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29,555.—J. P. Allen, of Dover, Ga., for an Improvement in Seed Planters:

I claim the arrangement of the two halves of the hopper, *g g*, adjustable bars, *d d*, oscillating shaft, *H*, arm, *I*, rod, *j*, bar, *K*, and straps, *k k*, as and for the purpose shown and described.

[This invention is more especially designed for planting cotton and other seeds, the discharge of which from the hopper or seed-box is attended with difficulty on account of lint being attached thereto, as in the case of cotton seed, or on account of an irregular form, or a viscid coating which some seeds possess.]

29,556.—Wm. Bailey, of London Grove, Pa., for an Improved Machine for Bending Tires:

I claim the roller, *F*, when adjusted vertically through the medium of the frame *E*, and double inclined plane *G*, and the bridge, *D*, with its hooked legs, *d d*, and screw, *e*, when they are arranged in respect to and in combination with the continuous wheel, *C*, substantially as described and for the purpose specified.

29,557.—J. C. Baker, of Mechanicsburg, Ohio, for an Improvement in Fruit Jars:

I claim the peculiar conical form of the cap, *C*, with a depression in the apex for the pivot, *e*, and a groove around the base for the gasket, *a*, when employed in combination with the clamp, *D*, and inclines, *B B'*, as and for the purpose set forth.

29,558.—L. W. Baker, of Marlboro', Mass., for an Improved Bread-slicer:

My improvement and what I claim consists not only in constructing the knife with the stud pins, *b*, made to project from its opposite sides, but in constructing the standard or carrier, *B*, of two vertical plates, *d d*, made with two curved slots, *c c*, and an opening, *e*, leading out of each, in the manner explained and represented.

29,559.—J. G. Barker, of Watertown, Mass., for an Improved Cheese-cutter:

I claim the above-described cheese-cutter, having its knife, *K*, guided by the grooved rod, *M*, and operating in the manner substantially as described.

29,560.—P. M. Belton, of Brooklyn, N. Y., for an Improvement in Compounds used as Decolorizers:

I claim the composition substantially as specified by combining chalk, or its equivalent, with peat, so as to form, after carbonization, a mass which may be used as a substitute for animal charcoal in sugar refining, essentially as set forth and for other analogous purposes or uses.

29,561.—L. R. Blake, of Abington, Mass., for an Improvement in the Manufacture of Boots and Shoes:

I claim uniting the bottoms and vamps of boots or shoes with stitches made without passing the end and length of the unused thread through the parts united by interlocking one loop of the thread with another, and extending through the said parts, substantially as shown and described.

39,562.—L. R. Blake, of Abington, Mass., for an Improvement in the Manufacture of Boots and Shoes:

I claim, as a new article of manufacture, a boot or shoe in which the bottoms and uppers are united with stitches made without passing the length and end of the unused thread through the parts united by interlocking one loop of the thread with another, and extending through the said parts.

29,563.—J. N. Bodine, of Bridgeton, N. J., for an Improvement in Bottles:

I claim, first, A bottle constructed with vertical and short horizontal grooves on the interior of the neck, substantially as described for the purpose set forth.
Second, The method of fastening the cork in the bottle, by means of vertical and horizontal grooves, in combination with an independent plug or block.

29,564.—J. P. Bond, of Greenwood, S. C., for an Improvement in Plows:

I claim the arrangement of the curved brace, *G*, beam, *A*, with its clevises, *C C*, stock, *E*, crossbar, *D*, and stilts, *B B*, as and for the purpose shown and described.

[The object of this invention is to construct the ordinary single shovel plow in such a manner that it will not need the usual diagonal brace, which greatly obstructs the forward movement of the plow through the ground on account of its gathering weeds, grass, &c., and it will be firmly and rigidly braced, and secured against backward pressure.]

29,565.—S. G. Brett, of Newport, N. H., for an Improved Machine for Pointing Shoe Pegs:

I claim, first, The elastic pressure rollers, *G G*, the fluted rollers, *F F*, or any equivalent substitute for the latter, and the angular or screw-like roller, *X*, in combination with the tool-stock, *H*, arranged and operating as set forth.

Second, The improved tool stock, *H*, with two or more pointing tools, *a a*, running in the same groove, arranged as above set forth.

29,566.—B. W. Bruel, of Beloit, Wis., for an Improved Mop-holder:

I claim the slotted hole and pin by which the jaws, *B B*, are rendered self-adjusting, in combination with the bifurcated handle, *A*, and retaining clamp, the whole arranged and operating as described for the purpose set forth.

29,567.—L. D. Burch, of Sherburne, N. Y., for an Improvement in Plows:

I claim the combination and arrangement of arms, *D*, rods, *E*, slotted cross-head, *F*, clevis, *H*, cord, *L*, or its equivalent, substantially as set forth, for the purpose shown and described.

29,568.—E. G. Burger, of Ypsilanti, Mich., for an Improvement in Foot-scrappers:

I claim the arrangement of the inclined plate, *D*, provided with plane and convex surfaces, *b c*, and the uprights, *B B*, having curved flanges, the above parts being used with or without the brushes, *C*, as and for the purpose set forth.

[The object of this invention is to obtain a foot-scraper, by which the boot or shoe may be more effectually cleaned than by the ordin-

ary scrapers, provision being made for thoroughly cleaning the sides of the sole and upper, as well as for cleaning the instep of the sole, and front part or side of the heel, portions which are generally slighted in consequence of the difficulty and in many cases impossibility of cleansing them by the ordinary scrapers.]

29,569.—Saml. Canterbury, of Holmes county, Miss., for an Improvement in Plows:

I claim the arrangement of the beam, *Z*, helve, *A*, rod, *e*, bolts, *c* and *d*, hands, *f*, bar, *h*, piece, *h*, and moldboard, *g*, the whole being constructed and combined in the manner and for the purposes set forth.

29,570.—Daniel S. Chase, of Augusta, Ga., for Improved Anti-friction Rollers for Propeller Shafts:

I claim the combined use of the two sets of anti-friction rollers constructed substantially as described, one set on each side of the disk or collar of the shaft.

29,571.—W. H. Churchman, of Janesville, Wis., for an Improvement in Furnaces for Heating Buildings:

I claim, first, The combination and arrangement of the fire space with or without the grate, *a*, central flue, *d*, smoke damper, *T*, return flues, *b b*, covering plates, *v v*, openings in plates, *x x*, and exit opening, *a*, with or without the T-pipe for returning the smoke to the chimney, substantially as described, whereby the heat is economized and diffused over the surfaces of the rarefiers, *C C C'*.

Second, The arrangement of the hot air chambers, *A*, cold air-chambers, *B*, and connecting flues *A' B'*, in the walls of the furnace with or without the stop dampers, *M N O O'*, substantially as described, whereby all or any number of the rarefiers, *C C C'*, may be connected at pleasure.

Third, The combination and arrangement of the evaporating pans *P B*, flues, *R R*, and registered openings, *2 2*, substantially as set forth, whereby any required degree of heat may be imparted to the water in the pans, and all of the warmed air made to pass directly over the surface of the same in its passage from the furnace.

Fourth, The combination and arrangement of the rarefiers, *C C C'*, hot air-chambers, *A*, cold air-chambers, *B*, connecting flues, *A' B'*, stop dampers, *M N O O'*, ventducts, *D F E G*, registers, *H I J K*, and dampers, *L*, above the registers, substantially as described, whereby the warming and ventilating currents may be perfectly controlled as set forth.

29,572.—P. S. Clinger, of Conestoga Center, Pa., for an Improved Machine for Cutting Fodder:

I claim the combination of the bar, *K L*, sliding chairs *I*, with their slotted semi-circular knives, *H*, square ended and slit screws, *C C*, sliding table, *D*, in the cap, *e*, with its binding rod and screw, *r r*, when combined as set forth for the purpose specified.

29,573.—Richard Cranston and Henry Bates, of New London, Conn., for an Improvement in Projectiles for Fire-arms:

We claim the employment of the washer, *e*, in combination with the tube, *C*, or its equivalent, and chamber, *d*, so that the pitch, while in a plastic state, may be compressed around the fuse rope and the surplus pitch be allowed to escape, substantially as and for the purpose shown and described.

[This invention is an improved mode of fastening the fuse rope or cord in bomb lances or other projectiles. It consists in coiling a quantity of the fuse rope in a chamber formed by a partition in the shell of the bomb and by the breech-nut, and of such a size that a quantity of the fuse may be coiled through and surrounded by pitch or some other resinous substance, which is squeezed down into the chamber, so as to keep the coils of the fuse rope separate; and from this chamber the end of the fuse is presented in the proper central position by means of two washers, the inner one of which, together with a suitable gaging tube, serves to compress the pitch while it is in a plastic state; while the outer one, which is made of india-rubber or leather, serves to protect the inner washer against the influence of the fire from the gun.]

