for the purpose herein set forth.

48,426.—Automatic Stop Motion for Steam Engines.—Alexander Nadow, Springfield, Mass.: I claim the rod, b, in combination with the fly wheel, A, and suitable mechanism for closing the valve, substantially as described.

48,427.—Bung for Barrels.—C. A. Neuhaus, New York City: I claim a bung provided with a tubular plug, c, spring valve, d, and lever, B, substantially as and for the purpose set forth.

[This invention consists in a bung provided with a cone valve, the seat of which is in a tube screwed in the bung, in combination with a spring, which has a tendency to keep the valve tight in its seat, and with a lever, by means of which the valve can be opened in such a manner that whenever it is desired to draw some of the contents of a barrel the requisite supply of air can be admitted simply by depressing the lever, and as soon as the lever is released the valve closes hermetically, and the gaseous constituents of the contents of the barrel are not allowed to escape.]

48,428.—Wood Turning Lathes.—G. H. Ober, Newburgh, Ohio: I claim, first, The rack, L, stop, r', and shaft, E, in combination with the lever, r, catch, j, screw g', and adjustable carriage, G or H, substantially as and for the purpose set forth.

Second, I claim the special arrangement of the spring, I, clutch, c', and buffer, T, in combination with the shaft, E, and adjustable carriages, G or H, as herein described, for the purposes set forth.

48,429.—Ash Sifter.—John H. O'Neil, Pittsburg, Pa.: I claim as an improved article of manufacture the ash sifter constructed with its entire side and bottom of wire cloth, and provided with feet, b, b, and handles, c, all as herein described and for the purposes set forth.

[This invention relates to a new and improved ash sifter, constructed of wire cloth and in the form of a pan, so that it may be fitted under the grate of a fireplace and receive the ashes and cinders from the former, the ashes being allowed to pass through the sifter, while the cinders are retained within or upon it.]

48,430.—Three Way Cock.—F. S. Pease, Buffalo, N. Y.: I claim the rotary valve, K, with the through port, M, rotating in a casing, provided with parts which connect on one side with the chamber of condensed air, A, with the vacuum chamber, A, and with the exhaust opening, E, and on the other side with corresponding opposite ports, which connect with the well pipe, I, all substantially as and for the purpose described.

48,431.—Gas Fitter's Clamp.—John Peace, Camden, N. J.: I claim as an improved article of manufacture a gas fitter's clamp, made substantially as herein shown and described.

[This invention relates to the construction of gas or steam fitters' pipe clamps in such a manner that the pipe inserted therein can be brought to the most convenient position for operating upon it, while at the same time it is firmly gripped and held.]

48,432.—Grain Drill.—Warden P. Penn, Jacob Geiss and Jacob Brosins, Belleville, Ill.: We claim the arrangement consisting of the slide, C, fixed plates, d, with check pieces, c2, and movable plates, d1, d2, in combination with the hopper, all constructed and arranged in the manner and for the purpose described.



Second, The construction of the agitator slide with double beveled projections, e', e', and clearing pins, e2, in combination with the divisions, a, vibrating hangers, D, and seed distributing devices shown, substantially as and for the purposes set forth.

Third, The long cut-off plate, d2, arranged with the plates, d, d', and slide, C, and connected with the drill teeth by means of the pivoted vibrating bar, E, and claims, g, and operated by a handle, E, all in the manner and for the purpose described.

Fourth, The slotted hinge braces, H, applied to the drill tooth, G, and its bar, H, in the manner and for the purpose described.

Fifth, The penton stand board, J, arranged substantially as described, upon a seed drill, for the purpose set forth.

48,433.—Seed Drill.—W. B. Porter, Farmer City, Mo.: I claim the combination with the furrow openers, G, and wheels, H, provided with beveled edges of the rollers, D, substantially as and for the purposes herein described.

48,434.—Broom Head.—Thomas H. Powers, Milwaukee, Wis.: I claim forming the edge of the conical or other suitable socket plate, in and by which the upper portion of the broom corn is held of a flange shape, substantially as herein described and for the purpose specified.

I also claim the D-shaped nut, having its edges serrated or toothed, and arranged substantially as set forth and for the purpose specified. [This invention relates to the manner of securing broom corn to the handle of the broom, whereby it is held with great tightness and security, the advantages of which are manifest.]

48,435.—Apparatus for Distilling Petroleum.—Elijah Freeman Prentiss and Robert Adam Robertson, Philadelphia, Pa.: We claim, First, The employment of the bent vapor, steam and air pipes, a, b and c, arranged, constructed and operating substantially as shown and described.

Second, Constructing the column, so as to have a space, I, unobstructed with pipes for the free boiling of the oil, substantially as shown and described.

Third, Constructing the column, so that the head, K, shall form a part thereof, the same being arranged, constructed and operating in the manner and for the purpose substantially as shown and described.

Fourth, The slotted pipe or trough, L, in combination with the column, whereby the cooler oil is fed in and distributed equally over the pipes, arranged and constructed substantially as shown and described.

48,436.—Apparatus for Distilling and Rectifying Whisky.—Elijah Freeman Prentiss and Robert Adam Robertson, Philadelphia, Pa.: We claim, First, The employment of chamber, A, constructed substantially as described, and having a separate regulator, so that the said chamber can be maintained at any desired temperature lower than that of chamber 2, for the purpose of more effectually dehydrating the alcohol.

Second, The employment of boxes, R1 R2, etc., attached to the upper shelves in chamber 4, in the manner and for the purposes substantially as described.

Third, The trough, e, in combination with the pipe, e, and chamber, A, arranged, constructed and operating substantially as described.

