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52,948.—Plow.—Richard L. Allen, New York City: First, I claim attaching and securing the coulter to the plowshare or land side, by a dovetail joint or connection, substantially as described.

Second, so arranging or placing the coulter, A, and brace, E, with respect to each other, as described, that they give increased stability and strength to the several parts of the plow.

52,949.—Wheel and Axle of Railway Cars.—David Babson, 2d, Rockport, Mass.:

I claim hanging the wheels of a railway car upon their axles so that they can turn independent of each other but with no lateral play, in combination with the use of a series of friction rollers within said wheels and their axle boxes bearing upon the axles, substantially as herein described, and for the purpose specified.

[This invention consists in so hanging the wheels of a railway car upon their axles that they can revolve independently of each other without playing laterally upon their axles, the bearing of each wheel upon its axle being formed of a series of friction rollers, and their axle boxes hung in axle boxes of the car, also provided with friction rollers properly arranged to bear upon the said axles.]

52,950.—Tailors' Measures.—George Beard, Salineville, Ohio:

I claim patterns for laying out measurements on cloth and other materials, constructed and operated substantially as above shown.

52,951.—Tailors' Measure.—George Beard, Philadelphia, Pa.:

I claim a device for marking or cutting out pantaloons and similar garments, comprising one or more adjustable slides in combination with a fixed or main portion, A, all being provided with graduated cross strips and arranged substantially as described.

52,952.—Evaporator.—John Beechley, Dayton, Ohio:

I claim providing an evaporating pan with a cold-water chamber, C, arranged in such close proximity to the finishing or drawing off part of the pan, that the steam may be evaporated to the proper consistency without liability of scorching it, substantially as described.

52,953.—Paint and Drug Mill.—Martin Bishop, Lafayette, Ind.:

I claim the arrangement on the spindle, F, of the removable and adjustable frustrum, C, attached below the grinding cone, e, and adapted to be replaced or to close the aperture when required, as herein described.

52,954.—Mode of Lacing Boots.—Frederick Borchardt, Washington, D. C.:

I claim the combination of the tongue clasp, E, figure 5, with the shoe tongue, and shoe laces, as herein described and for the purposes set forth.

Second, A, in combination therewith, the fastener, D, figure 3, as herein described and for the purpose set forth.

52,955.—Window.—Samuel Boyer, Charlestown, Mass.:

I claim the balancing of one sash by the other by means substantially as described, viz., the cords, pulleys and springs arranged and applied to the sashes and window frame, as explained.

52,956.—Machine for Making Cube Sugar.—Leander W. Boynton, Hartford, Conn.:

I claim the employment of a blast or current of air applied and directed to the molds of a machine for molding sugar, substantially as herein set forth, for the purpose specified.

52,957.—Safety Plug to Prevent Barrels from Bursting.—Robert Bridge, Paterson, N. J.:

I claim the safety plug, constructed with the valve, spring and regulating screw, together with the passages, b and c, when combined together and used in the manner and for the purposes specified.

52,958.—Clamp for Pharmacians Use.—A. P. Briggs, Taunton, Mass.:

I claim an adjustable clamp made in two parts, regulated by a ratchet and spur made and operating substantially as herein set forth, and an adjustable clamp, as above described.

52,959.—Oiler.—John Broughton, New York City:

First, I claim in others provided with an elastic or spring bottom, forming the sides of a reservoir and said spring bottom in one piece, substantially as set forth.

Second, combining with the tube and cover of an oiler, a reservoir, the sides and elastic or yielding bottom of which are formed of one piece without joint or seam, substantially as set forth.

Third, combining with the reservoir of an oiler having an elastic or yielding bottom, an outside protecting shell or case provided with a suitable opening in the bottom through which the elastic or yielding bottom of the reservoir can be compressed or operated substantially as set forth.

Fourth, the combination of the reservoir provided with an elastic or yielding bottom, the outside protecting shell and the centrally compressing flange piece, substantially as set forth.

Fifth, combining with the elastic or yielding bottom of an oiler a stop applied in such manner that such bottom cannot be compressed or moved beyond the limit of its elasticity when said stop operates externally in relation to such bottom, substantially as set forth.

52,960.—Rock Drill.—John W. Brooks, Milton, Mass., Stephen F. Gates, Boston, Mass., and Charles Burleigh, Fitchburg, Mass.:

We claim the drill spindle, H, with its central feed screw, IS, in combination with a hollow piston, D, and piston rod, G, operating substantially as set forth.

We also claim the cutters, g and q, operated by suitable mechanism in the same or opposite directions, in combination with the drill spindle, H, for the purpose of rotating the drill and feeding it forward, substantially as described.

We also claim the nut, L, with its ratchet, q, operated by suitable mechanism in combination with the drill spindle, H, for the purpose of feeding it forward, substantially as set forth.

We also claim increasing the amount of rotation of the ratchet, q, as the piston advances by means of the slot, 24, and pin, s, on the ratchet band, r, or equivalent device so as to produce the variable feed of the drill required by rocks of different consistency, substantially as set forth.

We also claim introducing an elastic material, a2, between the nut, L, or part attached to the drill spindle, H, and the hub, J, or part connected with the hollow piston rod, G, substantially as and for the purpose set forth.

We also claim the union coupling, o, for the purpose of connect-

ing the feed nut, L, with the hub, J, of the hollow piston rod, substantially as described.

We also claim the rock shaft, M, with its adjustable tappet arms, w and x, moved by the dogs, b1, b2, or equivalent device, for the purpose of operating the valve, g, and regulating the movements of the piston and drill, substantially as set forth.

We also claim the application to machinery, for drilling rocks of an automatic stop so arranged that when the piston is driven beyond the desired point, in the cylinder, the compressed air or other motive power, will be shut off and the blow checked.

We also claim the clamp, B, having one or more latches, g', in combination with the beveled disk, O, operating substantially as described.

We also claim the drill spindle, H, with its feed screw cut thereon, substantially as described.

52,961.—Machine for Drilling Rock.—Charles Burleigh, Fitchburg, Mass.:

I claim the combination of two or more cylinders with the drill holder, operating substantially as described for the purpose set forth.

52,962.—Car Coupling.—C. C. Burns, Greensburg, Ind.:

First, I claim the combination of the gravitating pin, L, and projection, N, with its accessories, for the purpose of dividing the strain which is brought to bear on the draw head, A, by the link, J, all arranged and operating substantially as set forth.

Second, The stops, U and V, or their equivalents, for the purpose explained.

Third, The provision in a draw head of the vertical slots, e, f and g, h, for the transposition of the link, J, and gravitating pin, L, in the manner described.

Fourth, The vertical abutments, S and T, for the purpose of preventing the link, J, or the link, J, from being sprung out of line, also serving as a bearing for the same, in the manner described and set forth.

52,963.—Cart.—Ze Butt, Ocala, Florida:

I claim the manner of constructing, as herein described, and of attaching the tail board or apron to carts so as to be self acting and adjustable.

I also claim the form or configuration of the cart body as described with the extension, B, in front and apron behind, for the convenience of loading.

In connection with the cart body, as described, I claim the adjustable brace or braces, E, E', when used for the purposes herein set forth.

I also claim the apparatus herein described and shown for sustaining the cart tongue.

52,964.—Artificial Leg.—Harvey L. Bird.—Angusta, Ga.:

I claim the application to artificial limbs, of sockets and cylinders made of wire cloth of iron, steel, copper, zinc or other metal, alloy or other material or composition.

52,965.—Steam Engine.—F. A. Calvert, Lowell, Mass.:

I claim, in the said engine the application of water or other non-elastic fluid to act as an abutment to the steam or motive agent of the engine, in manner and under circumstances substantially as described.

I also claim the improved engine constructed substantially as described, viz., with the foot valve, and its operative mechanism, and the float and piston combined and arranged with the cylinder, the main piston and the steam induction and ejection ports and their valves, and the operating mechanism thereon in water, and so as to operate substantially as hereinbefore described.

52,966.—Stovepipe Drum.—John P. Chaplin, Valparaiso, Ind.:

I claim a heat radiator containing the spring, I, and deflector, M, when operated by means of the rod, H, as set forth.

52,967.—Grubbing Machine.—Orson A. Cheney, Orleans Township, Mich.:

First, I claim the lever, B, provided with the hook, E, in combination with the hook, D, and lever, a, all arranged and operating as and for the purpose set forth.

Second, I claim making the lever, B, hook, D, cross and bar, m, removable, for the purpose of changing the implement from a stump puller to a grubber, and vice versa, as set forth.

52,968.—Wrench.—A. G. Coes, Worcester, Mass.:

I claim making the ferrule in two parts, as shown, at G and H, in combination with the handle, I, and screw, E, by means of the projection, b, and notch, a, substantially as set forth.

52,969.—Knuckle Joint.—I. K. Collins, Huntsville, Ala.:

I claim connecting the two parts of a knuckle joint together by means of one or more rings, k, h, applied thereto, substantially in the manner and for the purpose specified.

[This invention consists in a novel construction of the joint whereby its center pin is entirely relieved from strain and the joint rendered firm and strong.]

52,970.—Hydraulic Steering Apparatus.—Henry O. Cook, Portland, Me.:

First, I claim the use in the above described apparatus of hydraulic power for the purpose of turning a ship's rudder and holding it in any desired position.

Second, the combination of the extension teller, g, the joint, h, and the rod, f, for the purpose of enabling the rudder to vibrate to the waves, as described.

Third, the combination of the cylinder, A, piston, C, tubes, e and m, rod, f, and teller, g, all as and for the purpose specified.

52,971.—Pipe Mold.—George W. Cornell and Bernard B. Quinn, New York City:

First, I claim the dry sand ring, K, inserted into an iron or other metal mold, intended for casting articles of iron or other metal, substantially as and for the purpose described.

Second, The water jacket, E, in combination with the metal mold, constructed and operating substantially as and for the purpose set forth.

Third, The hinged hooks, i, in combination with the flask, B, and core, D, constructed and operating substantially as and for the purpose described.

Fourth, The toothed racks, f, and pinions, d, in combination with the flask, C, and guideways, c, constructed and operating substantially as and for the purpose set forth.

Fifth, The knuckle levers, m, yokes, n, and clamping bars, o, in combination with the mose, s, P, and disks, B, C, constructed and operating substantially as and for the purpose described.

52,972.—Sheet Metal Can.—Edward T. Covell, Brooklyn, N. Y.:

I claim uniting the top, bottom and sides of a metallic can box, case, or can, with or without solder, and by means of folded joints or seams, herein described retaining and securing the adjacent edges of the several plates or pieces forming the can, substantially in the manner herein set forth.