29,574.—J. S. Davis, of Tiffin, Ohio, for an Improved Washing Machine:

I claim, first, The arrangement of the grooves, *b*, in the sides of the tub, *A*, and furnished with steps, *c*, in combination with the pawl or pawls, *d*, and ratchet teeth, *e*, substantially as described, for the purpose of adjusting the washboard to the height of the operator.

Second, The arrangement of the adjustable washboard, *B*, with a roller surface, *e'*, in combination with the reciprocating hinged rubber, *D*, being guided in its motions by grooves in the side flanges, *f*, of the washboard, and operating in the manner set forth.

Third, The combination with the washboard, *B*, and reciprocating rubber, *D*, of a hook, *F*, constructed and operating substantially as and for the purpose specified.

[The object of this invention is to construct the washboard and the roller in such a way that the former can be adjusted to suit the height of the operator and the quantity of clothes to be operated upon; and the latter being hinged, it adapts itself to the clothes that may be put upon the washboard.]

29,575.—John Devlin, of Philadelphia, Pa., for an Improved Lever Escapement for Watches:

I claim the application to the lever of the banking springs, *f f*, constructed and arranged to operate in the peculiar manner described.

29,576.—H. D. Dunbar, of Memphis, Tenn., for an Improvement in Pistons for Steam Engines:

I claim, in combination with the solid or uncut ring, *A*, the segmental or cut rings, *e i*; the latter fitting into the angle of the former, and both breaking joint with each other; said rings, *e i*, being held out by the action of the steam in the cylinder, mainly to pack the piston, as represented.

29,577.—Jacob Edson, of Boston, Mass., for a Street-sweeping Machine:

I claim, first, Forming the rim of the driving-wheel with a series of sectional projections, teeth or cogs, that are susceptible of being removed and replaced when worn, at pleasure, substantially as described.

Second, Arranging the broomshaft, *b b*, diagonally with and across the line of the driving-wheel, *w w*, and supporting-wheel, *a' a'*, as described and represented in the drawings, so as to easily balance the apparatus, however heavy the brooms and their shafts may be, with the use of but two wheels, permit the greatest possible width of broom being obtained, and enable the brooms to sweep close up to the edge-stone, as set forth.

Third, Attaching the brooms directly to their shaft by means of the volute springs, *c c*, so that they will bear with an elastic-yielding pressure upon and adapt themselves to the inequalities of the surface to be swept.

Fourth, The arrangement of the dish-shaped driving-wheel and gear attached to the same, in the manner and for the purpose described.

Fifth, The arrangement of the swinging bar, *k*, playing in the vertical standard, *l*, and forming a bearing for the broomshaft, as described.

Sixth, The use of the elastic band and strap, *v*, operating as described, with the swinging bar, for the purpose set forth.

Seventh, Hanging the supporting-wheel, *a' a'*, in the hinged frame-work, as described, and for the purpose specified.

29,578.—J. S. Fowler, of Peoria, Ill., for an Improvement in Corn Planters:

I claim a seeding cylinder, arranged with its axis parallel to the line of motion of the machine, and having an alternate rocking motion in opposite directions, in order to scatter the seed laterally, in combination with a sled-runner drill plow, constructed and arranged substantially as described, for the purpose as set forth.

29,579.—R. W. Gardner, of Quincy, Ill., for an Improvement in Governors for Steam Engines:

I claim supporting the spindle of a governor on the head of a valve stem, but unconnected therewith, in combination with an adjustable weighted lever, tending to keep the several parts in close contact and partly balancing the weight of the moving parts of the governor, substantially in the manner and for the purposes described.

29,580.—R. M. Garretson, of Rhinebeck, N. Y., for an Improved Camp Stool:

I claim pivoting the arms, *B B B B*, and the legs, *E E E E*, to the slotted block, *A*, and connecting these arms and these legs together by the peculiar joint described, so that the ends of said arms will act upon the ends of said legs in the block, *A*, in opening or closing the arms.

[This invention consists in so pivoting the legs and arms of the stool to a block that each arm will form a brace for its respective leg; and thus, when the arms are spread out and the canvas seat stretched over them, and a weight put upon the seat, the legs will be spread out and firmly held in this state; so, also, when the arms are contracted in folding-up the stool, the legs will be drawn together and held in that state.]

29,581.—Wm. L. Gebby, of New Richland, Ohio, for an Improvement in Seed Planters:

I claim the combination and relative arrangement of plow share, *R*, harrow, *U U S*, covers, *T T*, seed-box, *B*, semi-circular valve, *I*, curved bar, *L*, and connecting-rod *C*, spring, *H*, and levers, *D H*, substantially as and for the purposes set forth.

29,582.—W. Y. Gill, of Henderson, Ky., for an Improvement in Air Pumps for Exhausting and Sealing Cans:

I claim, first, Constructing and combining the plunger and air pump, substantially as described, so that one plunger may be used for the double purpose of exhausting the air and driving the stopper firmly into the mouth of the can or jar, as set forth.

Second, Suspending the lower end of the main cylinder a suitable distance above the mouth of the can or jar, by means of an enlarged cylinder cup attached to said end of the main cylinder substantially as and for the purposes set forth.

29,583.—Schuyler Goldsmith, of Wataga, Ill., for an Improvement in Cultivators:

I claim the combination and arrangement of the seat, *G*, draft pole, *I*, racks, *J K*, and axle, *E*, applied to the frame, *A*, substantially as and for the purposes set forth.

[The object of this invention is to obtain a cultivator which will admit of being adjusted or raised and lowered bodily while the operator is seated on the implement; and also admit of having its front part raised or lowered, as circumstances may require.]

29,584.—B. A. Goodell, of Millbury, Mass., for an Improved Rotary Engine:

I claim, first, The arrangement, in combination with the hollow piston wheel, *E H*, and the pistons, *F F*, of the cam, *b c d*, attached to the journal-box, *I*, which receives the inner end of the shaft and is inclosed within the piston wheel, substantially as described.

Second, The arrangement of the valves, *u u u'*, and their connections, *w v v'*, in combination with the single induction passage, *q*, and its branches, *r r'*, and the two exhaust pipes or passages, *t t*, substantially as and for the purpose specified.

[This makes a very simple rotary engine. The peculiarities cannot, however, be well explained without a drawing.]

29,585.—C. F. Grabo, of Boston, Mass., for a Copying Press:

I claim, first, The combination of the rod, *G*, with the levers, *N* and *M*, acting simultaneously upon the top and bottom platen of a press, in the manner and for the purpose substantially as described.

Secondly, I claim the manner of attaching the upright bolt, *E*, to the top platen, as described, and for the purpose substantially as specified.

29,586.—Gottlieb Graessle, of Hamilton, Ohio, for an Improvement in Drain Tile Machines:

I claim, first, The oil-boiled wooden molds, *g g'*, constructed and applied in the manner and for the purpose set forth.

Second, The combination and arrangement of the tempering tub, *B C D E*, grated sides, *F H*, sliding frame, *I I'*, valves, *b*, and molding tubes, *G*, constructed and operating in the manner and for the purposes set forth.

29,587.—J. C. Goar, of Monterey, Cal., for an Improved Belt-shipper:

I claim the arrangement of the pivoted locks or stops, *E E'*, and their spring, *G*, upon the face of the belt-shipper or slide, *B*, in the manner shown and described, so that pressure upon either of the cords, *H H'*, will first unlock the corresponding stop and then move the slide; all as set forth.

[This invention consists in furnishing the slide, by whose movement the belt is moved from one pulley to another, with two self-acting spring stops, one of which engages with a stationary notch to lock the slide in a position to hold the belt on one pulley, and the other with a similar notch to lock the slide in a position to hold the belt on the other pulley, and attaching the said stops to two cords or chains, so applied that, by pulling one of the said cords or chains, the slide is first unlocked, and then moved to ship the belt on to one pulley; and by pulling the other one, the slide is first unlocked, and then moved to ship the belt on to the other pulley, and afterwards locked.]

29,588.—Wm. H. Greenwood, of Galva, Ill., for an Improved Lock:

I claim the general form and arrangement of the plungers, *P*, of the key, as described, so that all of the changes can be made in the key, thereby making it a "mental" lock or not, as wished; together with the general form and arrangement of the bolts, *A* and *B*, the rack and pinions, *D* and *C*, with the frame and lever, *E* and *F*, in the manner described, so that the lock will accommodate itself to the key.