48,437.—Melodeon.—Peter J. Peretz, Milwaukee, Wis.: First, I claim the arrangement of closing and operating the reeds at F and H by means of snuffers, J and G, and operated by arms, d, and h, fast to a shaft, K, when arranged and operating in the manner substantially as described.

Second, I claim operating the shaft, K, by means of a lever, f, acted upon by the said key of the player in such a manner as to open either one set of reeds or both sets, as may be desired, substantially as set forth.

48,438.—Process for Refining Metal.—John Ramdohr, Virginia City, Nevada: I claim the within described process of refining the amalgam of gold and silver, commonly known as crude bullion, said process consisting of three subsequent manipulations, substantially as set forth.

[Gold and silver amalgam, such as is commonly called crude bullion, contains principally gold, silver, copper, zinc and iron, and the object of this invention is to separate the base metals from the gold and silver.]

48,439.—Artificial Fuel.—Henry Redlich, Chicago, Ill.: I claim the within described combination of the ingredients above specified, and mixed together, substantially in the manner and about in the proportion set forth.

[This invention relates to an improved method of aggregating coal dust, or waste coal, and also sawdust and other similar combustibles, by mixing them with a certain percentage of cow manure, with or without blood, and compressing the mixture so as to drive out all moisture, and to produce cakes of the required form and consistency.]

48,440.—Substitute for Artificial Hands.—John Reichenbach, Pittsburgh, Pa.: I claim the use of a pair of pincers, constructed substantially as described, attached to a case to be worn over the stump of the arm which has lost the natural hand, and operated by means of a cord attached to the arm above the elbow, as a substitute for an artificial hand.

Also, the combination of the pincers and hook, constructed substantially as described for the purposes hereinbefore set forth.

48,441.—Wheat Drill.—William Rice, Concord, Ill.: I claim the combination of the frame, A, pivoted frames, E, E, wheels, B, G, and furrow cutters, H, all constructed and arranged to operate as specified.

48,442.—Washing Machine.—M. A. Richardson, Sherman, N. Y.: I claim, First, The adjustable apron, I, L, in combination with the elastic springs, K, and the water springs, G, constructed and operated in the manner and for the purposes specified, substantially as set forth.

Second, In combination with a washing machine constructed with two adjustable aprons, which are connected by an elastic spring and a series of rollers resting upon wooden springs, as represented, the clothes box, M, constructed and operated in the manner and for the purposes specified, substantially as set forth.

48,443.—Binnacle.—E. S. Ritchie, Brooklyn, N. Y.: I claim the combination of one or two lenticular prisms or the equivalent or equivalents thereof with a binnacle and its lamp, substantially in the manner and for the purpose of illuminating the compass, or part of the same and a part of the compass box, as specified.

I also claim the binnacle lamp as made with a recess in its side to cause it to rest on the bottom of the lamp chamber and fit around the prism case, as specified.

I also claim the combination as well as the arrangement of the prism case, D, and the light-discharging passage or mouth, E, with the binnacle chamber and the lamp chamber, as specified.

I also claim the combination of the movable shutter or screen, O, and its operative mechanism with the lamp, the lenticular prism, and its case, and the lamp and binnacle chambers arranged substantially as described.

48,444.—Carriage Spring.—Andrew J. Ritter, Rahway, N. J.: I claim the double side spars, A a A, or their equivalent, in combination with the thorough braces, K, K, cross bars, I, L, axle, c, and axle bars, F, F, for the purpose herein set forth and specified.

48,445.—Cultivator.—Cyrus Roberts, Three Rivers, Mich.: I claim, First, The combination of the plow beams with the flaps and stay rods, substantially in the manner described for the purpose set forth.

Second, The combination of the frame, the movable driver's seat, and the plows, substantially as and for the purpose described.

Third, The combination of the adjustable driver's seat and hand lever with the adjustable link-rods, s, as and for the purpose described.

Fourth, The combination of the frame, the driver's seat and the plows with the rear flap and stay rods, substantially as described, whereby the device can exert his whole weight in raising the plows, as set forth.

Fifth, The combination of the frame and driver's seat with the shifting plows and elbow-levers when arranged and operating as described.

Sixth, The combination of the plow beam, and stay rod with the hinged socket and wooden pin, when arranged and operating as described, for the purpose set forth.

48,446.—Water Door for Furnaces.—Joseph Rogers, Nashua, N. H.: I claim as an improved article of manufacture a door for furnaces provided with internal tubes to form a water-passage through them, substantially as and for the purpose herein set forth.

48,447.—Jack for Holding Shoes.—John Ross, Philadelphia, Pa.: I claim, First, The combination of the pin rack and pawl and sliding block and pad arranged substantially as set forth and described.

Second, The combination of the swivel, G, plate, M, and base, L, arranged and used substantially as drawn and described.

Third, The combination of the swivel, G, joint, J, and rotating bearing, K, when arranged, substantially as set forth and described.

48,448.—Heel Shave.—John Ross, Philadelphia, Pa.: I claim the adjustable blade combined with the adjustable guard of heel shaving tools when constructed and operating substantially in the manner herein before set forth and specified.

48,449.—Churn.—J. F. Sanborn, Hardwick, Vt.: I claim, First, The arrangement of revolving staves or beaters which are adapted for producing butter from cream, and then working the butter, in conjunction with the obliquely ribbed concave, substantially as described.

Second, The combination of the long and short beaters or staves, d and e, with the grooved and ribbed, with the oblique ribs, b, b, and plain portions of the churn bottom, substantially in the manner and for the purpose described.

Third, The arrangement of the ribs, h, h, upon the surface of the concave bottom of the churn box, so that these ribs all incline toward the center of the bottom of the box and toward one end thereof, substantially as described.