52,973.—Roofing Cement.—Edward Curtis and Andrew Crozier, Phœnix, N. Y.:

First, We claim, as a special article of manufacture, the ground rock of the commonly known Portage and Chemung groups, for the purpose of making a roofing material, as described.

Second, We claim the same when mixed with coal tar and applied directly to the roof boards, with no intervening substances, as a special design, as described.

Third, We claim the said special mixture of the said ground rock and coal tar when applied over cloth, felt, tin, or other intervening substances, as described.

52,974.—Coat or Hat Hook.—John Danner, Canton, Ohio:

I claim, in combination with the cut-away stick or rod and its shoulder, e, the circular openings in the brackets with their projections, i, so that said brackets or hooks may be slid along said rod, and turned up out of the way when not required for use, substantially as described.

52,975.—Horse-Power.—S. W. Davis, Plattsburgh, N. Y.:

I claim the combination of the wrists, c, boxes, d, and the guard frame, e, by which the decks, G, are rendered self-adjustable and secured against displacement.

52,977.—Boot Blacking Apparatus.—H. H. Dodge, Georgetown, D. C.:

I claim the box, A, provided with the door, F and G, hinged as shown, the cover, C, attached to the hinged section, D, and shelf, E, the whole being constructed and arranged substantially as shown and described.

52,978.—Elastic Cement for Roofing.—Andrew Dondes, Canton, Ohio.

I claim employment of the within described ingredients for making an elastic cement, used together substantially in the manner herein specified.

52,979.—Traveling Trunk.—Samuel Easter, Charlestown, Mass., assignor to himself and W. W. Winship, Malden, Mass.:

I claim combining with the compartment, d, or the drawer, e, sliding within the same the stand, f, which said stand is so applied as to be brought into upright position by opening the trunk, substantially as and for the purpose set forth.

52,980.—Preparing Fruit and Vegetables for Preserving.—Augustus Eckert, Trenton, Ohio:

I claim subjecting fruit, vegetables, and other similar substances to the action of steam in a closed vessel by suspending the fruit, &c., in such vessels in a vessel made of wire gauze or other suitable perforated or porous material, substantially as herein described and for the purpose specified.

I also claim the combination of the two vessels, A and B, arranged with regard to each other, substantially as and for the purpose specified.

[This invention consists in placing the fruit to be prepared in a vessel made of wire gauze, or any other suitable material, having openings or meshes, which vessels is then suspended within a vessel containing water, above the surface of the water, so that by closing the said water vessel and subjecting the water to the action of heat, the fruit so suspended therein will be acted upon by the steam thus generated within the said boiler; and, consequently, thoroughly heated thereby, when removing the cover from the boiler the fruit can be then placed in the jars or cans previously suitably prepared for its reception.]

52,981.—Fence.—Joseph Edmunds, South Adams, Mass.:

I claim an improved fence formed by attaching the boards to the fence by means of staples and wedges, substantially as described and for the purpose set forth.

[This invention consists in attaching the boards of a fence to the posts by passing the ends of the boards through staples driven into said posts, the boards being secured in place by wedges driven between the edges of the boards and the staples, so that any board or any portion of the fence may be removed and replaced without any injury to the boards or to the fence.]

52,982.—Steam Superheater.—Leopold V. Fichet, New York City:

First, I claim an apparatus for superheating steam, composed of an annular chamber, B, provided with a series of steam passages, d, and a series of heating passages, c, substantially as and for the purpose set forth.

Second, The chambers, D, with partitions, in combination with the solid mass, B, substantially as and for the purpose set forth.

52,983.—Adjustable Clamp.—Wm. G. Floyd, Brooklyn (E. D.), N. Y.:

I claim the nut, k, of iron or other metal, with the round or square head, G, and cap, E, in combination with the said bolt, B, for the purpose herein described and for other purposes, as shown in drawing or otherwise, as set forth in specifications.

52,984.—Potato Digger.—E. G. Ford and J. F. Penquit, Delphos, Ohio:

First, I claim the chute, C, having its side and bottom sloped as shown, in combination with the horizontal bars, a and b, and the belt, B, provided with the wings, g, all arranged to operate as herein described.

Second, The combination of box, G, having its bottom pivoted as shown, with the pivoted screen, m, rod, o, and level, l, arranged as shown and described.

Third, The combination and arrangement of the frame, A, lever, F, and standard, h, pivoted to the front axle, as shown.

Fourth, The combination with the chute, C, and belt, B, of the spout, I, and the suspended platform, H, arranged and operating as and for the purpose set forth.

52,985.—Carpet Fastener.—John F. Friederich, Rochester, N. Y.:

I claim as a new article of manufacture, the carpet fastener made up of the screw knob, a, b, c, and the socket, d, f, the whole arranged and operating substantially as herein set forth.

52,986.—Railroad Car Wheel.—Wm. J. Fryer, Jr., and Wm. Freeborn, New York City:

We claim a railroad car wheel constructed substantially as herein described, that is to say, formed of two concentric wheels, the inner wheel, A, made with a hollow concavo-convex periphery, and the outer wheel, B, made with its inner surface and annular side flange, b, to form a corresponding concavo-convex line, the two wheels being united together, at a point about equidistant between the rim and the hub, by a sinuous line of packing, C, together with the annular concavo-convex ring, d, bolted to the disk of the outer wheel, B, the separate parts united forming a complete whole, in the manner and for the purposes specified.

52,987.—Reflector for Head Lights.—Charles D. Gibson, New York City:

I claim the combination of a series of small reflecting planes or surfaces which are straight and flat in at least one direction, in the construction of reflectors for head lights, when said reflecting surfaces are arranged in an annular series or rows within the reflector, all substantially in the manner and for the purpose herein set forth.

I also claim a conical reflecting center plate in the base or rear end of the reflector, behind the lamps, at the focal point thereof, in combination with a series of straight and flat reflecting planes, when arranged substantially as herein described.

I also claim a centrally-reclined reflecting rim, in combination with the reflector or center plate, a metallic reflector, constructed substantially in the manner and for the purpose herein set forth.

52,988.—Invalid Bedstead.—Jacob H. Gibson, McDonough, N. Y.:

I claim, first, constructing the bottom of the bed of the looped wires, D, D, attached substantially as and for the purposes set forth.

Second, I claim attaching the bottom of a bed, or part thereof, to a series of levers pivoted to the side rails of a bedstead, so that they may, by mutually acting upon one another by power applied at one end of the bed, convert the bed into a seat of such inclination as may be desired, substantially in the manner set forth.

52,989.—Seed Planter.—Richard Gillaspie, New Richmond, Ohio:

I claim the seed box, D, double armed crank, d, rod, e, stop, f, spring, h, adjustable cover, k, the whole constructed and arranged in combination with a plow, substantially as and for the purpose herein specified.

52,990.—Gang Plow.—A. L. and B. F. Gilliland, Littleton, Ill.:

First, We claim attaching the plow beams to the axle, B, by means of the rock shaft, D, provided with the arms, e, e, and lever, C, arranged to operate substantially as a rock for the purpose set forth.

Second, Supporting one end of the rock shaft, D, in the adjustable bearing, o, in combination with the lever, E, arranged as shown and described.

Third, The tongue, H, attached to the front end of the plow beams, in combination with the segment, G, and rod, m, provided with the jam nuts, l, l, as shown and described.

52,991.—Pump.—Levi A. Gould, Santa Clara, Cal.:

I claim connecting the rod, h, and hollow sleeve, l, respectively of two buckets, f and F, of a pump, by a common actuating lever handle or brake on which the rod, h, is hung, through the sector-shaped gears, s and t, and arm, u, all arranged and operating as and for the purpose specified.

[This invention consists in arranging within the barrel of the pump, two pistons or buckets and operating the same in such a

manner through devices connecting them with the handle or brake lever of the pump, that as one bucket ascends the other descends, and vice versa, whereby a perpetual flow of liquid through the pump is obtained and without the use of an air chamber.

52,992.—Cutting Box.—Wellington Green, Kinzua, Pa.: First, I claim the combination of the wooden spring, W, and pitman, A, with each other and with the knife frame and the frame of the cutting box, substantially as described and for the purpose set forth.

Second, The combination and arrangement of the pitman, V, with the knife frame and with the treadle, substantially as described and for the purpose set forth.

Third, The combination and arrangement of the set screws, P, with the knife, O, and with the knife frame, substantially as described and for the purpose set forth.

The object of this invention is to furnish a cutting box so constructed and arranged that the power that raises or lowers the knife frame shall always be so applied as to hold the knife constantly close up against the mouth piece, and it consists in so constructing the lever, spring and pitman by means of which the knife frame is operated so as to produce this effect.

52,993.—Artificial Teeth.—Julius Guttman, Somersworth, N. H.: I claim an artificial tooth or set of teeth provided with pins set in a zig-zag line, substantially as and for the purpose set forth.

This invention relates to an improvement in the manufacture of porcelain teeth for under sets, which consists in the application of one or more extra pins below the pins generally used for the attachment of the rubber, said extra pins being placed so as to form a zig-zag line with the ordinary pins, in such a manner that by casting on or otherwise attaching to said extra pin or pins a piece of metal, the weight of each tooth or of the denture is increased and the same is rendered less liable to being accidentally displaced than dentures made in the usual manner.

52,994.—Manufacture of Paper Pulp from Straw.—A. K. Haxstun, Fort Edward, N. Y.: I claim the within-described process of reducing straw to paper pulp by first treating the same in a revolving boiler or vessel with boiling water and thereafter with an alkaline solution, under pressure, substantially as set forth.

This invention relates to a new process for treating straw and other fibrous substances whereby a paper pulp is obtained of superior quality, and fit for the manufacture of the best kind of paper without the addition of other materials.

52,995.—Lock.—Anson Hardy, F. L. Walker, and G. A. Walker, Boston, Mass. Antedated Feb. 28, 1866: We claim the key constructed as described, viz: with its operative portion of a thickness equal only to about the diameter of that part of the plungers which enters the key hole, plus the amount needed for a flange on either side, when provided with inclines on its edges, each of which has a flange, said flanges being part on one side and part on the other of each edge of the key; also in such a lock provided with such a key hole as described, the arrangement of the plungers so as to enter the key hole in a zig-zag manner, substantially as and for the purpose specified.