29,589.—Asa Greenwood, of Toulon, Ill., for an Improved Tenoning Frame:

I claim the combination and arrangement of the two bearers, *E E'*, the shoulder gages, *D D'*, the holding recess, *B*, and the back gage, *M*; such being for the formation of rebates on opposite sides of "stuff" by a plane, so as to make a tenon on such stuff, as described.

I also claim the combination of the adjustable bars, *L K'*, with the tool bearers, *E E'*, the shoulder gages, *D D'*, the holding recess, *B*, and the stop bar, *M*, arranged and applied together, substantially as specified.

29,590.—J. S. Hall, of West Manchester, Pa., for an Improvement in Plows:

I claim uniting a plow-standard to a plow-beam, by means of ratchet and flanged plates arranged on the sides of the beam and standard, so as to admit of folding-up, substantially such as described.

29,591.—J. S. Hall, of West Manchester, Pa., for an Improvement in Plows:

I claim a shoe or support as a device for fitting a straight handle to the back of a moldboard of a plow, when said shoe is made as described, of cast or wrought iron or of steel, and bolted or riveted to the moldboard, as stated.

29,592.—L. E. Hawkins, of Sangamon, Ill., for an Improvement in Cultivators:

I claim the arrangement of the oblique stocks, J', plows, J, vertically inclined stocks, I', plows, I, rods, a, b, frame, A, axle-tree, B, wheels, C, C, pole, D, lever, E, and seat, G, as and for the purpose shown and described.

[This invention consists in attaching to the rear of a carriage frame, capable of being raised or depressed, three times or shovels, so arranged that in once passing through the field between the young plants, they will loosen the soil on both sides of one row and on one side of each adjacent row; so that, virtually, two rows are cultivated. Still, the shovels are so disposed that the machine may be easily and properly guided between the rows.]

29,593.—A. A. Henderson, of Philadelphia, Pa., for an Improvement in Reaping and Mowing Machines:

I claim the rake, 4, having an upright part and obliquely-descending prongs, in combination with the endless chain or rope, arranged and operating as described, for the purpose of discharging the grain in gavels at intervals.

29,594.—A. A. Henderson, of Huntington county, Pa., for an Improvement in Machines for Reaping and Raking Grain and Mowing Grass:

I claim the combination of the rake, e, and horizontally-traveling endless belt or chain to which it is attached, with the platform, K', and sideboards, a, b, or their equivalents, substantially as described, for discharging the grain in gavels at intervals.

29,595.—J. G. Howard, of South Baintree, Mass., for a Machine for Applying Washers to Tacks:

I claim the combination and arrangement of the lifter, O, and vibrating hopper, M, or their equivalents, with the tack-adjusting chute, L, the same being made to operate together, substantially as explained.

Also, the combination of the agitators, T, T', or their equivalents, with the lifter, O, and the vibrating hopper, M; the said agitators being made to operate therewith substantially as and for the purpose specified.

Also, the combination of the notched tack-receiving and carrying wheel, K', and the lever, u, or the tack-separating mechanism, as described, with the adjusting chute, L, receiving tube, I, and its mechanism for driving the tack into the leather, as described.

Also, arranging and combining with the tack-adjusting chute, L, mechanism for agitating the same laterally, in manner and for the purpose set forth.

Also, combining the nippers or jaws, a2 a2', with the punch-plate carrier, c2, so as to be movable therewith, substantially as described.

Also, the combination of a spring presser, g2, as described, with the tack-receiver, I, and its operating arm or lifter bar, G.

Also, the combination of the auxiliary discharger, L1, with the carrying wheel, K', and the receiving tube, I.

Also, the combination of the lever plate, I', and its spring, m', or equivalent mechanism, with the chute, L, and the carrying wheel, K'; the said lever plate being arranged in the manner and to operate with the chute and wheel as explained.

29,596.—J. M. Hunter, of New York City, for an Improvement in the Preparation of Glue:

I claim the above-described glue as a new article of manufacture; the same being made from whale-blubber scraps, substantially as described.

29,597.—Sabin Hutchins and J. D. Leach, of Penobscot, Maine, for an Improved Churn:

We claim the arrangement of the churn, C, the pump, D, the sink, B, the lever, k, the pitman, g, the actuating shaft, r, and t, the toothed wheels, e, and f, and the hand crank, h, substantially in the manner and for the purpose set forth.

29,598.—Nicholas Jenkins, of New York City, for an Improvement in Wagon Springs:

I claim the combination, with the springs, A, A, of friction plates, G, springs, g, and set screws, h, constructed and operating substantially as and for the purpose described.

[The object of this invention is to obtain greater extent of motion with small springs. The invention consists in combining with each spring an arm, one end of which is pivoted to the casing containing the spring, which rests on a knife-edge-shaped head of the spring close to its pivoted end, in such a manner that the long end of the arm, which connects with the platform or body of the wagon, is allowed to move up-and-down through a comparatively large space with a very small motion of the springs; also, in combining the springs with friction plates and set screws, in such a manner that their action can be regulated according to the load on the wagon; also, in arranging each spring with a separate tension nut, so that its action can be regulated, and that its tension can be increased if the load on the wagon requires it.]

29,599.—Josee Johnson, of New York City, for an Improved Clothes-dryer:

I claim, in combination with the hinged frame or rods, A, B, C, and suspending cords, F, G, H, the straining cords, L, M, or N, operating to secure and release the rods; and the whole being arranged for action together, substantially as specified.

29,600.—Herrmann Jury, of New York City, for an Improved Spring Mattress:

I claim the arrangement of wire frame cells and springs, A, in combination with smooth fastening plates, D, in the manner described, and for the double purpose of increasing the flexibility of the wire frame and obviating the necessity of cord or wire bindings, as set forth.

29,601.—Lathrop Kazar, of Leroy, Ill., for an Improvement in Adjustable Moles for Mole Plows:

I claim the peculiar arrangement of the landsides, A, with respect to the adjustable apron, C, as operated, and inclined plane, D; the whole being constructed in the manner and for the purposes set forth.

29,602.—Wm. Kenyon, of Steubenville, Ohio, for an Improved Gas Pipe-cutter:

I claim the combination of a chisel, D, of a gas pipe-cutter, with a stationary and a revolving chuck, F, and a crankshaft, U, bevel gearing, I, H, cog-wheels, B, C, and screwshaft, J, or their equivalents, for the purpose of revolving the chuck, F, and feeding the cutting tool, D, forward, by the automatic action of the parts of the implement, substantially as set forth.

29,603.—Wm. Kimmel and Daniel Kimmel, of Cambridge City, Ind., for an Improvement Stump Extractors:

We claim the combination and arrangement of the capstan, B, lever, D, and shiftable roller, C, for applying the power at different speeds, substantially as set forth.

29,604.—Patrick Kenney, of Providence, R. I., for an Improvement in Valve Gear for Steam Engines:

I claim the arrangement of the two tripping-bars, L, L, joined to arms of the valve rockshafts, and working on guides or stops, M, M, in combination with the single rocker, N, and its adjustable toe, d; the whole operating substantially as described.

29,605.—G. H. Laub, of Newark, Mo., for an Improvement in Carriage Springs:

I claim the arrangement and combination of flat curved springs, C, C, and arms, A, A', when said arms are controlled by the segment gear on the contiguous portion of said arms and by the action of spiral spring, K, as described and represented.

29,606.—J. B. Lyons, of Milton, Conn., for an Improvement in Stump Extractors:

I claim the combination, with a jointed frame, A, A and B, as described, of the wheels, F, F, serving a twofold purpose, gear wheels, P, G, drum, H, pulleys, c, c, and hock and tackle, I, J; all arranged and made to operate in the manner and for the purposes described and represented.

[This invention consists in the employment of a jointed tripod framework, constructed of strong timber and suitably braced, to which are applied pulleys, a block and tackle, grapple hooks, a capstan and two large hand-wheels, which answer the purpose of carriage wheels for moving the frame about from place to place; it further consists in a novel device for adjusting the grapple hooks on their chains for adapting them to rocks or stumps of different sizes.]

29,607.—R. M. Lytle, of Triune, Tenn., for an Improvement in Portable Scaffolds:

I claim, first, Connecting the posts by means of transverse girders, arranged substantially as described, so that one or more may be taken-out or put-in without displacing the other parts of the frame.