48,450.—Kerosene Oil Burner.—Hugh and James Sangster, Buffalo, N. Y.: I claim, First, Constructing the spring, E, so that it connects the burner to the collar, B, by pressing it down into said collar, and turning it around until it springs over the corner, J, or J', into the notch, K, thus bringing the spring under the lower edge of the collar.

Second, In so constructing the lower part, A, of the collar, B, that when the burner is turned, so that the spring passes the corner, J, it is forced into the case, A, and allows the burner to be drawn out easily.

48,451.—Meat Chopping Machine.—George W. Sargent and Plumer H. Chesley, Chelsea, Mass.: We claim the arrangement of the crank shaft, a, the application of the chambers, n, on the knife rods, b, the diagonal position of the knives, and the operation of the satchel in the manner and for the purpose as described.

48,452.—Steam Cock.—James B. Sargent and Francis W. Towne, Fitchburg, Mass.: We claim as our invention an improved steam cock made as described, viz., not only with the lifting screws, arranged with or applied to the stem of the valve and the cap, B, as set forth but with the valve stem provided with a key socket, k, to receive the key head, i, as specified.

We also claim the combination and arrangement of the wooden nut, r, s, and the flange, g, with the stem, C, the chambered cap, B, and its screw cap nut, E.

We also claim the combination of the auxiliary guide, g, and the socketed projection, h, with the case, A, the valve, f, and its lifting screws and key, C, arranged with respect to it as described.

48,453.—Mode of Renewing the Surface of Printer's Rolls.—Charles Sentell, Waterloo, N. Y.: I claim removing the hardened surface of printer's rolls, and recasting the same, by placing them in the mould, C, and turning the melted material around them substantially as herein set forth.

48,454.—Ruler.—S. L. Simpson, New York, N. Y.: I claim the spring stop, d, applied in combination with a ruler A', substantially as and for the purposes set forth.

48,455.—Grate for Steam Boiler Furnaces.—George L. Smith, Brooklyn, N. Y.: First, I claim a grate surface formed of a series of sections upon which the fuel is placed in combination with a series of disconnected supports or trusses and traverse bearers, substantially in the manner and for the purposes herein set forth.

Second, A grate divided into sections by longitudinal and traverse divisions in combination with a series of disconnected supports or trusses and traverse bearers and a grated surface substantially as and for the purposes described.

Third, The combination of disconnected supports or trusses with taper upper edges, traverse bearers and a grated surface, substantially as and for the purposes set forth.

Fourth, Trusses or supports for a grated surface made free from the grate surface and from the transverse bearers, substantially as and for the purposes set forth.

Fifth, So arranging the sections and the trusses or supports of a sectional grate, that each section will be supported and balanced, substantially in the manner described.

48,456.—Cooling Air in Buildings and Chambers.—Dan. E. Somes, Washington, D. C.: I claim, First, Constructing submarine buildings, tanks or chambers, substantially as described and for the purposes set forth.

Second, Ventilating submarine buildings, tanks or chambers, substantially as described and for the purposes set forth.

Third, Cooling air by means and for the purposes herein set forth.

Fourth, Cooling tanks and their contents in the manner herein specified.

Fifth, Constructing and ventilating buildings, chambers or tanks below the surface of the earth, for the purpose and in the manner herein set forth.

48,457.—Cooling and Ventilating Ships and other Vessels.—Daniel E. Somes, Washington, D. C.: I claim, First, Constructing canal boats and other vessels, with tubes or air ducts extending below the deck, and in a diagonal position with it.

Second, Air ducts made in a funnel form, and used substantially as described.

Third, Using water pipes or channels, substantially as and for the purpose set forth.

Fourth, Using water pipes and air tubes in combination, substantially as set forth and described.

Fifth, Increasing water pipes and conducting off water from condensed air, substantially as set forth.

48,458.—Washing Machine.—Le Roy S. Starrett, Newburyport, Mass.: I claim the washing machine herein described, consisting of the case box, F, false bottom, G, springs, R, plunger, O, adjustable rod, M, walking beam, H, crank, F, pitman, I, tubes, J, K, pawl, N, and ratchet wheel, L, all arranged to operate as specified.

[This invention relates to a new and improved clothes washing machine, of that class in which all up and down alseger is employed, and it consists in a novel means for operating the plunger, whereby an up and down, and also a rotary motion is communicated to the same, and the invention also consists in the employment or use of a yielding perforated partition plate in the suds-box, whereby the cleansing or washing operation is greatly facilitated.]

48,459.—Fulminate Gas Lighter.—Henry B. Stockwell, Brooklyn, N. Y. Antedated June 17, 1865. First, So applying a fulminate and a hammer or its equivalent, in combination with each other and with a gas burner, as to produce the ignition of the gas issuing from the burner by the action of the hammer, or its equivalent on the fulminate, substantially as herein described.

Second, So combining the stop cock which admits the supply of gas to the burner, with the hammer, or its equivalent, as to produce the action of the latter by the act of opening the former to turn on the gas, substantially as herein set forth.

Third, The hollow plunger or hammer, D, rod, q, and ear, t, combined with each other and with the stop cock and burner, and operating substantially as herein specified.

Fourth, The cavities, i, in the plug of the stop cock operating in relation to a passage, l, containing the fulminate, and a

passage, e, containing the plunger or hammer, D, substantially as and for the purpose herein described.

48,460.—Fulminate Compound.—Henry B. Stockwell, Brooklyn, N. Y. Antedated June 17, 1865.

I claim the fulminate compound, composed of materials herein specified, in about the proportions herein set forth.

48,461.—Street Lamp.—James Stratton, Brooklyn, N. Y.: I claim the two reflectors, B, D, with vitreous, corrugated surfaces, in combination with the street lamp, A, C, all constructed, arranged and operating as and for the purposes specified.