Also in a lock with a cylinder, ring and plungers, the employment of the check slide, when arranged at the inner edge of the key hole and operating substantially as specified.

52,996.—Machine for Molding Bullets.—Lewis Hebard and Williams S. Brown, Lexington, Cal. Antedated March 2, 1866: First, We claim the cutting dies, F, I, in combination with the cutters on the wedges, G, G, all constructed and operated substantially as shown, for the purpose of cutting off the lead above the place of the mold.

Second, We also claim the combination of the shears, J, J, with the cutting dies, F, I, and wedges, G, G, substantially as shown.

Third, We also claim the rod, C, passing through the center of the mold, P, and O, created by the cans, C, as described, for the purpose of freeing the bullet from the mold.

Fourth, We also claim, in combination with the mold, P, the knife, Q, for cutting off the surplus lead from the edges of the mold, constructed and operated substantially as shown.

Fifth, We also claim the mode, substantially as herein described, of feeding the lead to the molds, to wit: by means of tube, E, the feed wheel, D, with its pins, U, U, and the cam, H, on the upper side of the cam wheel, G.

The object of this invention is to produce an automatic machine which shall feed the leaden rod from which bullets are to be made to the molding devices, separate a sufficient portion for a bullet, mold the portion cut off, and remove from the edges of the mold any metal that may protrude thereout.

52,997.—Heel Breasting Machine.—Charles H. Belus, Poughkeepsie, N. Y.: First, I claim the combination of the two adjustable jaws, B and C, as a means of holding the heel of a boot or shoe while being cut or breasted, as hereinbefore set forth.

Second, I also claim the straight edge cutter in combination with the two adjustable jaws, B and C, for the purpose hereinbefore set forth.

Third, I also claim the gage plate, M, in combination with the two adjustable jaws, B and C, for the purposes hereinbefore set forth.

Fourth, I also claim the lever, E, and bowl and rack, substantially as and for the purposes hereinbefore set forth, in combination with the adjustable jaws, B and C, for the purposes described.

52,998.—Cultivator.—Isaiah Henton, Shelbyville, Ill.: I claim the combination and arrangement of the carriage frame, A, the vibrating frame, B, pivoted to A, the beams, K, langers, I, standards, H, and the hand lever, O, with the sheaves, Q, and cords or chains, R, substantially as herein specified and for the purpose described.

52,999.—Burglar Alarm.—Wm. O. Mills, Nottingham, N. H.: I claim the combination of the branch, A, and the valve stopper, C, or equivalents thereof, with a catch or door and the air pipe, A, of an alarm apparatus of the kind to which reference has been hereinbefore made.

I also claim the combination of the rod, V, or its equivalent, with the branch tube, A, when used substantially as and for the purpose specified.

53,000.—Rotary Knitting Machine.—Joseph Hollen, Blair County, Pa.: First, The needle, A, the same consisting of a straight piece of wire having one end flattened, pointed and bent so as to produce the hook, B, and shoulder, A, thereat, as set forth in the drawings, the said needle being also secured rigidly in the cylinder which carries it, so that its said hook, A, shall be radial in its position thereon, as does the said specific fiber.

Second, I claim the stitching hook, C, the slotted stay, H, and the vibrating arms, I, I, the same being constructed and arranged to operate together as and for the purposes described.

Third, I also claim the carrier, D, when constructed as described, and arranged to operate in combination with the needles, A, fabric stays, B, and stitch litter, G, as described and set forth.

53,001.—Roller and Fastening for Clothes Wringers.—Robert B. Hugganin, Cleveland, Ohio: I claim, First, As a new article of manufacture, shaft-fastened elastic rollers, when made in combination with hollow metal shafts, with two or more openings in the same with cloth or wire cloth, or both combined, prepared with raw gum and consisting of two or more pieces pasted, through the openings of the said shafts, and the sides lapped around, and elastic vulcanizable gum vulcanized thereon, for the purposes specified.

Second I claim the combination of the clamps, H, H, thumb screws, I, I, and screw plates, J, J, as described, for the purposes specified.

53,002.—Manufacture of Bottle Stoppers, Caster Wheels, Syringe Pistons, Etc.—R. B. Hugganin, Cleveland, Ohio: I claim, First, Forming articles such as herein described by vul-

canizing rubber or equivalent gum upon cloth or other fabric, in the manner and for the purposes herein set forth.

Second, I claim as new articles of manufacture the improved bottle stoppers, casters, gum cleaners and plungers herein described.

53,003.—Turning Lathes for Wood.—Liveras Hull-Charlestown, Mass.: First, I claim a combination consisting not only of mechanism for revolving the whip stock, and moving it longitudinally, but of two cylindrical burs or cutters and a mechanism whereby such burs or cutters, while being revolved, are moved either toward or apart from one another, as may be required, in order to enable them to produce the necessary diametric variation of the whip stock from end to end of it, the said combination principally or substantially consisting of the carriage, B, with its puppets, D, C, mandrels, C, I, and their gears, I, G, the jaw levers, I, I, the cone, K, the screw, L, the gears, M, the shaft, O, with its feather connection, the belt, S, the two wheels, T, T, and their shafts, U, V, the burs, C, C, the pulleys, Z, Z, the motor, A, and the shaft, Z, the pattern or guide rail, K, the rods, A, A, and the levers, B, B, the whole being arranged and connected so as to operate in manner substantially as explained.

Second, And I also claim the combination of the same and a mechanism for moving the two burs or cutters in direction of their axes, in order to prevent the said burs from becoming clogged by the material removed by them from a whip stock, such mechanism as hereinbefore described, consisting of the cam, R, shaft, S, gears, U, U, shaft, V, worm gear, A, and the screw, X, fixed on the shaft, O.

Third, I also claim the combination for supporting the whip stock near the cutters, the same consisting of the two plates, Y, Z, provided with angular openings, A, A, and springs, Z, Z, and arranged relatively to each other and supported in manner and so as to operate substantially as described.

Fourth, I also claim the adjustable or movable pattern, K, its box, P, and the adjusting screws and nuts thereon, combined or arranged together in manner substantially as described.

Fifth, I also claim the combination of the two frames, D, B, provided with the screw, Y, and nuts, Z, Z, and constituting each of the cutter carriages, as set forth.

Sixth, I also claim the combination of the contractile connecting rods, A, A, with the cutter carriages or frames, D, E, D, E and the levers, B, B, arranged and applied in manner and so as to operate with the pattern, K, substantially as specified.

Seventh, I also claim the combination of the two rotary mandrels, C, C, and mechanism to rotate them synchronously, as described, with one or more burs or cutters, C, C, so arranged that when in revolution against an article held to and revolved by the mandrels, such burrs or burs, shall cut into the article in a direct line lengthwise rather than crosswise of it.

Eighth, I also claim the combination of the screw, A, or straining mechanism with the two rotary mandrels, C, C, their jaws and one or more cutters or burs, C, C, arranged substantially as specified, such mandrels being provided with mechanism for synchronously rotating them as described.

53,004.—Building Block.—Clark C. Hutchinson, Burlington, N. J.: First, I claim a building block of brick, A, so formed that when laid in a wall and breaking joint, the holes in the blocks of one course correspond with the holes in the blocks of the course below.

Second, I claim the block, A, with the centrally elongated hole, C, and openings, D, at the ends, or with the opening, C, at one end only, as and for the purpose substantially as described.

Third, I claim a building block, composed of lime, sand, with or without Portland cement or other cement, when made in the form, and for the purpose described.

Fourth, I claim the water-proof face, B, attached to the building block, A, substantially as and for the purpose described.

53,005.—Grain Drill.—Joseph Ingels, Milton, Ind.: First, I claim the cleaneable gearing placed inside of the hopper head.

Second, The series, two or more of slots in the hopper head or other plate, for the purpose of adjusting the movable axis to suit the changeable wheels.

Third, I claim the diagonal teeth of the feed wheel in the middle of the roller.

Fourth, The V-shaped projection, K, in the floor of the concave, for the purpose described.

53,006.—Railroad Car Brake.—Marshall Ingersoll, Grafton, Ohio: First, I claim the cam, H, cord, M, and pipe N, in combination with the lever, A, rod, D, and links, S, when arranged and operating in the manner and for the purpose set forth.

Second, I claim in combination with the above, the socket, I, bolts, A, shoes, C, and lever, D, when arranged in the manner and for the purpose described.

53,007.—Pump.—J. Johnson, Saginaw, Mich., and C. W. Singer, Anderson Store, Va.: We claim the arrangement of the plungers, B, C, D, consisting of the followers, A, A, valves, B, and valve seats, A, in combination with the rod, E, tube, E, rods, J, J, and eccentrics when operating conjointly, as and for the purpose set forth.

53,008.—Paddle Wheel.—Edward Jones, San Francisco, Cal.: I claim a paddle wheel provided with floats convex on their outer edges and increasing in width toward the outer ends, arranged relatively to the wheel shaft and to the sides of the vessel, substantially as described and set forth.

This invention relates to a new and useful improvement in paddle wheels for propelling boats and vessels more efficiently, and without the loss of power, the expense, and wear and tear, incident to the wheels now in general use.

53,009.—Bearing of Locomotive Axles.—John P. Laird, Alloua, Pa.: First, I claim the application to a locomotive, substantially in the manner described of a driving axle, adapted to boxes which can slide laterally in the frame of the locomotive for the purpose specified.

Second, The combination of the said driving axle and its sliding boxes with the truck frame, I, and its axle, L, and wheels, M, the whole being arranged and operating substantially as and for the purpose herein set forth.

53,010.—Composition for Welding and Refining Steel.—Peter R. Laird, West Danville, Vt.: I claim the welding composition as made of the ingredients and in the manner substantially as described.

53,011.—Peat Machine.—T. H. Leavitt, Boston, Mass.: First, I claim the revolving crushers, I and K, or their equivalents in combination with the stationary crushers, H and J, or their equivalents, operating as set forth, for the purpose specified.

Second, I claim the revolving rollers, M, in combination with the plates, N, or their equivalents for the purpose described.

Third, I claim the knives, B, so formed as to cut up the peat and feed it into the machines set forth.

Fourth, I claim the hopper, P, with its sweeps, or mixers, Q, for the purpose of expelling the air from the mass of prepared peat, as it comes from the condensing machinery.

Fifth, I claim the moils, Y, having open ends in combination with the peculiar form of the bottom of the hopper, whereby the peat is compacted and pressed into the moils as described.

Sixth, I claim the pins, M, in the moils operating as described for the purpose set forth.