Second, Arranging the bands confining the girders to the posts, so as to form splicing sockets to receive the two ends of the posts at the point where it is spliced.

Third, The combination of a double wedge with two bands for strengthening the splicing of the post, when arranged substantially as described, for the purpose set forth.

29,608.—John Magee, of Lawrence, Mass., and Wm. J. Towne, of Newton, Mass., for an Improvement in Stoves:

We claim the described arrangement of the valve box, its valve and leading and discharging conduits, relatively to the mouth of a furnace, and a discharge opening situated in rear of the fire-pot, as specified.

29,609.—Robert Marcher, of New York City, for an Improvement in Enameling Picture Frames, &c.:

I claim the combination of a movable tool, mounted substantially as described, for laying enamel or composition on curvilinear frames, with a face-plate carrying the frame to be enameled, and a piston of the form required to move the tool, substantially as and for the purpose specified.

And I also claim the combination of two or more movable tools, mounted substantially as described, so that each shall be capable of independent motions, with the face-plate carrying the frame to be enameled and two or more pistons, one for imparting the required motion to each tool, substantially as and for the purpose specified.

29,610.—Charles Marston, of Virroqua, Wis., for an Improvement in Grain Harvesters:

I claim, first, Operating the two sickles, G, G, through the medium of the lever, k, k, reciprocating slotted plate, F, vibrating lever, g, actuated by the crank, c, of the shaft, E, which derives its motion from the wheel, C, substantially as set forth.

Second, Operating the rake, K', intermittently through the medium of the teeth, w, arranged in sections on wheel, D, and the pinion, v, on shaft, M; and also the crank pulley, L, connected by the pitman, u, with the sweep or bar, I, having the slide, J, with the pendant, s, and the rake bar, J, attached; all being arranged substantially as described.

Third, The arrangement of the endless bands, a' c', in connection with the binding clamps, f', g', and their operating mechanism, substantially as shown, whereby the gavels are conveyed to the clamps, bound, and the sheaves conveyed to the platform, T, for the purpose of being discharged in shocks.

Fourth, The platform, T, attached to the shaft, U, as shown and described, and provided with the bars, X, V'; the bar, X, having a pin, p', attached, and also a cord, l', and the weight, o', connected to it, the cord being arranged with bar, V', and the latter provided with the catch, c, as set forth.

Fifth, The arrangement of the shafts, B', B', with the cast-iron arbor, r, and the cam, C', as shown, for the purpose of elevating the front part of the machine, when required.

Sixth, The arrangement of the cast-iron wheel, Y, with the pinion, s', on its arbor, r', the segment, t', and lever, z, connected with the neck yoke of the team or with the mechanism of any motor, to operate as set forth.

[This invention has for its object the obtaining of a machine by which standing grain may be cut, raked into proper gavels, bound and discharged from the machine in shocks. The invention consists in a peculiar arrangement of means employed for this end, so that the grain will be cut and operated upon, consecutively, by the different parts, which are so devised as to admit of animal or steam-power being applied.]

29,611.—John Maurer, of New York City, for an Improvement in Bottles:

I claim, first, The arrangement of the doubly-inclined channel, a, around the spout, B, of a bottle, in combination with an opening, b, in the side of said spout and at the lowest point of said channel, substantially as and for the purpose specified.

Second, The combination of the doubly-inclined channel, a, with the packing ring, substantially as described, so that, by the action of the channel, the packing ring is protected against the injurious influence of such portions of the contents of the bottle which, in pouring out, may run down on the outside of the spout.

[This invention consists in arranging around a perforated or slotted spout or neck of a bottle, a double inclined channel, in such a manner that such portions of the liquid which, in pouring-out, will run down over the outside of the spout, are conducted back through said channel to the opening in the side of the spout, and through said opening back again into the bottle.]

29,612.—P. G. McCulla, of Philadelphia, Pa., for an Improvement in Grinding Mills:

I claim the arrangement for operation together of the conical chamber, B, egg-shaped chamber, C, conical grinder, E, having scalloped or concave terminals, f, and cylinders, F, G, armed with cutters, e, h, in the manner and for the purposes described.

[This invention relates to certain improvements in that class of grinding mills in which a conical rotating grinder is placed within a corresponding shaped stationary shell, and which mills have crushing devices attached. The object of the invention is to facilitate the feeding or supplying of the substance to be crushed and ground to the crushing apparatus, and also to have the "dress" of the grinder and shell so formed as to insure rapid grinding and a free discharge of the ground substance.]

29,613.—Wm. Riley, Jr., of Reading, Pa., for an Improvement in Nail Plate-feeders:

I claim, first, The arrangement of the plate box, in such a position that the plate shall be delivered from the box for reception by the nippers, by a lateral movement, to a position in front of the nippers, or between the nippers and the cutters, substantially as described.

Second, The means of operating the plate, I', by which the nail plates are forced from the box to be received by the nippers, consisting of the pinion, J, shaft, J, pinion, J2, toothed sector, J3, arm, J4, stud, x, rod, J5, lever, Y', and cam, Y'; the whole combined and arranged substantially as specified.

Third, The described mechanism for drawing back the nippers to withdraw the plate from the cutters, preparatory to turning it over and for feeding it up to the cutters, consisting of the oscillating friction sector, X', the friction wheel, X1, the spur wheel, X2, and the rack, v, applied and operating substantially as described.

Fourth, The described mechanism for raising and turning the nippers, consisting of the plane lifters, W4, and V2, the rod, F4, and bearing, F2, the rods, V3 and V7, the sector, R, the loose pinion, f, and its pawl, f3, and the fast-toothed collar, F5, on the nipper-shaft; the whole applied, arranged and operating substantially as specified.

Fifth, The combination of the chain sector, S, the sleeve, U, with its cams, V, W, X, and the clutch, Z; the whole applied substantially as described, upon the same rockshaft, and in connection with the carriage, E, which carries the nippers, substantially as and for the purposes specified.

Sixth, The mechanism for operating the clutch, Z, consisting of the reverse cam, T, the lever, J5, the rockshaft, 21, with its several arms, and the tappet, 28, attached to the carriage; the whole applied and combined substantially as set forth.

[This invention consists in a certain novel arrangement, in combination with the nippers of a plate-holder of a feeder for cut-nail machines, of a box from which the plates are supplied, one at a time, to the nippers by automatic mechanism. It also consists in certain means for effecting the supply of the plates from the said box at the proper time; also, in certain improved means of drawing back the nippers with the plate from the cutters, preparatory to the turning of the plate and of lifting up and turning over the nippers with the plate; also, in certain means of discharging from the nippers the tag or waste ends of the plates; also, in a certain system of mechanism for moving back and changing the movements of the carriage which carries the nippers.]

29,614.—E. H. Plant, of Plantsville, Conn., for an Improvement in Attaching Thills to Vehicles:

I claim the employment of the wedge, L, screw, e, and nut, H, in combination with the xle, A, slotted plate, G, strap, D, bar, F, and pintle, G, as show and described, so that by depressing the wedge, E, the strap, D, with pintle, G, will be carried towards the plate, C, and the hearing of the pintle, G, between the strap, D, and the end of plate, C, will be tightened—all as set forth.

[The object of this invention is to obtain a simple means for attaching thills to axles, whereby all wear may be compensated for, or the parts readily adjusted so that they may be kept snugly in contact and the disagreeable rattling attending a looseness or play of the coupling, with the consequent wear and tear, avoided.]

29,615.—G. W. Rains, of Newburg, N. Y., for an Improvement in Steam Boilers:

I claim the combination of the upper and lower annular chambers, A, B, connected by two or more series of water tubes, C, C, D, D, the bars, F, F, or other filling between the inner tubes, the curtain-like cylinder, G, and the outer casing, H—the whole arranged substantially as specified.

29,616.—G. J. Rice, of Frederick City, Md., for an Improved Sugar-grinding Mill:

I claim the arrangement and combination of two cylinder rollers having pins or projecting points on the surface of each, both revolving together at different degrees of speed, in combination with the movable bottom, J, which extends over and protects cylinder, F, from the pressing weight of the sugar and jarring mechanism, substantially as and for the purposes specified.

29,617.—O. L. Richardson, of Athens, Ga., for an Improved Curb for Millstones:

I claim the employment of a curb, C, composed of two parts, a, b, the upper part, b, being provided with a flange, c, and the two parts, a, b, being separated by the interposed ribs or fans, D, leaving an air space, d, and an air escape orifice at the upper edge of the part, a, over which the edge of the part, b, projects—all as shown and described for the purpose set forth.