48,462.—Carbine Socket.—John S. P. Taylor, Oxford, Ohio: I claim a carbine socket formed of alternate layers of cloth and India rubber, or their equivalents, substantially as described and to the effect set forth, as a new article of manufacture.

48,463.—Spring Catch for Window Sash.—William Tschach, New York, N. Y.: I claim the arrangement in or upon a window sash in combination therewith and with the arms, c and d, of an angular lever, A, of a spring, actuated window catch (B), and a hinged lever, a, with a knob (a), as described, in such a manner that pressure exerted upon the knob to raise the sash will also disengage the fastenings, all substantially in the manner herein set forth.

48,464.—Device for Preventing Snow Drifts on Railroad Tracks.—L. D. Walrad, Sycamore, Ill.: I claim the employment or use of inclined planes, placed at the side of and in a relative position with the track, to operate in the manner substantially as and for the purposes set forth.

Second, I also claim the manner, substantially as shown and described, of constructing the inclined planes so that they may be adjustable, as and for the purposes specified.

[The object of this invention is to obtain a means whereby snow will be prevented from drifting and accumulating on railroads, where the latter are by the side of hills, or have an elevation on one side of them.]

48,465.—Machine for Putting Head Filling on Trunk Nails.—Zachariah Walsh, Newark, N. J.: I claim, First, The employment or use of a rotating wheel, A', provided with recesses to receive a series of dies, j', in which the paste boards, D, and plates, C, are deposited, in connection with a punch, G', and a nail-driving mechanism, for pressing or passing the nails through the pasteboards and plates, substantially as and for the purpose herein set forth.

Second, The rotating notched wheel, L', encompassed partially by the strap, S', in connection with the jaws, y', y', for the purpose of presenting the nails properly to the punch, G', and the pasteboards and plates in the dies, j', substantially as described.

Third, The parallel bars, p', p', in combination with the hopper, H', wheel, L', and spout, J', K', for the purpose of presenting the nails to the wheel, L', substantially as set forth.

Fourth, The perforated tubes, N, N, to receive the sheet-metal plates, C, arranged in the machine substantially as shown, so as to be movable and placed alternately in positions for being filled and discharged, as herein described.

Fifth, The employment or use of an air pump, W, in connection with a lifter, X, arranged as shown, or in any equivalent way, for the purpose of taking the plates, C, from the tube, N, or N', and depositing them in the dies, j', of the wheel, A, as set forth.

Sixth, The spring, n, at the upper end of the tubes, N, N, in connection with the pressure lever, L', and the slide, M', or its equivalent, arranged as shown, for the purpose of liberating the upper plate in said tubes and admitting of the discharge of the same at the proper time, substantially as described.

Seventh, The rod, S, fitted in the tube, N, or N', and operated upon by the weight, V, in combination with the spring, n, pressure lever, L', and the slide, M', or its equivalent, for the purposes specified.

Eighth, The catch, X', arranged with the rod, V, of the lever, U, substantially as shown, in combination with the pivoted plate, e', provided with the arm or bar, g', connected with the catch, X', by the links, h', for the purpose of constituting a means for the several stop mechanisms herein described, to act upon the lever, U, and clutch, I, as set forth.

Ninth, The rods, E, E', passing through the arm, g', and provided with the rollers and springs, as shown, and arranged with the pivoted plate, e', and the arm, g', of slide, Z, to operate or act upon the latter, so as to stop the machine when necessary, as herein described.

Tenth, The rod, E'', passing through the pivoted plate, e'', and provided with the collar, h'', in connection with the lever, D'', and rod, D'', connected with the arm, I'', all arranged substantially as shown, to form a stop mechanism for the nail-discharging device, as set forth.

Eleventh, The lever, R', with pendant-pivoted bar, Q', provided with the shoulders, d', in connection with the projection, e'', on the slide, Z, the lever, R, being placed relatively with the plate, e'', and all arranged as shown, to serve as a stop mechanism for the wheel, L', as set forth.

Twelfth, The lever, X'', connected with the lever or bar, Z', by the link, Y'', in connection with the spring, Q'', and the cam, A'', on the shaft, G, all arranged as shown, for discharging the nails from the wheel, A'.

Thirteenth, The bent or curved bar, Y, spring, e', and the arm, g' of slide, Z, for operating the lever, X, or moving it from over the tube, N, or N' to a proper position over the wheel, A', and back again over the tube, N, or N', for the purposes specified.

Fourteenth, The plunger rod, r, and spring, o, in connection with the lateral projection, p, an arm, g', for ejection the plates, C, from the cylinder, a, for the lifter, as set forth.

Fifteenth, The rod, T, attached to the arm or operate or plate, e, of the rod, S, and provided with an upper beveled end t, in combination with the fixed plate, U, and catch, X', all arranged substantially as shown, to form a stop mechanism in connection with the discharging of the plates, C, from the tube, N, or N', substantially as described.

[This invention relates to a new and useful machine for putting the pieces of pasteboard on trunk and similar nails, and which form the principle portion of the filling for the enlarged heads of said nails.]

48,466.—Girdle for Roller.—Hervey Waters, Northbridge, Mass.: I claim a self-adjusting roller guide, constructed to operate substantially as set forth.

48,467.—Mode of Driving Machinery.—Walter S. Wells, New York City, and S. B. Wells, Middleburgh, N. Y.: We claim the employment, in combination with a motive spring and the system of gearing, a governor and friction-controlling and regulating device, substantially as and for the purposes hereinbefore set forth.

48,468.—Stave Machine.—P. Werum, Berlin, Ohio: I claim the sliding frame, B, the adjustable saw frames, C, C, E, E, the adjustable rest, G, and arch, L, the catch, J, fingers, g, g, and curved lever, n, when these several parts are arranged so as to operate as and for the purpose set forth.