53,012.—Machinery for Rolling Iron.—John F. Lauth, Reading, Pa.: First, I claim the combination of the main rolls, B, B, and two pairs of side rollers, F, F, F, constructed and arranged substantially as and for the purposes set forth.

Second, The adjusting of said rollers through the medium of the screws, K, and gears, E, substantially as shown and described.

Third, In combination with the subject matter of the first claim, I further claim giving the side rollers, F, at the discharge side of the rolls, B, a quick motion than the rollers, F, at the feed side of the same, substantially as and for the purpose set forth.

53,013.—Knitting Machine.—Thomas Loaghain, Philadelphia, Pa.: I claim, First, The combination with the double ended self-acting needles, B, of two or more thread guides, I, I, each of which operates over a portion of the needles, substantially as and for the purpose described.

Second, The combination with a knitting machine, in which double ended needles are used, of a cam so constructed as to turn back the latches of the needles when brought into contact with the same for the purpose specified.

Third, A pattern cylinder, O, and plates, Y, or their equivalents,

combined with the needles, B, and their operating cams, substantially as and for the purpose set forth.

Fourth, The plates, N, N, secured to the edges of the plate, A, between the grooves, A, substantially as and for the purpose specified.

53,014.—Material for Dusting the Molds for Peat Machines.—T. F. Leavitt, Boston, Mass.: I claim the use of powdered peat for the purpose of preventing the prepared peat from adhering to the molds as set forth.

53,015.—Thief Alarm.—John T. Lewis, Pittston, Pa.: I claim the tube or spout, A, either with or without the safety valve, H, in combination with the bottle, B, or other suitable receptacle for the explosive material, having a cap tube, C, when arranged together so as to operate in the manner and for the purpose specified.

This invention relates to a thief detector or alarm, designed more especially to be used in gardens, fields, orchards, yards and other out-of-door places, so that the robbing or pilfering of any articles belonging to such places, or of clothes hung upon clothes lines, etc., can be to a great extent, if not entirely prevented, and it consists in a novel arranged alarm or detector, to be inserted in the ground, which when the least pressure is exerted upon it by any person walking over such ground will cause an instant explosion to occur that if it does not injure the person, will at least frighten and alarm him as to cause him to make a hasty retreat without securing the intended plunder or property.

53,016.—Screw Wrench.—Horace W. Love, Brooklyn, N. Y.: I claim the improvement in constructing and operating my diagonal adjustable screw wrench as and for the purposes substantially described in the foregoing specification.

53,017.—Buckle.—Charles A. Mallory, Cambridge, Mass.: I claim a double buckle of two pieces of metal constructed substantially as and for the purpose set forth.

53,018.—Machine for Jointing Tops and Leaves of Tables.—F. B. Marble, Columbus, Ohio: First, I claim in a machine which is capable of making the joints of table leaves substantially as described, the combination and arrangement of the rotary cutter head, H, table, B, carriage, C, hinged supports, E, E and F, substantially as and for the purpose described.

Second, The combination and arrangement of the clamp or follower, substantially as described, with the table, B, carriage, C, hinged supports, E, E, F, and rotary cutter head, H, all operating substantially as and for the purpose set forth.

53,019.—Apparatus for Bottling Liquid.—John Matthews, Jr., New York City: First, I claim the method herein described of bottling liquids under pressure by which constant and uniform pressure is maintained upon the liquid, as well when passing into the bottle as when in the fountain and by which the escape of gas during the process of bottling is prevented, all substantially as herein set forth.

Second, The pipe, D, applied and arranged with reference to the fountain, B, pipe, M, and filling head, X, substantially as and for the purpose herein set forth.

53,020.—Balance.—A. T. McDonald, Dubuque, Iowa: I claim the general arrangement of the scale herein described, the same consisting in suspending the platform upon which the material to be weighed is placed to and upon the swinging frame, G, connected by and through the weight, U, with the index hand, F, substantially in the manner and operating as specified.

This invention consists principally in the use of a horizontal frame having bearings at one end within an outer casing or box, upon which frame, the platform or plate used to hold or receive the articles to be weighed, is placed and rests, said frame being connected at its other end through a peculiar arrangement of devices, with an index hand or pointer of a properly graduated dial plate, for indicating the weight of the articles in pounds and fractions of a pound.

53,021.—Vegetable Grater.—Sarah A. McGill, Cincinnati, Ohio: I claim the combination of the aforesaid grater, D, the retaining plate C, with standards, B, B, and A, with the retaining leaf, A, the whole arranged and combined substantially in the manner and for the purpose herein set forth.

53,022.—Drilling and Hoisting Machine.—W. C. McGill, and A. J. Gibson, Cincinnati, Ohio: First, We claim the revolving platform and derrick as and for the purpose herein described and set forth.

Second, The revolving derrick and drum combined and operating substantially as herein described.

Third, Slides and parts, I, B, J, and K, in combination with cord, F.

Fourth, The combination of the revolving platform, B, drum or windlass, G, and derrick, for the purpose hereinbefore mentioned.

53,023.—Journal and Box.—William S. Mead, New York City: First, I claim securing the chilled cast-iron sleeve on to the journal, to prevent it from turning, in manner substantially as herein described.

Second, I also claim connecting the rollers with the frame in which they turn by means of ball journals, substantially as described.

Third, And I also claim relieving the friction due to end play and pressure between the end of the journal, and the box by means of the chilled balls and surfaces, substantially as described.

53,024.—Stovepipe Damper.—J. C. Merritt, Wyoming, N. Y.: First, I claim the perforated cone, E, provided with the lip or edges, P, P, for arresting the draft, in combination with the stovepipe, A, and damper disks, C, B, substantially as and for the purpose herein specified.

I also claim the combined construction and arrangement of the concave annular disks, C, with its downwardly converging arms, F, F, and central guide shaft, H, and of the central concave disk, D, as and for the purpose herein set forth.

53,025.—Machine for Rolling File Blanks.—John B. Mignault, Chelsea, Mass.: First, I claim a pair of circular rollers placed opposite to each other and having cams or shapers affixed to their ends for the purpose of governing the distance of the rollers from each other.

I also claim the rollers, R, R, constructed as herein set forth, in combination with the fixed friction rollers, V, V, upon which the peripheries of the cams are held in contact.

53,026.—Breech-loading Ordnance.—John B. Moody, Cincinnati, Ohio: First, I claim forming the semicircular end of the breech piece with the same radius and center as the inside semicircle of the end of the barrel, substantially as and for the purposes set forth.

Second, Fitting the breech piece, D, upon the pins, E, E, substantially as and for the purposes set forth.

53,027.—Lantern.—James C. Moore, Philadelphia, Pa. Antedated Feb. 24, 1866: I claim extending the sides of the lamp, A, upward above the oil reservoir of the same, and into contact with the horizontal stem of the wick adjuster, C, attaching the springs, D, D, thereto, so that their catches d', d', shall project through the same as described, and turning the lower edge of the band, B, inward so as to produce the narrow flange, B, around the same to receive the catches d', d', thereon, and thus enabling the operator to secure the lamp, A, and detach it from the lantern without changing the position of the wick-adjusting spindle, C, all substantially as and for the purposes described.

53,028.—Sorghum Evaporator.—Charles F. and Eli W. Moorman, Jamestown, Ohio: First, I claim the arrangement of the pan provided with partitions over the furnace in the manner herein set forth, and operating it as and for the purpose herein specified.

Second, The arrangement of the bars, X, X, in the ends of the pan and the pulleys, C, E, as and for the purpose specified.



Third, The arrangement of the bars, XX, pulleys, e e slides, G, G, chains, H H levers, I, with the chains, K K, and windlass, J, substantially in the manner and for the purpose herein specified.

Fourth, The trough F, constructed and arranged with the pan in the manner and for the purpose herein set forth.

53,029.—Stovepipe Drum.—E. P. Morse, Batavia, N. Y.: I claim a drum for stovepipes consisting of the exterior wall, B, air pipes D D, flues, A, and reflectors, F F, constructed and arranged substantially as described and for the purpose set forth.

The object of this invention is to utilize the heat escaping through the smoke pipe of a stove, and it consists of a drum through which pass a series of vertical pipes, both the upper and lower ends of which open into the room, and around the bodies of these pipes the heated smoke and gas are projected by the cone-shaped end of a central cylinder, the apex of which is placed directly above the mouth of the induction pipe that brings the smoke from the stove to the drum.

53,030.—Burglar Alarm.—M. P. Murphy (assignor to Oren F. Wilson), New York City: I claim the combination of the alarm, C, of tening device, A, and circuit, B, when arranged together so as to operate substantially as described and for the purpose specified.

[The burglar alarm embraced in this invention is extremely simple in construction and arrangement, and susceptible of being carried in construction and arrangement, and susceptible of being carried out by the person.]

53,031.—Steam Trap.—James Naylor, Providence, R. I.: I claim the arrangement of the trap, A, contained in a float, the outer vessel, E, with the pipes, G and B, the said pipes being secured by following nuts, J, and pipe, G, having communication with the trap at its opening, D, substantially as and for the purpose above set forth.

[The object of this invention is to improve the steam trap, both in efficiency and simplicity of operation and construction.]

53,032.—Process for Making Emery Wheels.—Thomas Neston, Carthage, Ill.: I claim the process of making a solid and tenacious grinding or polishing substance by uniting particles of disintegrated emery, or other equivalent gritty material, with each other, through the vibration of an alkali silicate substance contained therein, substantially in the manner herein set forth.

53,033.—Hedge-cutting Machine.—David Oliver, Carthage, Ill.: First, I claim the combination of the cutter wheels or cylinders, N and O, with the adjustable bridge trees, J and K, and with the shafts, G and H, substantially as described and for the purpose set forth.

Second, The combination of the bridge trees, J and K, with the supports, W and X, and with the cutters, N and O, substantially as described and for the purpose set forth.

Third, The combination of Baylors' knives, I, with the cutter wheels, N and O, and of a hedge trimmer, substantially as described and for the purpose set forth.

Fourth, The combination of the guards, R, with the cutter wheels, N and O, substantially as described and for the purpose set forth.

Fifth, The combination of the levers, S and T, with the bridge trees, J and K, substantially as described and for the purpose set forth.

53,034.—Mold for Vulcanizing Rubber.—Dubois D. Parmelee, New York City: I claim the manufacture of pneumatic molds for purposes of vulcanization, substantially as herein described.

I also claim the vulcanization of the hard rubber compound in molds made of porcelain or its homologues.