[The object of this invention is to obtain a simple and efficient device for admitting of the perfect ventilation of the millstones, that is to say, the admitting of a current of air through or between the stones while in operation, so as to keep the same in a cool state and thereby avoid heating the meal, consequently enabling the grinding operation to be considerably expedited.]

29,618.—Mark Rigell, of Dawson, Ga., for an Improvement in Cultivators:

I claim the combination of the spring shackle, G, and adjusting bar, E, with the beams, A, A, and stocks, B, B, arranged and operating in relation to each other as and for the purpose set forth.

29,619.—John Merry, of Eldorado county, Cal., for an Improved Mode of Marking Stock:

I claim the application of the owner's name with address by stamping or otherwise, and the mode of locking or securing the brand.

29,620.—Ezra Ripley, of Troy, N. Y., for an Improved Wrench and Pincers:

I claim the arrangement of the fixed and sliding wrench jaws, A, B, upon one handle, C, of a pair of pincers, substantially as represented; the other handle, F, of the pincers and the sliding wrench jaw being formed to engage together substantially as herein described.

29,621.—J. K. Robinson and J. M. Clark, of Bellaire, Ohio, for an Improvement in Pistons for Steam Engines:

We claim, first, A piston composed of a series of solid disks or plates of varying diameter, united by bolts substantially as described for the purpose set forth.

Second, Perforating the bolts which hold the piston plates together substantially as and for the purpose described.

Third, Adjusting the pressure of the steam upon the packing rings by turning the screw bolts, substantially as described.

Fourth, The combination of the guard plate, I, and tongue piece, i, with the ring, when arranged substantially in the manner described.

29,622.—J. G. Rogers, of San Francisco, Cal., for an Improvement in Tool Handles:

I claim the attaching of the handle, C, to the pick, A, or other tool by means of the straps, B, B, bands, D, D, and the steel rod, d, placed transversely in the handle, C, and having its ends projecting from the handle and fitting in the holes, e, in the straps, substantially as described.

[This invention relates to an improved mode of attaching handles to that class of tools and implements which are generally provided with eyes to receive the handles. The object of the invention is to dispense with the use of eyes which greatly weaken the tools, and at the same time obtain a firm and durable connection, and one that will admit of a ready adjustment of the handle to the tool and its detachment therefrom.]

29,623.—Wm. Russell, of Stoughton, Mass., for an Improved Wrench and Vice:

I claim the combination of the bar, A, jaws, B, C, screw, D, provided with a detachable handle, E, and the socket, F, arranged as shown to form a new and useful article of manufacture, for the purpose specified.

29,624.—W. F. Schroeder, of La Porte, Ind., for an Improvement in Seed Planters:

I claim, first, The manner of connecting and operating the spades for the purpose of regulating the depth the holes are to be dug, or to throw them out of operation when desired.

Second, The arrangement of the conducting pipes, in combination with the spades and feeding cups operated in the manner and for the purpose substantially as described.

Third, The arrangement of scrapers when connected with levers operated by the spades in the manner and for the purpose substantially as set forth.

29,625.—John Seiberling, of Philadelphia, Pa., for an Improvement in the Preservation of Caustic Alkalies:

I claim putting up caustic potash or soda in small quantities in wooden boxes previously prepared or coated on their inner sides and subsequently sealed hermetically, substantially in the manner and for the purposes set forth and described.

29,626.—Jackson Shannon, of Dakota, Wis., for an Improvement in Cultivators:

I claim the traverse bars, C C, attached to the bars, a, a, as shown, and used in connection with the planks, E E, and seat, D, and the axle, G, on which the bars, a, are fitted loosely, substantially as and for the purpose set forth.

[The object of this invention is to obtain an implement which may be used as a seeding machine to plant seed either in hills or drills, and also used as an expanding cultivator; the implement operating in either capacity equally as well as if it were designed especially for each.]

29,627.—George Slusser, of Hillsboro', Ohio, for an Improvement in Animal Traps:

I claim combining the rollers, d d, with the rear portion, B, of the base frame of said trap in the manner and for the purpose set forth.

29,628.—H. T. Smith, of Washington, D. C., for an Improved Bedstead Fastening:

I claim a face-plate constructed substantially as described, with a projecting flange arranged to form a straining to the fastening key, and with a double-pointed, revolving hook arranged to enter a bolt on either side, and also with a cup projecting over and forming a guide and guard to the curved hook.

29,629.—James Smith, of Norfolk, Va., for an Improvement in Plows:

I claim the arrangement of the peculiar moldboard, C, herein described, straight-edged point or cutter, A, and inclined landside bar, B, with its movable heel piece, D, when said moldboard extends down beyond the front end of the landside bar and the curve of the same is formed by a straight line moving parallel to the edge of the cutter in the path of a cycloid, as and for the purposes set forth.

[The cutter or point of this plow has a straight edge across its whole width and a similar straight back, which latter fits into a recess at the lower end of a moldboard. The surface of the moldboard presents a curvature of the first order, being produced by the motion of a straight line parallel to the edge of the cutter in the path of a cycloid. Thus all horizontal sections of the moldboard at different heights above the ground present straight lines parallel to the edge of the cutter, and all vertical sections through the moldboard present identical cycloids parallel to each other. The most rapid curvature of this cycloidal surface is near the top of the moldboard. The landside of the plow is inclined so that the plow rests on a broad edge in front and only on one point at the heel. By this construction of plow the sod moves up gracefully over the cycloidal moldboard without being broken, it only being turned over when it arrives at the top of the moldboard. We consider this to be a most excellent plow.]

29,630.—Nathaniel Snow, of Boston, Mass., for an Improved Steering Apparatus:

I claim the arrangement of the two racks, S S', the pinion, R, the auxiliary shaft, P, the bevel wheel, O, its pinion, N, the steering wheel shaft, K, and the slides, C C, applied to and for operating the rudder head as specified.

29,631.—M. Messer and A. Steinbrenner, of Cleveland, Ohio, for an Improvement in Hanging Sashes of Railroad Car Windows:

We claim securing the sash, E', in railroad cars by means of the notch, N, spring, P, and dowels, G, when these several parts are arranged and operated substantially as and for the purpose set forth.

29,632.—W. S. Stetson, of Baltimore, Md., for an Improvement in Harvesters:

I claim, first, Supporting the platform, a, over the axle, d, of the carriage wheels, and on the shaft, a', by means of the uprights, b, in such manner that by withdrawing the rods, f f', and the lever pin, p', the platform can be removed at once from the body of the machine.

Second, Combining the reversible spring lever, k, with reversible and adjusting lever, j, as set forth.

Third, So constructing the lever, j, and combining with it the axle, d, and reversible lever, h, that the said lever, j, may be readily adapted to raise and lower the cutters, whether the cutters are operating in front or in rear of the carriage wheels as set forth.

Fourth, Arranging the pawl, u, and spring, v, and ratchet, w, all within an open cylindrical rim, x, projecting inward from the hub of the driving wheel, whereby the parts are not only protected from rising dust and dirt falling from the driving wheels and disturbance from other sources, but are convenient to the driver to operate them directly with his hand without the aid of rods or levers.

Fifth, Providing the pawl, u, with a notch, z, the spring, v, and the ratchet, w, so that said parts may operate and be operated as set forth.

Sixth, Changing the position of the cutter bar from rear to front of the carriage wheels, substantially in the manner set forth.

29,633.—H. D. Stover, of New York City, for an Improved Cutter-head for Rotary Planing:

I claim, first, The conical or cone-graduating feed whereby the operator and stock are both secure when the latter is being entered to the cutters, essentially as set forth.

Second, Such graduating cone feed and revolving, adjustable guard with cutter-head, essentially in the manner and for the purposes fully set forth.

Third, Placing and clamping the cutters at an angle with and above each other essentially in the manner and for the purposes fully set forth.

Fourth, Combining a guide ring, F, with the cutter-head so that the ring shall remain stationary while the cutter-head revolves with great velocity within, when such ring and cutter-head are kept lubricated by a spiral channel in cutter-head or ring, to force the oil to every part of the working surface, essentially as set forth.

Fifth, Constructing curved grooves in collars, C and X, and imparting a corresponding reversed shape to the ends of clamp pieces, G, for securely holding them from flying out even if they should, by any reason, become loose, essentially in the manner and for the purposes fully set forth.

Sixth, Constructing the cutters, K L M and Q, and blanks, O S and U, with dovetail pieces, R P T and V, fitting to corresponding dovetail grooves formed in main part, B, to prevent the cutters or blanks from flying out under any circumstances, essentially in the manner and for the purposes fully set forth.