48,469.—Churn.—Isaiah M. West, Wilmington, Ohio: I claim the combination pin, D, in the lever slot, e, and dasher rod, c, with the spring catch, I, for the purposes herein specified.

I also claim the construction of the dasher, C, with the vertical perforated slots, h, h, close rim, g, and close sewing lids, G, G, substantially as and for the purposes herein set forth.

48,470.—Railroad Switch.—Wm. Wharton, Jr., Philadelphia, Pa.: I claim the combination of the permanent rails, A, A', of the main track the permanent rails, B, and B', of the turn out, and the rails, D, and D', comprising the movable switch, and forming continuations of the permanent rails of the said turn out, when the rail, D, is so inclined that it will raise the wheels on one side of a car above the permanent rail, A, of the main track, prior to the wheels being guided laterally by the tapering rail, D', or its equivalent, all substantially as set forth.

48,471.—Printing Fluid.—Edwin Whitefield, Buffalo, N. Y.: I claim a printing fluid composed and manufactured of the ingredients and applied substantially as herein described.

48,472.—Roller Die.—Geo. W. Wicks, Brooklyn, N. Y.: I claim the combination of the rolls with an adjustable worm shaft arranged substantially as specified and for the purposes set forth.

48,473.—Guard Finger for Reaping Machines.—Andrew Winterburn, Albany, N. Y.: I claim constructing the guard finger or knife gear, A, with the

chambers or cavity, B, and casting hard metal in said cavity or chambers, substantially in the manner and for the purpose described.

48,474.—Machine for Punching Leather.—L. H. Wood, Marlboro, Mass.:

I claim, First, Giving a simultaneous lateral motion to the punch carrier, B, and bed, E, substantially as set forth and for the purpose described.

Second, Holding the work by means of the presser, L, during the lateral transitory movement of the punch, substantially as described.

Third, Rendering the punch adjustable so as to punch holes any required distance apart, substantially as described.

48,475.—Locks.—Linus Yale, Jr., Shelburne Falls, Mass.:

I claim, First, The contrivance substantially as described for holding a bolt in place.

Second, The combination of a lock case containing a bolt with a cylindrical chamber containing tumblers, all constructed and arranged with reference to each other, substantially as described, whereby the lock may be made right or left hand or fitted to either thick or thin doors, the combination being substantially as set forth.

Third, I claim the combination of a cylinder containing tumblers and having a screw cut thereon, with a lock case having a nut attached to or making part thereof, and a screw pin or its equivalent arranged as described, whereby the former may be attached to the case so as to fit doors of different thicknesses, and secured in position by a device which is so arranged as to be acted upon through the bolt hole.

Fourth, I claim notched pin tumblers in combination with a key hole slit narrower than the diameter of the pins, and

I also claim notched containing recesses in combination with a key hole slit narrower than their diameter, the combination being substantially as described, and operating substantially as set forth.

Fifth, I claim in combination with a cylinder containing a key hole and pin tumbler, a wing or lazy arm, constructed and operating as specified.

48,476.—Reversing the Motion of Screw Tops.—Linus Yale, Jr., Shelburne Falls, Mass.:

I claim the combination of two recessed pulleys with two corresponding screws to clutch therewith, and a spindle to which the latter are attached, arranged substantially as described, so that the spindle can be clutched to either pulley and made to rotate in accordance with the motion thereof by a force employed to push or to pull said spindle longitudinally in either direction, substantially as described.

48,477.—Vegetable Washer.—F. W. Bacon (assignor to the New York Deseccating Company), New York City:

I claim the hollow perforated shaft, B, receiving water at one end and delivering it in numerous jets or streams from its perforations, in combination with the revolving cylindrical cage and the spiral grate or grates, or their equivalents, arranged between the said shafts and the circumference of the cage, substantially as herein described.

48,478.—Manufacture of Wrought Iron from the Ore.—Horace Boardman (assignor to himself, and Kelby, De Mill & Co.), New York City:

I claim, First, The reducing fire, F, combined with the gas chamber, G, and its tuyers substantially as described, for the purpose set forth.

Second, The combination and arrangement of said reducing fire with a reverberatory furnace and balling hearth, in the manner described, as that the escaped combustible gases from the said furnace or hearth, can be used, when ignited by blasts of atmospheric air or oxidizing, and melting the ore in the said reducing fire, as herein set forth.

Third, Subjecting the ore in a reducing fire while mixed or in contact with carbonaceous fuel, to the action of the escaping gases from the fire on the grate, A, the gases being ignited by the introduction of atmospheric air, substantially as herein described.

48,479.—Machine for Perforating Paper for Telegraphs.—Leverett Bradley, Jersey City, N. J., assignor to Marshall Lefferts, New York City:

I claim, First, The punch, C, actuated by the lever, h, and regulated in its movements by the adjustment of the nuts, Q, Q, and shackle, substantially as specified.

Second, I claim a reciprocating punch, in combination with a pair of rollers for drawing the paper along, and with a ratchet movement actuated by the reciprocation of the punch, substantially as specified.

Third, I claim a spacing lever or levers combined with a pair of rollers for drawing the paper along, and with a device for perforating the paper, substantially as and for the purposes specified.

48,480.—Amalgamating Pan.—Smith W. Bullock, Elizabeth, N. J., assignor to The Bullock Ore-dressing Machine Co.:

First, I claim the arrangement of the shafts of the plate, E, and of the roller, D, in a vertical position, or nearly so, in connection with the pan, B, for the purposes set forth.

Second, I claim the application of the springs, I, I, for the purposes described.