53,035.—Washing Machine.—A. B. Parsons, Dunton, Ill.: I claim the combination and arrangement of the removable recirculating frame, B D E, the corrugated rubber, C, with the removable frame, A, and the peculiarly constructed and arranged rollers, F, with suitable construction, arranged and operating as and for the purpose herein shown and set forth.

53,036.—Mule for Spinning.—Seth D. Paul, Lawrence, Mass.: First, I claim pulley A, pulley B, clutch box C, cone wheel D, friction pulley, E, disk, F, lever, G, cam, I, and cam, J, and their equivalents arranged and operating substantially as described.

Second, I claim twist plate, N, bin, O, clutch, P, cam, Q, lever, R, and their equivalents, arranged and operating substantially as described.

Third, I claim the arrangement of gear, W, gear, X, shaft, Y, gear, Z, gear, shaft, B, stand, C, wheel, D, gear, E, shaft, F, gear, G, and gear, H, or their equivalents, substantially as described for the purpose specified.

Fourth, I claim lever, I, latch, J, shaft, K, worm, L, clutch box, N, pin, O, plate, W, or their equivalents, arranged and operating substantially as described.

Fifth, I claim cam, 2, lever, 3, worm, 4, shaft, 5 and rack, 6, or their equivalents, arranged and operating substantially as described.

Sixth, I claim lever, 21, finger, 22, and span, or plate, 23, or their equivalents, arranged and operating substantially as described.

Seventh, I claim the combination of latch, 31, with revolving lever, 31, constructed and operating substantially as described and for the purpose specified.

53,037.—Car Coupling.—D. H. Payne and Geo. Boxley, Troy, N. Y.: We claim the shackles, C C, connected to the shafts, B B, in combination with the springs, E, rollers, D, and pawls, I, arranged and operating substantially as and for the purpose herein set forth.

53,038.—Chair for Photographic Purposes.—Charles G. Pease, Charlestown, Mass.: I claim the arrangement of the adjustable head rest, so as to work through the chair back, and the construction of such back with an opening to receive the said rest, as specified.

53,039.—Mowing Machine.—John D. Perry, South Kingston, R. I.: First, I claim the hollow axle, D, with one or more connecting openings in it between the main wheels, substantially as herein described and for the purpose set forth.

Second, I claim the arrangement of the escapement wheel, A, upon the open end of main shaft, in combination with the main wheels, B, B, substantially as described herein and for the purpose set forth.

Third, I claim the rods, J and I in combination with the cutter bar, substantially as herein described and for the purpose set forth.

Fourth, I claim the pawls, u and t, ratchet wheels, r, r, and friction or pressure plate, s, when made self-operating in combination with a mowing machine or harvester, substantially as herein described and for the purpose set forth.

Fifth, I claim the combination of the drag bar, 4, or shoe and self-clearing oblique brace rod, y, substantially as herein described and for the purpose set forth.

53,040.—Reaping and Mowing Machine.—John G. Perry, South Kingston, R. I.: First, I claim the combination and arrangement of the bevel gears, f and q, crank, u, and pitman, v, with the hollow stationary axle, x, substantially as herein described and for the purpose set forth.

Second, I claim the jointed connecting rod, m, in combination with the hollow axle, substantially as herein described and for the purpose set forth.

53,041.—Invalid Bedstead.—Stephen Puffer (assignor to himself and William F. Lyons), Oxford, N. Y.: I claim the sliding lever, N, provided with rollers, L, and pin, J, in combination with rollers, W, S, M, and rollers, K and L, substantially as in the manner and for the purpose herein set forth.

Second, The construction and arrangement of the inner frame or rack, F G H, in combination with lever, N, rollers, K L, cleats, d, and connecting traps, e and f, substantially in the manner and for the purpose herein set forth.

53,042.—Automatic Boiler Feeder.—Emmett Quinn, Washington, D. C. Antedated Feb. 3, 1866: I claim the combination of the box with a steam generator and the sliding valves, u, d.

Second, the arrangement of the pipe, f, for supplying the chamber, e, steam pipe, g, connected with the boiler at the steam space, the ingress pipe, h, connected with the boiler at its water space, the projections, 1 and 2, stuffing boxes, 3 and 4, the shaft, 5, with its eccentric and pulley whereby to give motion to the slides, a, a, substantially in the manner and for the purpose as herein set forth.

53,043.—Preparing Cheese for Market.—L. J. Randall, Chardon, Ohio: I claim the herein-described mode of pressing cheese separately in a series of hoops under pressure simultaneously by the action of the screw, for the purpose set forth and arranged as specified.

53,044.—Crane.—F. Bumpf, Cold Spring, N. Y.: I claim the adaptation of an ordinary hand crane to a power crane by means of the loose-toothed rim, D, placed on the wheel or hub C, on a vertical post or shaft, B, driven from the power shaft, I, by a pinion, J, and communicating motion by a pinion, H, to a shaft, F, which has its bearings in a bracket, E, attached to the wheel or bed, C, and connected with the windlass of the crane by a belt chain or gearing, substantially as shown and described.

53,045.—Trunk and Bureau.—Alfred W. Ryder, New York City: I claim the combined trunk and bureau herein described, the same consisting of the parts, A, B, hinged together, C, and provided with drawers, D, as and for the purpose explained.

53,046.—Treadle Motion.—E. P. Ryder, Brooklyn, N. Y.: I claim the combination of the pitman rod, N, hung to the treadle of a sewing or other machine, cords, M M, connecting said rod with a loose sleeve or collar, L, of the driving shaft, and pawl, R, hung on said sleeve, which through jaws, S, acts upon the fixed annular ring, T, of the driving shaft, arranged together and so as to operate substantially in the manner and for the purpose described.

[This invention consists in connecting the treadle and with the driving shaft of the machine, through a novel arrangement of parts, by means of which the liability of turning the driving shaft in the wrong direction, when the machine is first started, is entirely obviated.]

53,047.—Telegraph Cable.—Peter A. Salvoti, New York City: I claim the combination of a cable for telegraphic purposes, consisting of a helix formed of a plurality of wires without a central core, substantially as set forth.

Second, The use of protecting rings, C, in combination with the connecting wires and the armor wires, substantially as described.

Third, The combination of the pliable filling with the rings, substantially as and for the purpose described.

Fourth, I claim an improved article of manufacture, a telegraph cable, made substantially as herein shown and described.

53,048.—Turning Cheese.—Rufus Scott, Watertown, N. Y.: First, I claim the method herein described of turning cheese for the purpose of drying the same by the employment of a rail counter and turning disks, substantially as herein set forth.

Second, The use and employment of circular flanged disks, in combination with a rail counter, substantially as and for the purposes herein set forth.

53,049.—Apparatus for Rolling Metals.—Joseph S. Seaman, Pittsburg, Pa.: I claim the use of a pair of rolls revolving in the same direction and each having a groove of the shape of the arc of a circle, in combination with a general guide box, or equivalent device for guiding the cylindrical rod, bar or tube, to be rolled and straightened in its passage through the groove of the rolls, at the proper angle (if any) to the axis of the rolls, at which the rod or bar will have the longitudinal surface bearing in a line on the face of the rolls, for the purpose of rolling and straightening the cylindrical bar rod or tube, substantially in the manner hereinbefore described.

53,050.—Scale for Weighing.—Levi Shepard, Gold Hill, Nevada: I claim the horizontal pan, supporting arm, l, and vertical pendant weight arm, g, mounted at their right angle on the pivot, c, in combination with the graduated scale, m, and a frame, o, p, r, t, u, arranged to operate in the manner and for the purposes specified.

This invention consists in a new and peculiar mode of hanging and arranging the pan of a scale to be used for weighing various articles of commerce, when by the amount of their weight is indicated upon a properly graduated arc or disk, through any suitable index or pointer connected with and operated by the depression of the scale-pan from the weight of the material or materials placed upon it.

53,051.—Harvester Rake.—Samuel and Jeremiah Sherman, McHenry, Ill.: I claim the combination with the rake, E, and arm, C, the lever, J, cam, K, and connecting rod, F, for the purpose and in the manner substantially as described.

Second, The combination with the rake, E, the cam, R, latch, L, and rod, M, for the purpose of securing and holding the rake when retracted.

Third, In combination with the rake, E, the lever, L, and rod, M, the movable cam, P, for the purpose of controlling the operation of the rake.

Fourth, In combination with the rake, E, the check plate, H, for the purpose of arresting the motion of the arms, C and D, while the rake is sweeping the grain into the platform.

53,052.—Washing Machine.—Israel E. Smith, York, Pa.: I claim the combination of the started cylinder, D, the bands, C, C, on the adjusting plates, B, held in place by the braces, a, a, the whole arranged and combined as above described, for the purpose and in the manner herein set forth.

53,053.—Farm Gate.—William Snyder, Wooster, Ohio: First, I claim a sliding gate valve, r, extending beyond its forward limit by gradually increasing lengths from bottom to top, as and for the purpose set forth.

Second, The combination with the low post, K, with a sliding and swinging gate to support the front end of the gate in sliding back and forth.

Third, The swivel, E, F, journaled both above and below and enclosing one of the bars of the gate, as and for the purposes shown and described.

Fourth, I further claim the roller, L, in the described combination with the low post, K, and a sliding gate constructed as and for the purpose specified.

53,054.—Well Boring.—George W. Spear, New York City: First, I claim the combination of an axially perforated or tubular reamer with a detachable dibble, substantially as and for the purpose described.

Second, The combination of a drill with an axially perforated or tubular reamer, substantially in the manner and for the purpose described.

Third, The combination of an axially perforated or tubular reamer with a detachable tubular shank or shaft, substantially as described.

Fourth, The combination of a dibble and axially perforated or tubular reamer and a tubular shank with a driving tube.

Fifth, The combination of an axially perforated or tubular reamer, a detachable tubular shank, and a drill with a driving tube.

53,055.—Dish Drainer and Dryer.—Royal U. Stone and H. A. Kendrick, Rowe, Mass.: We claim the arrangement and combination of the braces, A, latches, C, L, slats, D, and rods, H, as herein described and for the purposes set forth.

53,056.—Forming Artificial Stones for Grinding and Polishing.—Warren Tanner, Chicago, Ill., Isaiah S. Hyatt, Rockford, Ill., and John W. Hyatt, Albany, N. Y.: We claim the combination of coarse grit with flour grit and a binding material substantially as and for the purposes herein set forth.