29,634.—A. M. Street, of Denmark, Tenn., for an Improvement in Gearing:

I claim so connecting the friction rollers to the cogs of gear wheels by means of journals and slots, or their mechanical substitutes, as that the entire pressure by which the wheels driven shall be exerted on the circumference of the rollers which directly bear on the cogs and on the wheel itself, and that no strain shall rest on the pivots of said rollers, substantially in the manner and for the purposes described.

29,635.—J. B. Sutherland, of Detroit, Mich., for an Improvement in Sleeping Cars:

I claim the employment or use of the bearings or brackets, D D' F F' G G', secured to the transverse partitions, E, of the car, in

connection with the pins or studs, a, attached to platform, b, and the pins, b, hooks, c, and grooves, d, in the plates attached to the platform, C—all being arranged substantially as and for the purpose set forth.

[This invention relates to an arrangement of means for folding the platform berths in sleeping cars, and is designed to supersede the cast metal segmental guides hitherto used in the arrangement of seats and berths.]

29,636.—J. F. Tannehill, of Staunton, Va., for an Improvement in Seed Planters:

I claim a driving and carrying wheel provided with segments having radial arms for varying its circumference, in combination with a seed-delivering apparatus substantially such as described or its equivalent.

29,637.—W. A. Taylor and W. W. Graves, of Fort Adams, Miss., for an Improvement in Cultivators:

We claim the adjustable beams, E E, plows, d d, brace rods, b', and the scrapers, G G, with their standard braces, b b, and the brace rods, g g—all combined and arranged in the manner herein set forth.

[This cultivator is intended for loosening the soil, thinning out the plants and scraping the sides of the hills in drill husbandry. It consists in the use of a quadrangular frame capable of being adjusted laterally to adapt the machine to rows of different widths, two plows for hill plowing, attached to standards that are secured to the adjustable beams of the frame, said standards being braced to the frame in a peculiar manner, and two scrapers placed in rear of the plows and braced in a novel manner.]

29,638.—A. Threlkeld, of Boone county, Ind., for an Improved Washing Machine:

I claim the arrangement of the roller, C, on a straight line with the bottom of box, A, in combination with balls, D, and corrugated ends, E, the whole arranged on rockers, B, operating as described and for the purposes set forth.

29,639.—Nathaniel Tufts, Jr., of Boston, Mass., for an Improvement in Gas-meters:

I claim, in combination with the supplying pipe, p p, the double-headed independent bellows connected at its rear head or plate with the said pipe by a screw joint or otherwise, as set forth.

29,640.—I. C. Twining, of Wrightstown, Pa., for an Improvement in Automatic Rakes for Harvesters:

I claim, first, The arrangement of the wheels, I K G, toothed at their peripheries in sections, in connection with the bent bar, O, cam, H, and rake bar, L, attached to the upper surface of the wheel, K, substantially as and for the purpose set forth.

Second, The arrangement with the wheel, I, of the pinions, d e, cam, g, and lever, G', and spring, c, substantially as shown, for the purpose of giving the necessary dwells or cessations of movement to the rake, as and for the purpose set forth.

[This invention relates to an improvement in that class of raking devices in which a vibrating rake is employed and arranged to sweep over the platform in the arc of a circle. It consists in a novel and improved means for operating the rake whereby the two movements necessary to be given the rake, to wit, the vibrating and the rising and falling one, may be obtained in a very simple and economical way, and the rake made to operate intermittently when desired.]

29,641.—Wm. Van Anden, of Poughkeepsie, N. Y., for an Improvement in Machines for Cutting Files:

I claim, first, Striking a series of blows on a chisel in combination with the file blank while in a state of rest and in the same tooth, for the purposes as heretofore set forth and described.

Second, The formation of the self-adjustable chisel-holder, viz, by the combination of the shell, X', the yielding or loose back, X₂, the nut or slide, X₃, the chisel, X₄, spring, X₅, or their equivalents, for the purposes heretofore set forth and described.

29,642.—G. W. Van Deren, of Big Flats, N. Y., for an Improvement in Steam Engines:

I claim the arrangement of the two pistons, B B', connected by a curved piston rod, C, in the interior of the semi-circular cylinder, A, with steam passages, a a', in the ends, constructed and operating substantially as and for the purpose set forth.

[This invention consists in arranging in the interior of a semi-circular cylinder to which steam is admitted through passages in its end, two pistons connected by a curved piston rod, so that the steam acts alternately on the two pistons with its full force, and so that an oscillating motion of said pistons is produced, which, by connecting a pin that projects from the middle of the piston rod with the crank pin of the fly wheel shaft, is converted into rotary motion.]

29,643.—Amos Whittemore, of Cambridgeport, Mass., for an Improved Machine for Making Horse-shoe Nails:

I claim, first, The mode of operating the shears or cutters, the same being made to advance at the proper moment, to sever the nail from the rod and then to fall out of the way, substantially as and for the purpose described.

Second, The various parts which constitute the feeding apparatus, consisting of the upright, 5, levers, S and C, spiral spring, a, and rod, b—the whole operating in the manner and for the purpose specified.

Third, The levers, m and e, acting in conjunction to hold the rod while the nail is undergoing its formation, substantially as and for the purpose specified.

Fourth, The sliding frame, D, in combination with the chambers, H H, each being operated upon substantially as and for the purpose described.

29,644.—Ferdinand Wolf, of Brooklyn, N. Y., for an Improvement in Cultivators:

I claim, first, The roller, B, provided with teeth, a, in combination with the harrow, C, plows, D, plates, E E', and the gearing through which motion is given to the several parts—all arranged and operating substantially as and for the purpose set forth.

Second, The combination of the plows, D, with the plates, E E', operating so as to lay out the ground in regular hills substantially as described.

Third, The plates, E E', operated by means of lazy-tongs, I, substantially as and for the purpose specified.

[This invention consists in arranging in a suitable framework a rotating cylinder or roller provided with teeth, for opening and pulverizing the ground, operating so as to transmit motion to the other devices. It also consists in combining a gang of plows, having a peculiar motion, with rising and falling plates for forming the hills. Also, in a peculiar device for making transverse drills, and for forming the hills in a direction opposite to that of the plows.]

29,645.—Wm. Wood, of Hartford, Conn., for an Improvement in Brick Machines:

I claim, first, The construction and arrangement of the spring lever, E, for throwing out the mold attached to the rockshaft, F, and actuated by the direct action of the arms, c, from the main shaft, D, in the manner described.

Second, The arrangement of the two levers, A and B, one for pressing down the piston and plate for filling the mold, and the other to lift up the same after the mold is filled, in the manner described, being operated by the direct action of the arms, c, from the main shaft, D, as specified.

Third, The adjusting arrangement of the slot, sliding ring and pins, G, attached to the piston rod, H, and lever, B, to separate the pressure of the piston and press plate—all in the manner and for the purpose as set forth.

59,646.—Albert J. Allen, of Buffalo, N. Y., assignor to R. Allen, of Rock Stream, N. Y., for an Improvement in Steam Gages:

I claim, first, The combination of lever, E, with capsule, C, the said lever being so constructed and arranged as to have a bearing upon the capsule upon one side of its fulcrum, e, and a bearing upon a spring upon the other side of its fulcrum, for the purposes and substantially as described.

Second, The combination and arrangement of spring, F, with lever, E, and capsule, C, substantially as set forth.

Third, The combination and arrangement of lever, E, fulcrum block, D, capsule, C, spring, F, and stop, G, substantially as shown and described.

29,647.—A. S. Ballard (assignor to himself and Joseph Howe), of Mount Pleasant, Iowa, for an Improvement in Ditching Machines:

I claim the plow, G G', constructed substantially as described, with or without the movable bottom, in combination with the horizontal cutters, k k', cutters, e e', and carriage, A B—the whole being arranged and operating in the manner and for the purposes set forth.

[This invention consists in constructing a plow with an inclined bottom and furnishing it with a series of cutters and wings arranged in such a way and combined with two carriage wheels and an adjustable mechanism, that the plow will dig into the earth to any desired depth to form a ditch or trench, and elevate the earth as rapidly as it is loosened by the plow cutters, which, after being elevated to the surface (the earth) will be thrown off from each side of the ditch by the wings of the plow, and a scraper that follows in the rear of the machine.]

29,648.—F. H. Drake, of Middletown, Conn., assignor to himself and J. S. Christie, of New York City, for an Improvement in Sewing Machine Needles:

I claim making a perforating sewing machine needle substantially as described and represented.