Third, I claim the application of gear or blank wheels or of band pulleys to the shafts, C, F, and G, and to the pan, B, for the purposes herein set forth.

Fourth, I claim the application of an elastic coating or jacket to the roller, D, in combination with an amalgamated plate of copper or other metal, for the purposes herein set forth, each of the several features being arranged substantially and for the purposes described.

48,481.—Water-proof Shoes.—John W. Colburn (assignor to himself and O. F. Case), New Haven, Conn.:

I claim a sole composed of an interior of rubber and a margin of sole leather, cemented together by a vertical butt joint, and of uniform thickness, or nearly so, without an insole, and made substantially as herein described.

48,482.—Snap Hook.—Edward A. Cooper (assignor to himself and J. M. Johnston), Buffalo, N. Y.:

I claim the tapering spring, A, fitting and working in a corresponding groove in the thumb piece, E, and passing through and secured by the mortice, C, and lug, C', substantially as described.

48,483.—Manufacture of Iron.—Alexander H. Everett (assignor to American Car Wheel and Railway Chair Manufacturing Co.), New York City:

I claim, First, The employment of "cryolite" or its component elements, in the melting of cast iron, for the purpose of refining and strengthening the same.

Second, The employment of cryolite or its component elements in the melting of cast iron and wrought iron mixed, thereby producing a metal of great strength and fineness.

Third, The use of cryolite as a purifying agent in the melting of iron.

48,484.—Button Hole.—Henry B. Fairman (assignor to the Metropolitan Collar Company), New York City:

I claim the construction of a button hole with a recess, b', at or near the middle of the length of one side, substantially as and for the purpose herein specified.

48,485.—Apparatus for Puddling Iron.—John Griffiths, Litchurch, England; (assignor to himself and Z. S. Durfee), Pittsburgh, Pa.:

I claim, First, Attaching the jib, q, which carries the hanger, r, through the intervention of which motion is communicated from the crank, x, to the rabble or stirring tool, v, in puddling and other operations to a base or plate, d, which is movable automatically in a horizontal plane substantially as and for the purposes herein described.

Second, Giving a reciprocating lateral motion in an arc of a circle to the jib, q, and consequently to the hanger, r, through the partial rotation of the movable plate, d, produced by means of the curved endless rack, S, and the pointed shaft, s, having on its end a pinion working in said rack, and which carries with it the forked lever, II, substantially as hereinbefore shown.

Third, Controlling the movement of the hanger and rabble by means of a bow, 2, proportioned in shape and dimensions to the character and extent of the furnace bottom in which the rabble is to work.

Fourth, Providing the free end of the hanger, r, to which the rabble is attached, with a double fork, or the rabble with double pins at suitable distance apart to compensate for the irregular enlargement of the furnace bottom.

Fifth, Placing the axis around which all the movements of the apparatus are made so far back of the line of the working hole as to produce a leverage in the action of the rabble at certain stages of the operations in order to clean the ends of the furnace.

Sixth, Also communicating the peculiar stirring motion to a stirring tool or rabble in puddling or other operations by loosely attaching the free end of the tool to a hanging rod, to the point of suspension of which a reciprocating motion is given from side to side, while a simultaneous, but more rapid motion is given to the hanging rod or tool holder to and fro, in the direction of the tool, by means of the combination of devices for that purpose, constructed and arranged substantially as hereinbefore described.

48,486.—Stave Machine.—George R. Hay (assignor to himself, and J. R. & E. Seeley), Edgerton, Ohio:

I claim the arrangement of the adjustable brackets, H, H, with the adjusting screws, rollers, F, F', and saw D, operating as and for the purpose set forth.

I claim the carriage, P, gauge, L, cam lever, p', dogs, r, r', and springs, c', when arranged and operating as and for the purpose described.

48,487.—Baling Press.—Horatio F. Hicks (assignor to Hicks Brothers), Grand View, Ind.:

I claim, First, The revolving cage or cam operating to automatically open and close the feed door, and to elevate and depress the packer by a foot independent of its gravity substantially as set forth.

Second, The arrangement of nut, D, sill, E, transom, G, collars, F, rings, H, H', and rollers, G, for the support and easy operation of the press as set forth.

Third, The provision of the parts II, 22, 33, 44, 55, 66, or their equivalents for the purpose explained.

48,488.—Numbering and Paging Machine.—George J. Hill, Buffalo, N. Y., assignor to himself and H. G. Leisenring, Philadelphia, Pa.:

I claim, First, The reciprocating crosshead, H, and its system of numbering wheels in combination with the endless apron, J, the whole being arranged for joint action, as set forth for the purpose specified.

Second, The bars, V, and V', adapted to inclined openings in the standards or guide pieces, T, and T', and supported by a spring or springs all substantially set forth as and for the purposes specified.

Third, The hanger 8, with its numbering wheels, and the spring 10, or their equivalents for rendering the said numbering wheels self-accommodating to the thickness of the book, the pages of which have to be numbered.

48,489.—L. D. Hoyt, Medford, Mass., and Robert Murry, Boston, Mass., assignors to James W. Tufts, Medford, Mass.:

First, The detector, G, constructed and arranged substantially as set forth, in combination with the chamber, E, or its equivalent, for the purposes described.

Second, The combination of the cone, F, with the cone, G, and nozzle, E, substantially as and for the purpose described.

Third, Providing the cock, C, with two channels, a and b, and so arranging the same that the steam is opened and shut by means of the valve, L, and the other by giving a partial rotation to the cock itself, substantially as and for the purpose described.

48,490.—Machine for Making Paper Boxes.—T. C. Luther (assignor to himself and American Flask and Cap Company), Waterbury, Conn.:

I claim the cutters, H, in combination with the rollers, B, C, arranged to operate in the manner substantially as and for the purpose specified.