53,057.—Harvester.—Clark Tompkins, Troy, N. Y.: I claim the combination and arrangement of a hand lever, A, wedge of cam, q, rods, m, m, catch levers, B B', and springs, e, e.

with the shaft, D, ratchet clutches, C C', ratchet wheels or pinions, f, g, f, g, and frame or platform, K, substantially as herein set forth.

53,058.—Device for Securing the Tail Stocks of Lathes.—Alfred Thomas, Worcester, Mass.: First, I claim the mechanism called the compound bolt, constructed as described, in combination with lugs, i, i, suspension bar, H, substantially as and for the purpose set forth.

Second, I claim, in combination with the compound bolt the tight pin screw, D, ratchet wheels, e, e, pawls, f, f, and lever, G, or their equivalents, substantially in the manner and for the purpose set forth.

53,059.—Grate and Grate Bars.—W. B. Treadwell, Albany, N. Y.: I claim the application of curved or centrally depressed grate bars, B, to a fixed or movable frame, A, and connecting said bars together, that they are susceptible of receiving a vibrating motion about their axes, substantially as described.

Second, The construction of curved grate bars with journals on their extremities, and projecting eyes, on their equivalents, for receiving a frame, K, substantially as described.

Third, The combination of curved or recessed grate bars, B, and a fitting frame, A, substantially as described.

53,060.—Hair-crimping Pin.—Emma A. Tyler, Buffalo, N. Y.: I claim a hair pin adapted for crimping, substantially as described.

53,061.—Hand Garden Plow.—Joseph Von Achen, Bloomfield, Iowa: I claim the combination, in a garden plow, of otherwise ordinary or suitable construction of a stationary clevis on the forward end of a beam with a guide wheel, hung in a swinging frame, vertically adjustable in relation to the said clevis, substantially as described.

Second, The combination in a garden plow with a plow stock fixed to the beam under the arrangement of a reversible shovel constructed and adjusted in the manner and for the purposes herein set forth.

Third, The arrangement of the cross handles on either side of the plow beam, in combination with the arched yoke on the rear end of the beam, substantially as set forth.

53,062.—Still for Petroleum.—Peter H. Van der Weyde, Philadelphia, Pa.: First, I claim the combination of three four or more stills in the manner described, in order to obtain with a single fire and on a single operation, all the different volatile products of the petroleum, namely, lubricating oil, kerosene, benzine, naphtha or gasoline.

Second, In order to increase as far as possible the quantity of kerosene or illuminating oil, the manner of transferring the heated products of one still to another, without exposing them to the air or losing by evaporation.

Third, The peculiar manner of arranging the cooling apparatus so as to economize cold water and heat.

53,063.—Machine for Coring and Quartering Apples.—James A. Vankersen, Kalamazoo, Mich.: First, I claim the combination of the fixed guide rod, a, horizontal cross arm, C, and a cutter, B, the blade, d, c, of which is arranged to serve as guides for the lower end of this cutter, substantially as described.

Second, The combination of a bow spring, D, with a reciprocating cutter, B, and fixed guide rods, a, a, substantially as described.

53,064.—Elevator.—John C. and James W. Wandell, New York City: We claim an elevator composed of endless chains, C C, or their equivalents, working over or around suitable drums, B, B, in a frame, A, and having platforms, E, attached, arranged with arms, F, which are also connected with the chains, C C, substantially as and for the purpose herein set forth.

We also claim the arrangement for driving chain, D, when used in combination with the chains, C C, platforms and arms, substantially as and for the purpose specified.

We further claim the brace bars, H, when fitted to the arms, F, of the platforms, E, substantially in the manner as and for the purpose set forth.

53,065.—Peat Machine.—Darius Wellington, Boston, Mass.: I claim the employment of the toothed or corrugated expressing rolls, having about an equal extension around them and operating together, substantially as set forth.

I also claim, in combination with the rolls operating as set forth, the conveyer, g, for conveying the compressed peat from the rolls to the succeeding station of the cutting compressing and dividing mechanism, substantially as set forth.

I also claim in combination with the compressing rolls, the conveyer, o, operating as set forth, the cutting mechanism, the compressing mechanism and the dividing mechanism, operating separately or together in connection with the expressing rolls, substantially as set forth.

53,066.—Ore Crusher.—Zenias Wheeler, San Francisco, Cal. Antedated Feb. 19, 1866: I claim the combination with the stationary jaw, g, of the movable jaw, s, when the latter is operated by the cam shaft, o, and adjusted at its lower end by means of the screw bolts, t, t, which are hinged to the end and adapted to reduce the motion described.

Second, The arrangement of the jaws, in two or more sections or parts, substantially as herein described and for the purpose specified.

This invention consists principally in the use of a movable and a fixed jaw, placed within a suitable frame, between which the ore to be crushed is inserted, the movable jaw being so arranged and operated as to impart not only a crushing pressure to the ore when in large pieces, but breaking it up into fine particles, but to the finer particles, when so broken, a grinding or rubbing pressure, which prevents them from being packed between the jaws, as would otherwise occur were they subjected to only a crushing pressure.

53,067.—Steam-Injected Water Motor.—Jas. D. Whelpley, Boston, Mass.: First, I claim the construction of the piston, H, and the abutment, I, with equal or unequal radii, and so recessed together and arranged in the piston and abutment together as to make them revolve with equal or multiple velocity.

Second, The combination of the recessed abutment, I, with the recessed core, K, substantially as described, for the purpose of avoiding the dead point.

Third, The arrangement of the double pistons, H H, as drawn, for the purpose of avoiding the dead point.

Fourth, The combination of the piston, H, with the disk, o, carrying the ring, z, and rim packing, z', the pipe box, S, its cog wheel, N, and with the fixed spindle, r, having its core chamber, p, and perpendicular pipes, t, substantially as and for the purpose described.

Fifth, The combination of the friction rings, o, with the frame, V, and the pipe box, S, and disk, o, for the purpose of supporting the lateral pressure of the water during the movement of the engine.

Sixth, The elastic automatically-reversible packing and packing plates of the piston, H, formed by the curved and beveled surfaces of the metal pieces, m, m, m', hinged together, with its rubber or other elastic support or packing, k, on either side, compressible and expandible, substantially as described.

Seventh, The arrangement of the ring, z, on the disk, o, carrying on its edges spring packing rings, z', substantially as and for the purpose described.

Eighth, The arrangement of the governor, G, and its valve regulating the supply of steam, which governor is effected by passing the steam through a chilled chamber or, as I consider preferable, by introducing into the induction pipe, C, a jet of steam and a stream of cold water, as one and the same time, the volume of water introduced being the difference of volume lost by condensing the steam, the whole being accomplished by the arrangement of parts substantially as described.

53,068.—Apparatus for Removing Dust and Gases from Air.—James D. Whelpley and Jacob J. Storer, Boston, Mass.: First, I claim the combination of hollow shaft, A, having holes, g, as described, with shaft wheel, D, as and for the purpose described.

Second, The placing spray wheel, C, and draft wheel, D, in separate but communicating chambers, E and F, as and for the purpose described.

Third, The construction of the arms of spray wheel, G, with the ladle-like ends, K, as drawn, so as to throw spray toward the shaft.

Fourth, The combination of hollow shaft, A, having holes, g, only in the limits of the chambers F, with spray wheel, C, as and for the purpose described.

Fifth, The forming of spray to a dust or gas-laden air in successive supplies of the same or different qualities, as and for the purpose described.

Six, The use of spray charged with chemicals, as described and for the purposes stated or mingled with steam or air so charged.

53,069.—Harvester.—J. H. Whitteack, Sonerville, N. J.: I claim the improved method of securing the teeth between the plates, A, A', of the sickle bar, namely, the L-shaped slots, b, b', in the teeth, the pins, c, c', and the tight-nut screw, C.

[This invention consists in attaching teeth to the sickle bars of grain and grass harvesters in such a manner that they may be readily applied to the bars and detached from them, thereby greatly facilitating the grinding of the teeth and the keeping of them in proper working order; and also enabling the operator, in case of the breaking of a tooth, to remove the same and apply a new one in a very short space of time.]

53,070.—Horse Hay Fork.—Asaph Whitmarsh, East Bridgewater, Mass.: I claim a hay fork provided with a self-acting tripper, C, having a recess, c, made to operate with the ball, B, and the block, F, substantially in the manner and for the purposes described.

I also claim the above described arrangement of the prongs of the fork in a curve, whereby those in the middle of the fork head are higher than those at the ends of it, the same being as and for the purpose specified.

53,071.—Fur Blower.—Russel Wildman, Danbury, Conn.: I claim preventing the adherence of short fur to the wire covered top by the action of the cam and levers, substantially as herein shown and described.

53,072.—Combined Seeding Machine, Roller, and Harrow.—W. W. Wiley, Edina, Mo.: I claim the combination of the rotary harrow and reciprocating seed distributing device, when used in connection with a roller or rollers, and operated therefrom in the manner substantially as herein shown and described.

[This invention consists in attaching a rotary harrow to a frame in which a roller is placed, and in such a manner that the harrow may be rotated from the roller and be capable of being adjusted higher or lower, as circumstances may require. A seed distributing device is also placed on the frame and operated from the roller; all being constructed and arranged in such a manner that the several parts above mentioned will operate conjointly and in a perfect manner.]

53,073.—Packing for Oil Well.—Walter S. Wilkinson, Baltimore, Md.: First, I claim the packing cylinder, E, of lead or other flexible substance permanently attached to the cylinder, F, adapted to be elevated, as described, resting upon the expansion ring, B, and beneath the tubing to be operated by the driver, H, substantially as set forth.

Second, I also claim in combination with the foregoing the spring catches, G, G', arranged in relation to the seat, L, to operate the packing cylinder, E, in the manner set forth.

53,074.—Combined Tunnel and Cocks.—Arthur G. Wilson, Chicago, Ill.: I claim a tunnel in which are arranged and combined the deflector, I, and the cock, B, all substantially as described.

53,075.—Landan Carriage Doors.—Frederick Wood, Bridgeport, Conn.: I claim the glass frame holders, G, C', constructed and operating as described.

53,076.—Jug Top.—Hugh Wright, Pittsburgh, Pa.: I claim forming the neck, part of the cover, half the hinge, and the rim of a sheet metal jug top from a seamless sheet metal cap, as specified.

53,077.—Stovepipe, Drum, and Oven.—James Beebe, Chicago, Ill., assignor to himself and H. Huber, Bloody Run, Pa.: First, I claim the combination of cylinder, A, with the two series of tubes or tubular openings, D, D', etc., and D'', etc., inserted therein, as and for the purpose shown and represented.