29,649.—J. F. Flanders (assignor to himself and E. G. Allen), of Boston, Mass., for an Improvement in Leather-splitting Machines:

I claim, first, The arrangement of sectional rollers for the direct or immediate support of the hide or leather at the delivery of the same to the edge of the circulating knife, in combination with a roller located below the sectional rollers and constructed as described with elastic surface and fixed bearings.

Second, Placing the sectional roll to one side of the vertical axis of the elastic roller, as described.

Third, Holding the leather and controlling its progress while passing through the machine by means of a brake operating substantially as described.

29,650.—H. M. Jacobs (assignor to T. J. Vail), of Hartford, Conn., for an Improved Machine for Burnishing Spoons:

I claim, first, The arrangement of the burnishers, K, attached to the arms, J, the screw rod, L, connected with the burnishers by the nut, I, the ratchet, l, pawl, N, and the lever, M, actuated substantially as shown, for the purpose of feeding the burnishers laterally across their work as described.

Second, The adjustable rod, Q, provided with springs, R R, fitted in the upright, H, having its springs, R, resting on the arm, J, of the burnishers, for the purpose of graduating the pressure of the burnishers on the bowls of the spoons, as set forth.

Third, The curved plate, S, when combined with the rod, Q, having the springs, R, attached and arranged relatively with each other as shown, for the purpose of causing the burnishers, while moving back and forth, to conform to the longitudinal profile of the bowls.

29,651.—E. A. Leland (assignor to himself and John Benson), of Brooklyn, N. Y., for a Paint Can:

I claim the construction of the can with two lips, as shown, one of which is formed into a shoulder, a, or e, to support the cover, C, while the other lip, A, composed of soft, flexible metal, is bent over upon, and made to seal the cover, C, when the latter is to be closed; but when the can is to be opened, the said lip, A, is bent up to a perpendicular position, so that the cover may be removed—all without any soldering or cutting, as and for the purpose specified.

[This invention consists in the use of a ring of some soft, flexible metal which is rigidly attached to the top edge of the can or canister, and which allows of being turned over the edge of the cover in order to fasten the same down when it is desired, and which, can easily be bent back so as to free the cover whenever it is desired to open the can, without cutting any part of the cover, thus affording the means to fasten and open the can or canister manytimes, without soldering, by using the same ring and the same cover. In combination with this flexible ring the top edge of the can or canister is formed in such a manner by bending it in or by turning it inwardly over the strengthening wires, that the same forms a good shoulder for the cover to rest upon and allows the same to close down tight, to prevent any escape of the contents of the can or canister. The invention also consists in an improved mode of attaching the bale to a paint can by passing the hooked ends of the same through holes in the side of the can, which holes are covered up and protected from the inside by a plate which is soldered over the same, thereby affording a simple, good and substantial hold to the bale, without allowing the contents of the can to escape.]

29,652.—D. F. Malthy (assignor to the Waterbury Button Company), of Waterbury, Conn., for a Photographic Medal:

I claim the article which I have described and termed a "photographic medal," composed of a ring or plate of solid metal, constituting a frame or rim of a metallic character surrounding one or more pictures produced by photography.

29,653.—Aaron Miller (assignor to himself, G. B. Whiteside, G. F. Barnett and J. M. Lane), of Brockport, N. Y., for an Improvement in Corn Planters:

I claim the arrangement of the slide, V, rollers, P, levers, a r j j rods, c c d d, and wheel, E, as described and for the purposes specified.

29,654.—Bradford Stetson, of Uxbridge, Mass., assignor to himself and Elmer Townsend, of Boston, Mass., for an Improvement in Turbine Water Wheels:

I claim arranging the slotted plate, E, and its shaft, C, with the wheel, A, and its shaft, B, joining the two shafts, B and C, by the disks, m n, and screw, o, connected as described, and applying the plate, E, to the buckets and the latter to the wheel heads, as specified.

RE-ISSUE.

E. H. Ashcroft, of Boston, Mass., for an Improvement in Apparatuses for Naphthalizing Gases. Patented June 5, 1860

I claim the above-specified arrangement and application of the float, scroll and disk, whereby they are rendered capable of easy and proper adjustment as explained.

Also, the combination of one or more propelling wings or the equivalent thereof, with the scroll and float, when applied and used with

In a cistern substantially in manner and for the purpose as described—such propelling devices being to facilitate or effect the rotation of the said float and scroll while buoyed within the liquid as described. Also, the application and arrangement of the foraminous diaphragm with respect to the cistern and eduction pipe of the apparatus as described.

ADDITIONAL IMPROVEMENT.

Alburtus Geiger, of Dayton, Ohio, for an Improvement in Lamps. Patented May 29, 1860:

I claim, first, Expanding the lower portion of the wick tube into a chamber or reservoir for the reception of the fluid as it flows through valve E, thereby securing a more steady and regular supply to the wick and also preventing the fluid from being vaporized too far from the burner.

Second, The combination of the chamber, H, with the wick tube, C, and heaters, A A—all being arranged substantially as and for the purposes specified.

DESIGN.

J. P. Cunningham, of Franklin, Tenn., for a Design for Coffins.



CORRESPONDENTS sending communications for publication in our columns are requested to avoid writing on both sides of a sheet of paper. This fault, though common to persons unaccustomed to writing for the press, gives great trouble to the printer (especially in long articles), and when combined with illegibility of handwriting, often causes interesting contributions to be regretfully consigned to our waste-paper basket.

C. W. S., of Conn.—You will find the philosophy of the dew explained on page 333, Vol. I. (new series), SCIENTIFIC AMERICAN. It neither rises nor falls; but is condensed from the moisture in the atmosphere.

S. B., of Minn.—Your description of the meteor is very interesting from your locality; and, as we have decided to give the subject no more space in our paper, we shall hand your letter to Professor Mitchell.

SKILLFUL CHEMIST, of Ind.—It is so uncertain whether the cattle epidemic in Massachusetts is the same as the disease which you have treated so successfully, that we shall hardly make room for your communication.

H. H. G., of N. Y., and R. W., of ———.—Your communications on the sugar-light are received. We think Mr. Root's communication exhausted the subject.

B., of Conn.—We refer you to page 110 of the current volume.

C. D., of Mass.—For high-pressure engines, the cylinders have to be:—For 2-horse powers, 6.5 by 17 inches; for 2-horse powers, 7.5 by 19.5 inches; for 4-horse powers, 8.5 by 22 inches; for 5-horse powers, 9.1 by 23.5 inches; for 6-horse powers, 9.8 by 25 inches.

J. H., of Ill.—The article on coal oils to which you refer was translated literally from "Le Génie Industriel." We thought, at the time, that we should like to know the particulars about which you inquire; but we know of no way of ascertaining them.

A. L. C., of Mass.—Your interesting description of the meteor is received.

R. H., of ———.—We do not believe that the composition you describe will make a coating (for buildings) which will not crack. We know of none that will. We have had roofs made of coal tar, asphaltum, &c., that were perfectly tight, and entirely satisfactory in every respect.

T. L. B., of Ill.—A circular saw used for sawing fire-wood takes more power than there is in a man's muscles to drive it constantly for any considerable time. It needs horse, steam or water-power. Belts are better than gearing for driving circular saws.

C. H. W., of Conn.—A gear wheel might be suspended between two others without bearings, except upon the cog.

N. C., of Ala.—You will see that Giles' "compensating pendulum" was disposed of on page 99 of the present volume of our paper.

D. S., of Pa.—Your description of the appearance of the meteor is received, and seems to confirm the general opinion in regard to it. A great mass of iron, nickel, &c., rushing through the air with a velocity of 20 miles per second, would have its surface heated by the condensation of the air; and this heated surface would be apt to fly off in scales which would fall to the ground.

W. T. G., of Conn.—We perfectly agree with you that atmospheric electricity is generally positive, and that the discharges are almost always downwards. There are some instances on record of upward discharges having taken place; but they are very rare, indeed.

R. F., of N. Y.—Smee's battery is about the best which you can use for electro-plating; and his work on the subject, published by J. Wiley, Walker-street, this city, will afford you the instruction desired to conduct the operations.

J. H., of Pa.—Of course, if the handle of a screw-driver can be held at an angle with the screw, so as to swing around the line of the latter, the longer the handle, the greater the leverage.

J. F. F., of ———.—A compression of air equal to four-fifths of its volume is sufficient to ignite tinder.

W. S. T., of N. Y.—As long as your first inventions proved so valuable in the hands of others, you ought to be able, with proper effort, to find some one among your acquaintances to take hold of the others which you have in store, provided they are really good ones.