48,491.—Dampener.—Nathan R. Ramsey (assignor to Daniel Pomroy), Orange, Mass.:

I claim the above described improved heat regulator or dampener, or combination and arrangement of the ring, a, and the two series of concave convex bars, b b' d d', with openings between them, as set forth.

48,492.—Deseccating Kiln.—W. J. Rand, Brooklyn, N. Y., assignor to the New York Deseccating Company, New York:

First, I claim a kiln for deseccating purposes, constructed with two or more deseccating chambers, C, C', one above another, having double or triple floors, and heated by steam pipes, d, with an air heating or distributing chamber below, from which heated air enters the deseccating chambers by flues, h, h, at the sides or corners thereof, and with a central ventilating shaft communicating with the several chambers, for the escape of the moisture, the whole combined or arranged, and operating substantially as herein specified.

Second, I claim in combination with a kiln having several deseccating floors or chambers arranged one above another, I claim one feeding trunk, F, common to all the chambers, communicating with them by apertures fitted with doors, m, m, hinged at the bottom, and so constructed that when thrown back from the said apertures, they close the feeding trunk below, and from inclined planes down which the substances slide into the deseccating chambers, substantially as herein specified.

48,493.—Printing Press.—James Sangster (assignor to himself, Hockwell, Baker & Hill, and E. B. Sangster), Buffalo, N. Y.:

First, I claim a revolving cylinder having a number of plain surfaces upon its periphery or circumference, for the purpose of recessing the paper or card board to be printed, and resisting the pressure of the type when brought down against it, said cylinder is so constructed as to move and present its plain surfaces one at a time at the proper angle to receive an impression.

Second, I claim the springs, U' and U2, between which the inking roller, S, is suspended for the purposes specified.

Third, I claim, in combination with the revolving cylinder or roller, B, three or more slats such as are shown at F, F, F, for the purpose of holding the card board or paper in place while being carried on the belts, E, E, and in its position to be printed when formed necessary to feed or lay the cards or tickets in by hand.

Fourth, I also claim, in combination with numbering wheels, a revolving roller in cylinder, upon the periphery or circumference of which the tickets or cards are numbered.

48,494.—Railroad Spike.—William Mount Storm, Harlem, N. Y., assignor to himself and Chas. J. Ferguson, New York City:

As an improved article of manufacture, I claim a railroad spike made substantially as herein described.

[This invention relates to improvements in railroad spikes, the object of which is to produce a spike that, when driven into the sleeper and brought to its "seat," it shall be so fastened therein that the movement of the cars over the rails will not in the least degree loosen it, the advantages of which are manifest to all.]

48,495.—Grain Elevator.—Francis Taggart, Lewis S. Chichester, and Clark W. Mills (assignors to George H. Nichols), Brooklyn, N. Y., Antedated June 12, 1865.

First, We claim a floating elevator for grain, formed with a deck extending across a space left for the reception of a canal boat or large between two floats, and provided with an elevator or elevators working through such deck for the removal of grain from the said canal boat or large, substantially as specified.

Second, We claim the spout, k, sliding in the trunk, l, in combination with the elevator, d, fitted to be raised or lowered, as and for the purposes specified.

48,496.—Rolling Apparatus.—Edward Wassell (assignor to himself and Archibald McFarland), Pittsburgh Pa.:

I claim, First, The use, in a series of three high rolls, of one grooved roll and two flanged or tongued rolls, the grooved roll being placed between the other two rolls, substantially as and for the purpose hereinbefore described.

Second, The use of L shaped guides in combination with the grooved roll, in the drive of a series of high rolls, for the purpose of giving the iron a bearing from the points to the heel of the guide as it passes from between the rolls as well as clearing it from the groove, substantially as hereinbefore described.

48,497.—Metallic Hoop for Barrels, Casks, &c.—Wm. Wilson, Jr. (assignor to himself and Charles Green), Wilmington, Del.:

I claim a corrugated or crimped metallic hoop for casks, barrels, kegs, &c., substantially as herein shown and described.

48,498.—Bench Hooks and Clamps.—E. P. Wood, Lowell, Mass., and A. E. Blood, Lynn, Mass., assignors to Wood, Sherwood & Co., Lowell, Mass.:

We claim the jaws A, B, in combination with the hook, E, and connecting bar, C, substantially as and for the purposes set forth and described. We claim in combination with the jaws, A, B, and hook, E, making the apparatus adjustable for thick or thin material by means of the track, D,

and pin, C, or equivalents therefor, substantially as and for the purposes set forth and described.

48,499.—Extracting Gold and other Precious Metals from their Ores, etc.—Henry Wurtz (assignor to Wurtz Amalgamating Company), New York City:

I claim, First, The combination with quicksilver, when used for the extraction by amalgamation of metals from their ores or their mixtures with other materials of metallic sodium or metallic potassium or any other highly electro-positive metal equivalent in its action thereto, as above set forth.

Second, In those amalgamations in which amalgamated plates of copper or other metal ore used, the substitutions for the plates of copper or other metal, of coated with quicksilver combined with sodium or other highly electro-positive metal, as above set forth.

Third, The coating of iron, steel, or other metallic surfaces between or under which ores or other materials are crushed, with quicksilver combined with sodium or other highly electro-positive metal, as above set forth.

Fourth, The prevention of the granulation or flowing of quicksilver when used in any method of amalgamating ores or other materials by a solution thereto of sodium or other highly electro-positive metal, as above set forth.

48,500.—Enamel.—Theodore L. Oest, Berlin, Prussia (assignor to Henry Maurer and Adam Weber, New York City.):

I claim an enamel powder composed of the different parts mentioned and in proportions substantially as specified and set forth.