Second, I claim the closing of one end of any number of the tubes or tubular openings, D, D', etc., and the attachment of oven doors at the other ends, A, D'', in combination with cylinder, A, and the two series of tubes, D, D', etc., and D'', etc., inserted therein, as and for the purpose shown and represented.

53,078.—Process for Making Beer.—John S. Bressler (assignor to Anthony Ihms), Milwaukee, Wis.: I claim the process heretofore described of preparing mash for brewing beer by the use of corn or maize and malt, in quantities and manner as set forth, with application of water in quantities and under degrees of heat, as described, and in the manner substantially as set forth, by uniting the malt and the maize by one manutention and washing the two together before any chemical change has taken place in either grain.

53,079.—Gage Cock for Steam Boilers.—James Holdcraft (assignor to himself and William Holdcraft), Philadelphia, Pa.: I claim the employment of a washer, G, in connection with flexible joints in the manner and for the purpose substantially as described.

53,080.—Eyelet Machine.—William R. Landford, Hartford, Conn., assignor to himself and David Whittemore, North Bridgewater, Mass. Antedated Oct. 9, 1865: First, I claim the combination and arrangement of the die, A, the male former, B, the punch, C, the female former, C', the elevator, D, and the flanching die, e.

Second, I also claim the combination of the die, d, and the expelling passage, f, with the female former, C', the punch, C, the male former, B, and the die, A, all constructed and arranged substantially as described.

Third, I also claim the combination of the die, d, the expelling passage, f, the female former, C', the punch, C, the male former, B, the elevator, D, and the die, c.

Fourth, I also claim the combination and arrangement of the seat or spur, a, with the male former, B, the die, A, the punch, c, and the female former, C', all constructed and arranged as described.

Fifth, I also claim the combination and arrangement of the angular groove, h, with the elevator, D, and the flanching die, c.

53,081.—Paper for Postage Stamps.—Henry Lowenberg (assignor to himself and Emile Granier), New York City: I claim the use of prussiate of potash and oxalic acid or such other alkaline salts or acids in or on the paper to be used for writing or printing, or both, so that when any attempt is made by the use of any chemical agents to remove such writing or printing, or both, the paper will perceptibly change its color, but the writing will be more affixed to the paper.

53,082.—Apparatus for Cooling Liquids.—B. G. Martin, Philadelphia, Pa., assignor to himself, W. Sandford, New York City, T. M. Davis, Philadelphia, Pa., and L. H. Walton, Philadelphia, Pa. Antedated March 2, 1866: First, I claim the two vertical casings, A and A', with their boxes and plates, the whole being constructed and arranged substantially as and for the purpose specified.

plates, h, of the latter, corrugated or otherwise formed, so that the liquid may flow along the same in separate channels.

53,093.—Apparatus for Pressing Hats.—Monroe Morse (assignor to himself and Aaron H. Morse), Franklin, Mass.: I claim the construction and arrangement of the elastic head, D, the series of cushions, E, the grooved cylinder, C, or its equivalent, and the screw, H, as applied to the chambered block, C, or the flexible presser, B, substantially in manner and so as to operate as specified.

53,084.—Farm Gate.—Franz Miller (assignor to Lyman S. Paine), Mokena, Ill.: I claim a device for a rear extension to a gate to serve as a brace and support, when used in connection with stationary bar, or plate, F, on which to slide longitudinally as and for the purposes set forth.

53,085.—Horse Hay Fork.—John F. Pierce (assignor to himself Isaac Pierce and James S. Hall), Holland Patent, N. J.: I claim the arrangement of the swivel head, O, jointed arm, B, guide, G, shear, D, pawl, H, spiral shaft, A, lead, m, c, C, and lines, E, constructed, arranged and operating substantially as herein described and for the purpose set forth.

53,086.—Button.—Alexander Selkirk (assignor to Eliza J. Selkirk), Albany, N. Y.: I claim the stem, a, with the top, b, b' in combination with the secondary button, B, constructed of the metal plates, f and g, with the rubber disk, d, and substantially in the manner hereinbefore described and for the purpose set forth.

53,087.—Steam Blower.—Joseph Simmonds (assignor to himself and Samuel G. Lav), Brooklyn, N. Y.: First, I claim a steam blower, constructed of a hollow shaft, a, with radiating arms, b, and connecting pipes, C, in combination with wings, d, substantially as and for the purpose described.

Second, The segmental chamber, B, in combination with a steam blower, constructed as and for the purpose set forth.

[This invention relates to the arrangement of a steam blower constructed on the principle of a Scotch turbine wheel. The steam is let in through the hollow shaft and it discharges through a series of curved arms which are connected by perforated figures running parallel with the shaft, and also by plates of sheet metal which fill up the square between said curved arms, in such a manner that by the action of the steam a rapid revolving motion is imparted to said wheel and a mixed current of steam and air is created which can be employed with good advantage under a pressure or as a ventilator.]

53,088.—Device for Canal Propulsion.—Greenleaf Stackpole, New York City, assignor to himself, Nathaniel F. Spear, Elizabeth, N. J. and C. and D. Cobb, Boston, Mass. Antedated Feb. 28, 1866: First, I claim in combination with the bar, B, or its equivalent wheels, D', D2 and suitable power within the boat, C, the sleeves, E', E2, and shafts, d', d2, adapted to slide one upon the other, substantially in the manner and for the purpose set forth.

Second, I claim in combination with the sleeves, E', E2, shafts, d', d2, and wheels, D', D2, the transverse sleeve, E1, adapted to slide on the shaft, e, and allow the wheels D', D2, to yield both vertically and laterally, substantially in the manner and for the purpose herein set forth.

53,089.—Lamp.—Oscar D. Woodbury (assignor to Thomas B. De Forest), Derby, Conn.: I claim the arrangement of the pawl, a, relating to the wick and the fuel, so that the descent of the wick, before it has passed below the control of the adjusting wheel, substantially as and for the purpose specified.

53,090.—Method of Fastening Corks in Bottles.—Gustave Bonsignies, called Bley, Rheims, France: I claim the means herein described of fastening stoppering corks for liquid bottles by the wire and wire fasteners, which can be removed by the hand without the aid or intervention of any instrument, as set forth.

53,091.—Cleaning Tubes of Boilers.—Daniel McDowell, Kingston, West Indies: I claim the arrangement of the jointed pipes, F, with the nozzle pipe, E, and the auxiliary opening, D, whereby to clean the flues or tubes of steam generators, as herein set forth.

53,092.—Composition to be Used as a Cement.—Stanislas Sorel, Paris, France: I claim as a new product the magnesite cement or cement having a magnesia base, composed substantially as herein described, for the purpose of forming various sub-structures in the arts, by agglomeration or moulding, as herein set forth.

53,093.—Manufacture of White Lead.—Peter Spence, Newton Heath, Eng.: I claim the production of white lead by dissolving substances containing oxide or carbonate of lead in caustic alkaline solutions and then precipitating the required carbonate.

REISSUES.

2,182.—Machine for Shaving and Nicking Screws.—American Screw Company, Providence, R. I., assignee of Thomas J. Sloan. Patented Oct. 21, 1851: I claim the combination of the gripping jaws on the rotating mandrel; the shaving tool on the movable tool post, and the cutter for cutting the nick in the head, substantially as described, to perform the operations of shaving and nicking in succession, and while the blank is gripped in the same jaws, in combination with their gripping jaws, in combination with the shaving mechanism and the nicking mechanism, substantially as described, so that the operation of shaving can be performed on a blank while the operation of nicking is being performed on another blank, as set forth.

I also claim giving to the mandrel or mandrels end play in their boxes, in such a manner as to permit the rest at the back of the mandrel and with the cutter substantially as specified, by means of which the same position of the blank relatively to the cutter is obtained for the second shaving operation which it had for the first, as described.

I also claim the combination of the gripping jaws on the rotating mandrel the shaving tool on the movable tool post, the rest for bearing against the blank to steady it while being acted upon, and the cutter for cutting the nick, substantially as and for the purpose described.

I also claim the combination of the gripping jaws on the mandrel for holding the screw blank, the cutter for cutting the nick, and the rest for holding the blank steady while it is being nicked, substantially as described, whereby I am enabled to nick the head while the blank is held in the jaws and a mandrel capable of being rotated.

I also claim subjecting the blank while held in the same jaws, successively to the three operations of shaving, nicking, and re-shaving, by the means substantially as herein described.

2,183.—Wire Staple.—Byron Boardman, Norwich, Conn. Patented March 30, 1858: As a new manufacture or commodity, I claim a wire staple adapted for use in making window blinds or screens, and constructed substantially as above described.

2,184.—Shingle Machine.—Charles S. Burt, Dunleith, Ill., assignor by mesne assignment of H. H. Low. Patented March 16, 1858: First, I claim a vertically movable and counterbalanced bolt gate or frame, G, in combination with a circular saw, D, which is arranged in a fixed frame and operating substantially as described.

Second, Providing a vertically movable, counterbalanced bolt frame or gate, G, with a head block, K, and contrivances for adjusting said block up to and from the saw, when constructed substantially as described.

Third, So constructing a machine for sawing tapering or straight slabs from a log, that the table or frame upon which the log is secured shall be automatically returned by an upward movement or a downward movement to a position which will admit of the adjustment of the bolt after each cut, by the means substantially as described.

Fourth, The combination of the vertically movable counterbalanced gate and table, with the head block, K, by means, L, saw, M, and racks, J, arranged and operating substantially as described.

2,185.—Machine for Verrating Sheet Metal.—Thomas Brasher, New York City, assignee by mesne assignments of Ward Eaton, Patented May 6, 1854: First, I claim the cutters attached to the reciprocating cutter stock, K, that is to say the series of serrated cutters and the straight sheet cutter whose cutting surfaces or edges lie in the same different horizontal planes in combination with the stationary series of serrated cutters and stationary shear cutter whose cutting surfaces or edges lie in inclined planes, substantially as set forth.

Second, I also claim arranging serrated dies in series so as to operate with a sheet metal cut substantially as described.

2,186.—Head Block for Sew Mills.—Dennis Lane, Montpelier, Vt. Patented Sept. 6, 1864: First, I claim the arrangement of the stationary open racks, E, wheels, F, and shaft, G, constructed and operating in the manner and for the purpose set forth.

Second, The use of the segment, L, and bent or curved as shown to operate in connection with the rack, M, and pin, a, of pawl, I, substantially as described.