MONEY RECEIVED

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, August 18, 1860:— C. S., of Pa., \$30; D. F. D., of Ind., \$55; A. A. R., of Mass., \$25; G. R. B., of Pa., \$35; C. P. G., of Ill., \$25; J. C., of Iowa, \$30; W. D., of N. Y., \$30; G. H. & S. F., of N. Y., \$25; P. H. S., of Cal., \$55; W. T. O., of Ga., \$35; D. F. E., of Mass., \$15; L. W. T., of Minn., \$25; J. G. P., of Austria, \$50; W. T. D., of N. Y., \$55; S. H., of N. Y., \$18; J. P., of N. Y., \$30; B. P., of Ga., \$25; C. W. F., of N. Y., \$30; I. F., of Va., \$25; A. B., of N. Y., \$25; A. & C., of Mo., \$35; J. R. S., of Fla., \$25; E. D. D., of Conn., \$50; D. F., of Pa., \$37; G. H. C., of Vt., \$30; W. H. H., of Ala., \$30; S. C., of Ga., \$38; J. T. H., of Miss., \$12; A. & G., of N. Y., \$25; L. A. B., of N. Y., \$25; J. W. H., of N. Y., \$25; R. & E., of Wis., \$150; F. H. W., of Cal., \$57; M. L. C., of N. Y., \$33; N. S. M., of Conn., \$10; S. R. W., of R. I., \$25; L. W., of Mass., \$25; C. A. R., of Ala., \$75; J. B., of N. Y., \$15; W. D., of N. Y., \$35; G. W. S., of Conn., \$25; B. S. P., of Ga., \$25; J. J. M., of Conn., \$25; W. S., of Wis., \$25; P. C., of N. Y., \$25; W. McI., of Ill., \$30; C. & G., of Mass., \$12; J. H. H., of Ky., \$38; L. A. A., of Mo., \$30; J. B. D., of N. Y., \$50; S. C. W., of Conn., \$30; W. D. M., of Va., \$25; M. S. C., of N. Y., \$38; S. H., of L. I., \$15; H. L. N., of N. Y., \$30; T. E. C. B., of Ky., \$50; J. H. L., of Ky., \$38; J. M. T., of Va., \$38; I. P., of N. Y., \$38.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, August 18, 1860:—

G. W. S., of Conn.; T. H., of Cal.; M. C. B., of Ill.; F. E. M., of N. Y.; P. & R., of Mo.; G. H. & S. F., of N. Y.; F. J., of Ill.; Van A. & L., of N. Y.; J. C., of La.; L. A. B., of N. Y.; M. L. C., of N. Y.; W. D. M., of Va.; B. & M., of N. Y.; T. E. C. B., of Ky. (two cases); W. D., of N. Y.; A. & C., of Mo.; A. A. R., of Mass.; S. C., of Ga.; C. P. G., of Ill.; D. F., of Pa. (two cases); E. D. A., of Ala.; G. H., of Conn.; O. P. A., of N. H.; J. R., of N. Y.; J. H. LaB., of N. Y.; C. & G., of Mass.; B. P., of Ga.; C. A. R., of Ala. (two cases); S. R. W., of R. I.; P. N. B., of N. Y.; R. E. H., of Conn.; A. & G., of N. Y.; W. S., of Wis.; J. F. H., of Maine; J. J. M., of Conn.; L. W. T., of Minn.; B. S. P., of Ga.; J. B. D., of N. Y. (two cases); W. T. O., of Ga.; I. K. S., of Fla.; G. R. B., of Pa.; S. H., of N. Y.; A. B., of N. Y.; I. P., of Va.

IMPORTANT TO INVENTORS.

THE GREAT AMERICAN AND FOREIGN PATENT AGENCY.—Messrs. MUNN & CO., Proprietors of the SCIENTIFIC AMERICAN, are happy to announce the engagement of Hon. CHARLES MASON, formerly Commissioner of Patents, as associate counsel with them in the prosecution of their extensive patent business. This connection renders their facilities still more ample than they have ever previously been for procuring Letters Patent, and attending to the various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court, Interferences, Opinions relative to Infringements, &c. The long experience Messrs. MUNN & CO. have had in preparing Specifications and Drawings, extending over a period of fifteen years, has rendered them perfectly conversant with the mode of doing business at the United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office. Consultation may be had with the firm, between NINE and FOUR o'clock, daily, at their PRINCIPAL OFFICE, No. 37 PARK ROW, NEW YORK. We have also established a BRANCH OFFICE in the CITY OF WASHINGTON, on the CORNER OF F and SEVENTH STREETS, opposite the United States Patent Office. This office is under the general superintendence of one of the firm, and is in daily communication with the Principal Office in New York, and personal attention will be given at the Patent Office to all such cases as may require it. Inventors and others who may visit Washington, having business at the Patent Office, are cordially invited to call at their office. They are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business they have Offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris, and 26 Rue des Eperonniers, Brussels. We think we may safely say that three-fourths of all the European Patents secured to American citizens are procured through our Agency. Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there. A pamphlet of information concerning the proper course to be pursued in obtaining patents through their Agency, their requirements of the Patent Office, &c., may be had gratis upon application at the Principal Office or either of the Branches. They also furnish a Circular of Information about Foreign Patents. The annexed letters, from the last three Commissioners of Patents, we commend to the perusal of all persons interested in obtaining Patents:— Messrs. MUNN & CO.—I take pleasure in stating that while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all our intercourse with the Office, a marked degree of promptness, skill and fidelity to the interests of your employers. Yours, very truly, CHAS. MASON.

Immediately after the appointment of Mr. Holt to the office of Postmaster-General of the United States, he addressed to us the following very gratifying testimonial:— Messrs. MUNN & CO.—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not, justly deserved) the reputation of energy, marked ability and uncompromising fidelity in performing your professional engagements. Very respectfully, Your obedient servant, J. HOLT.

Messrs. MUNN & CO.—Gentlemen: It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency, and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, Your obedient servant, WM. D. BISHOP.

Communications and remittances should be addressed to MUNN & CO., Publishers, No. 37 Park-row, New York.

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to the highest bidder, at Spiller's auction-rooms, in the city of Tuskalooza, in the State of Alabama, on MONDAY, the 3d day of September next, the Mill and Machinery, Supplies, &c., belonging to the Tuskalooza and North Port Manufacturing Company. This property consists of about 10 acres of Land, situated on the bank of the Warrior river and near the contemplated depot of the North-east and Southwest Alabama Railroad, on which is the Mill (a 4-story building, exclusive of basement), 150x50 feet, substantially built of brick; attached to which are rooms for English Boilers, Machine-shop, Picker and Lap-rooms and room for Wool-carding. There are also on the premises a Blacksmith-shop, Dye-house, Office, Warehouse, and 12 Tenements for operatives (all of brick), besides 2 framed-operative Houses. The machinery is as follows, viz:—A Double Steam Engine, 15-inch cylinder, 5 feet stroke, with 3 new Boilers, 30 feet long with 15-inch flues; 1 Picker, 4 Lap-spreaders, 2 pairs Scales, 42 Cards, 30 inches; 6 Railway-heads and Drawing, 5 Drawing Frames, 3 heads each; 7 geared Spreaders, 24 spindles each; 2 fine Spreaders, 54 spindles each; 2 Card-grinders, 1 Bobbin-winder, 12 Ring Spinning Frames, 128 spindles each; 18 Dead Spinning Frames (2 spoolers), 64 spindles each; 4 Dressing Frames, 4 Section Warpings, 1 Beamer, 2 Warming-mills, 1 Wool Mule, 300 spindles; 1 single 48-inch Breaker Card; 1 single 36-inch Finisher Card; 1 Wood-picker; 1 Burring-machine; 1 Grinder, 80 Looms, 1 large Engine Lathe, 1 Lathe, 6 feet; 1 Hand Lathe, 1 Gear-cutter, 1 Screw-cutter, 1 lot Dies and Taps, 1 set Smith's Tools, 1 Circular Saw, 1 Watch Clock, 2 small Clocks, 1 Cloth and 2 Thread Presses, 2 Platform Scales, lot of Dye-stuffs and supplies, with other things, too tedious to mention. The above property, until the day named, is offered at private sale for the sum of \$35,000, one-fourth the purchase money cash, the balance in three equal annual installments, with 8 per cent interest from date and satisfactory security. If not sold before the day of sale, it will then be offered on the above terms, at a minimum of \$20,000. J. JEMISON, Jr., President Tuskalooza and North Port Manufacturing Co.

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