48,501.—Heating Stoves.—John Crea, Allegheny City, Pa.:

I claim, First, The use of an air-chamber placed at the top of a stove and having an imperforate top or cover and a perforated bottom when such bottom is so curved substantially as hereinbefore described, so as to form a circular recess for the detention of the gas and smoke.

Second, Also so arranging the perforated air-chamber constructed substantially as hereinbefore described, that its top and sides, or the top alone, shall be parallel, or nearly so, with the top or cover of the stove, and at such a distance therefrom as to leave a narrow passage for the flame.

REISSUES.

2,010.—Step Ladder.—John H. Baisley, Dayton, Ohio Patented Jan. 7, 1862:

I claim, First, The supports, A, A, made of strips, whose ends are connected together, forming between them are elongated ellipsis, as and for the purpose specified.

Second, The braces, D, D, in connection with the supports, A, A, and steps, b, b, to give strength laterally, as is specified.

Third, The jointed cross piece, G, and slotted rods, g, g, for adjusting the supports, F, F, laterally, as herein specified.

2,011.—Wheat Drill.—Jacob B. Crowell, Greencastle, Pa. Patented June 23, 1863:

I claim, First, A horizontal rock shaft, provided with stirrers, G, and wipers, D, substantially as set forth.

Second, I claim a horizontal rock shaft, when armed with spikes or stirrers, G', on the upper side of the shaft, substantially as specified.

Third, I claim the horizontal rock shaft, in combination with the curved metallic bottom of the hopper, substantially as described.

Fourth, I claim so arranging and operating a rock shaft that the spikes or stirrers on the upper side of the shaft will prevent the arching of the guano and bring the same down to a point reached by the stirrers on the under side of the rock shaft, and thus agitate and feed down the entire mass of the guano in the hopper, substantially as specified.

2,012.—Combined Measure and Funnel.—Samuel R. Dummer, New York City. Patented April 5, 1864:

I claim as a new article of manufacture a combined vessel and funnel, substantially as and for the purposes specified.

2,013.—Tea and Coffee Pot.—E. B. Manning, Cromwell, Conn.—Patented June 3, 1862:

I claim the herein described tea and coffee pot, in which the bottom and lower portion of the body is constructed of hard metal, as iron, united to a Britannia body in the manner described, when the said hard metal body and bottom are formed in the manner described, and united to the Britannia bottom a sufficient distance from the bottom to protect the Britannia from the effects of heat or other injury, as and for the purpose specified.

2,014.—Reaping Machine.—C. W. and W. W. Marsh, Clinton, Ill. Patented Aug. 17, 1858. Reissued July 5, 1864:

First, We claim the secondary, elevating band of rakes, F, consisting of toothed slats extending across on the under side of a slotted platform, the teeth protruding through the slots, in the manner described, and used in connection with the binder's grain receptacle, I, substantially as and for the purpose set forth.

Second, We claim the loose cover, H, whose upper and lower edges are curved, as described, when used in connection with the steady pins, h, h, h, and the secondary band of rakes, as described.

2,015.—Reaping Machine.—C. W. and W. W. Marsh, Clinton, Ill. Patented August 17, 1858. Reissued July 5, 1864:

First, We claim the binder's tables, M, M, when used in connection with the cones, I, or other equivalent grain receptacle, substantially as and for the purpose set forth.

Second, We claim binder's platform, J, when used in connection with tables, M, M, substantially as and for the purpose specified.

Third, We claim the relative arrangement of the several parts of the binding attachment, as shown in figures 2 and 3; a table, M, at one end of the receptacle, I, and platform, J, the binder's stand and between said tables, substantially as and for the purpose set forth.

2,016.—Chair Bottom or Back.—Isaac P. Tice, New York City, assignee by mesne assignment of Austin T. Smith. Patented May 25, 1858:

I claim the employment of perforated sheet metal in the bottoms or seats and backs of chairs, and other articles of furniture for sitting and recumbent purposes, substantially as herein described.

2,017.—Harvester of Grain and Grass.—Andrew Whitley, Springfield, Ohio, assignee by mesne assignment of John J. Weeks. Patented September 26, 1854.

I claim, First, Making that portion of the upper part of the guard fingers of a harvester or other rests on the finger bar in two parts, one on either side of the lower part, but neither of them over it, or any screw or bolt passing through it and the finger bar, through which it is passed.

Second, The combination of the herein described short cutter and narrow divider and a track clearer with a harvester finger bar, which is connected to the axle of the cutter's driving wheel in such a manner as to rise and fall with the undulations of the ground over which it is drawn, irrespective of the risings and fallings of said axle.

Third, The combination of a revolving track clearer with the outer end of a harvester's finger bar in such a manner as to have no part of the machine between the ground and that part of this track clearer which separates the cut from the uncut grass, neither a part of it between the finger bar, the revolving track clearer, and that part by which it is connected to the finger bar.

Fourth, The combination of a revolving track clearer with the outer end of a harvester's finger bar and a wheel connected therewith in such a manner that the attendant of the machine can, while the machine is in operation, make this wheel carry said end or not as he desires, substantially as shown and desired.

DESIGNS.

2,103.—Coffin Stud.—Daniel A. Clark, Pawtucket, R. I.

2,104.—Coffin Handle.—James S. Ray, East Haddam Conn.

2,105.—Plates of a Stove.—Garrettson Smith and Henry Brown, Philadelphia, Pa., assignors to Raymond Campbell & Co., Middletown, Pa.

2,106.—Panel of a Stove.—Garrettson Smith and Henry Brown, Philadelphia, Pa., assignors to Smith, Wells & Co., Roger's Ford, Pa.