Third, The latch, K, applied to the segment, L, in connection with the pin, a, of the pawl, I, arranged substantially as shown, to regulate the sweep of lever, H.

2,187.—Steam Capstan.—John Shaffer, St. Louis, Mo. Patented March 31, 1857: First, I claim a capstan with the drum divided in two parts, the shaft, R, of which rotates with the drum, c, and if which can be rotated separately or combined with and by or independent of said shaft and operated substantially in the manner and by the means herein described and for the purpose set forth.

Second, The use of the "winch heads," B, when used in combination with the extension of the hoisting shaft, y, placed on the gullows frame, A, as herein described and for the purpose set forth.

2,188.—Manufacture of Tape Trimming.—The Elm City Company, New Haven Conn. assignees C. O. Crosby and Henry Kellogg. Patented Sept. 16, 1862: We claim as an improved article of manufacture, the finished tape trimming constituted and made substantially as herein described.

2,189.—Watch.—Merritt Burt, Cleveland, Ohio. Patented Sept. 13, 1864: I claim so connecting a pin on of a watch train to the center shaft or arbor that said pin will turn with it or in the ordinary running of the movements, and at the same time turn independently of it, in case of any sudden recoil or rupture of the main spring or undue strain upon the levers when being wound up or otherwise, for the purpose specified.

Second, I claim in combination with the center shaft of a watch train, a hollow friction pinion thereon so as to turn with or independent of its arbor without clicks or ratchets, substantially as and for the purpose described.

Third, I claim holding or supporting the friction pinion, D, in place upon its shaft or arbor by means of a screw nut, substantially as set forth.

Fourth, I claim the combination of a spring washer and nut with a friction pinion and its shaft of a watch train, substantially as and for the purpose set forth.

DESIGNS.

2,273.—Military Cenotaph.—John S. Armstrong, Prairie du Chien, Wis.

2,274, 2,275, and 2,276.—Architectural Center Flowers.—Samuel Kellett, San Francisco, Cal. Three Patents.

2,277.—Trade Mark.—Robert S. Lyon, West Morrisania, N. Y.

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**Shifting Top for Wagons.**

To those who are not able to have several vehicles for use in all kinds of weather, the shifting-top device lately invented must prove very convenient, since a top wagon is converted into a no-top buggy, or the reverse, in a few minutes and with little labor. The parts are the same in number and character as in all top wagons; but instead of being permanently fastened, are capable of being changed, as before-mentioned.

We here illustrate one of the shifting tops alluded to. The details consist of a series of brackets, A, fastened to the seat of the wagon, and dogs, B; in connection with the latter are the springs, C. The top is held in place by inserting the feet in the brackets, A, and shifting the dogs, B, so that they fall in between the two parts, as shown at D—one dog serving to confine both legs. The dogs are jointed to the bracket, E, so that they cannot be lost, and when in place are held there by the springs. To remove them it is only requisite to depress the spring and move the dog on one side, as shown at F. The top can then be lifted off and laid on one side.

A patent is now pending on this invention through the Scientific American Patent Agency. For further information address F. B. Morse, Milwaukee, Wis.

**The Trichina.**

The *Detroit Tribune* says that one case of the disease called trichina, which has recently excited much alarm in Berlin, Prussia, has appeared in that city and proved fatal. The victim was a German young lady. *Trichina spiralis* is a small microscopic worm or animalcule, which is found in the muscles and intestines of various animals, especially pigs and rabbits, in such enormous quantities that in a single ounce of pork 100,000 of these animalcule have been found. By partaking of the meat infected with them they are transferred to the human body, causing intense suffering, followed in many cases by a painful death. These animalcule are not destroyed by smoking or by frying pork, but hard and long boiling is necessary.

We learn by the London *Lancet* that at Hedersleben, in Prussian Saxony, upward of ninety deaths have occurred from this disease, while the number of persons attacked has been several hundred. All this havoc has been caused by one trichinous pig! The butcher, having recognized the abnormal appearance of the meat of this pig had carefully disguised it by mixing it with the meat of two healthy pigs or added it in small pieces to larger joints of pork to make up weight. He made this confession shortly before his death, which was caused by trichiniasis contracted from his own meat. His wife also died of the disease.

**A \$25,000 Tree.**

In the month of January, 1866, a remarkable tree was brought to New York from a Western State, which is considered by the best judges to be worth \$25,000. No foreign tree was ever brought here of so great value. This was a black walnut tree 70 feet long, measuring board or inch measure 4,500 feet; but when cut into veneers it would be 30 times that, making 135,000 feet, which at 20 cents would be \$27,000. The cost of cutting, carting and placing in store for sale, would be about \$700.

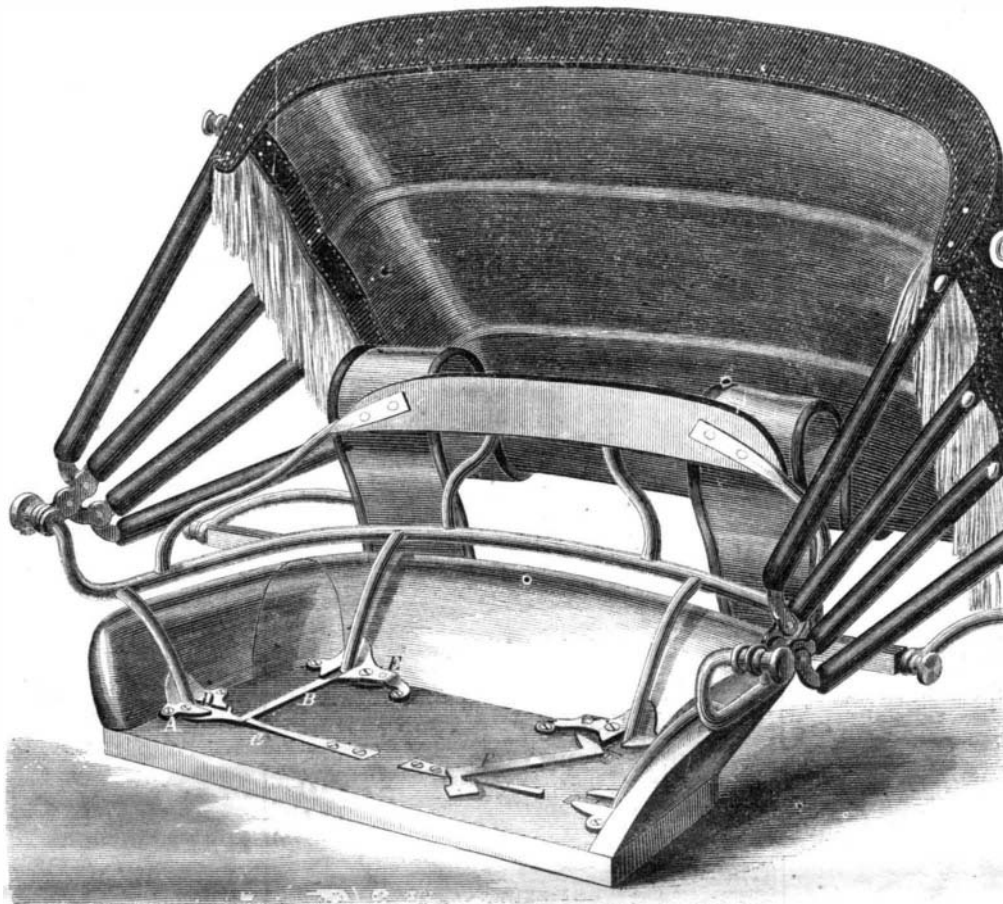
There are other kinds of trees also in this country which are valuable for manufacturing purposes, as well as for fruit and shade, of which black walnut has for the last six years been gradually taking the lead of mahogany, and is worth now as much as mahogany was formerly. The figure most sought for at present, is a stripe which seems to be formed by the saps, casting dark and light shades alternately through the tree, which, when worked, makes the most beautiful furniture that is manufactured. A tree worth

head, in bolts for bridge making and similar work. The machine appears so plainly that little is needed by way of letters of reference. It consists of a solid cast-iron block, fitted with a die on top for holding the iron, and a block underneath for supporting the end of the iron while the head is being made. This block can be moved up and down, set at any point, and then keyed up—the several parts, in connection with the key, holding it firmly together. The dies are opened for the insertion of the iron by a treadle at the side, and closed again, to hold it fast, by another in front, and swages both half round and hexagonal are cast at the top, for obvious purposes. This is a most convenient machine and is in use in many of the largest and best-appointed machine shops in the country.

For further information address L. L. Davis, manufacturer, Springfield, Mass., by whom it was patented Feb. 6, 1866.

**The New Cable.**

The new Atlantic cable, now in course of construction by the Telegraph Construction and Maintenance Co., has the ten sheathing wires galvanized instead of plain. With this exception it is of the same make in every respect as that laid last year. Individual wires are weakened slightly by galvanizing, but in the case of the cable it is said that additional strength is given—that the wires instead of snapping, yield till the strain bears also upon the surrounding hemp, so that, in fact, the breaking strain of the cable is increased to nine tons.

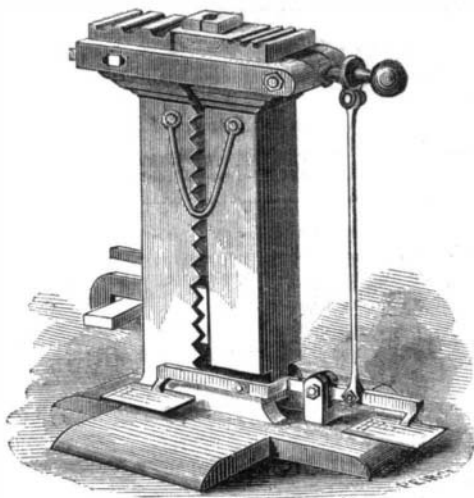


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\$10,000 is not often found; but one worth \$25,000 is harder to strike than oil. Our forests abound in trees of great value, and the wealth that is in them is scarcely yet begun to be developed.

**DAVIS'S BOLT HEADER.**

The method of making machine bolts, now practiced, is to cut the iron long enough to form a head,



heat it white hot, and then upset the iron on the end by repeated hammering until it fills the die it has been placed in. This makes a solid, firm head, far better than the old way of welding on a collar and subsequently swaging it to shape.

The machine shown in this engraving is one well adapted for the purpose; it is strong, solid, and conveniently arranged, and bolts of great length can be headed up as well as short ones. This saves the weld, which is generally made five or six inches from the



**INVENTORS, MANUFACTURERS**

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