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45,805.—Lamps.—James Adair, of Pittsburgh, Pa.:

I claim, first, The construction of the screw, k i, with a flattened spheroidal or lozenge-shaped chamber, B, about it, substantially in the manner and for the purpose described.

Second, Making the spheroidal chamber of open work or perforated plates, substantially in the manner and for the purpose described.

Third, Constructing the spheroidal or lozenge-shaped chamber of the cone, a, with a screw, d', box, e, with tube and wick-adjuster, substantially in the manner and for the purpose described.

Fourth, The combination of two or more spheroidal or flattened chambers, substantially in the manner described.

Fifth, The combination of my specified insulator with a lamp, substantially in the manner and for the purpose described.

45,806.—Igniting Hand Grenades.—John S. Adams, of Taunton, Mass.:

I claim the combination of the recess, E, the metallic disk, D, the hook slot, F, the water-proof cap, G, and the opening tape, H, all arranged substantially as and for the purposes set forth.

45,807.—Cultivator.—W. D. Ament, of Muscatine, Iowa:

In combination with the standards, D D, adapted to be operated by treadles so as to move the plows vertically and laterally, I claim the adjustable blocks, G, resting upon the plates, E, and employed to vary or regulate the depth to which the plows penetrate the ground, in the manner herein explained.

[This invention relates to a new and improved cultivator, of that class in which the shovels or shares are rendered adjustable, in a lateral and vertical direction.]

45,808.—Machine for Manufacturing Cigars.—Jonathan Ball, of Elmira, N. Y.:

I claim, first, The use of a wire, c, and tamper, F, perforated through its longitudinal center, as described, in combination with the mold, c, or its equivalent, and with a suitable wrapper, constructed and operating substantially as and for the purpose herein described.

Second, Also the method, substantially as herein described, of introducing the filling of a cigar around a central wire, for the purpose of producing a central draught.

Third, I claim manufacturing cigars by first inserting the wrapper into a mold and afterward filling in the tobacco, substantially as herein specified.

Fourth, In combination with a machine constructed as herein described, I claim the cup or funnel, G, employed to hold the wrapper in position, and admit of the introduction of tobacco after the tamper is inserted, as explained.

[The object of this invention is an improvement in that class of cigars, which are made with a paper wrapper, and commonly known under the term cigarettes.]

45,809.—Manufacture of Glass.—John Best, of Pittsburgh, Pa.:

I claim the use of the ingredients hereinbefore described which I call granular marble, as a substitute for slaked lime or oxyd of lead, in combination with the other ingredients composing the batch or mix, as hereinbefore specified, or some of them, or their equivalents, in the manufacture of crystal glass, substantially as hereinbefore described.

45,810.—Harvesters.—Jacob W. Bope, of St. Louis, Mo.:

I claim, first, The levers, D D, radiating from movable centers, in combination with the segments arranged on the main frame, for effecting a perpendicular up and down motion of the finger bar, in front, as described.

Second, I claim the combination of the levers, D, the hinged stirrups, E, and the segments, C, for attaching and moving the finger bar, in the manner described.

Third, I claim raising and lowering the reel, by means of the levers extending under the shaft, and connected with the finger bar, as described, whereby the reel is kept equidistant from the cutting mechanism, as herein set forth.

Fourth, I claim the arrangement of the sliding friction roller, f, on the lever arms, a a, as and for the purpose herein described.

45,811.—Corn Harvesters.—Jacob W. Bope, of St. Louis, Mo.:

I claim, first, The sliding rod, f, or its equivalent, provided with a foot lever, in combination with the guide, G, and hinged table, E, substantially as and for the purposes specified.

Second, I claim the reel, F, provided with six or more straight arms, having one or more wires running through them, said wires crossing each other, or being bent to form such angles, that the stalks are gathered and discharged with ease and certainty, substantially as shown and described.

45,812.—Coupling Thills to Carriages.—D. C. Breed, of Lyndonville, N. Y.:

I claim the eccentric bolt, C, provided with cams, a a, in combination with the jaws, b b, thill hook, d, and packing, E, substantially as and for the purpose herein set forth.

I also claim securing the eccentric bolt in place, when thrown back, by means of the depression, g, formed partially in the jaw and partly in the cam, a, into which depression fits the rim, h, of the nut, G, the whole arranged and operating substantially as and for the purpose herein specified.

45,813.—Paper File.—William Burnet, of New York City:

I claim a file made of two leaves secured together by a hinge bar, and kept together by means of spring pressure thereon, all made and operating substantially as above described, or their mechanical equivalents.

45,814.—Ventilator.—Benajah J. Burnett, of Mount Vernon, N. Y.:

I claim a ventilator composed of an upright trunk, A, divided into chambers, a a, having openings, e f, above and below the roof, with opposite inclined deflectors, c d, substantially as herein specified.

And I also claim the hinged shutters, g g, with their attached brackets, h h, so applied in combination with the upper openings, e e, of a ventilator of a construction, substantially as herein described, that when open the said shutters form deflectors, to encourage the entrance of air into said openings, substantially as herein specified.

45,815.—Car Springs.—Wm. Cox, of Philadelphia, Pa.:

I claim the tapering springs, D D, secured to the sills, b b, of a railroad car truck, and resting upon lips, a a, projecting from the journal bearing, C, all being arranged to operate in the manner and for the purposes herein described.

[This invention consists in applying wooden or steel springs, or both, to a railroad car, in such a manner that the weight of the car is distributed or transmitted to the bearings of the axles from each end, and from the center of the car at each side of the same, and a very simple, durable, cheap and efficient spring obtained.]

45,816.—Spinning Top.—Louis Cramer, of Brooklyn, N. Y.:

I claim a notch, e, in the hollow arbor, b, in combination with the ratchet teeth, g, on the barrel, c, which incloses the spring, d, and with the pin, f, projecting from the shank of the top, constructed and operating substantially as and for the purpose set forth.

[This invention relates to an improvement in that class of opening tops in which a spring is employed, for the purpose of imparting to the top the desired whirling motion.]

45,817.—Seeding Machine.—W. H. Crichton, of La Porte, Ind.:

I claim the rotating-pointed wheels, J, fitted on a shaft, I, within the seed box, H, with double-inclined planes, c c, between them and the wheels, working in recesses, b, in the rear side of the seed box, in combination with the fixed perforated plate, L, and the adjustable perforated plate, M, at the rear of the seed box, all arranged substantially as and for the purpose set forth.

[This invention relates to a new and improved broadcast seeding machine, and it consists in a new and improved means employed for discharging the seed and graduating its discharge.]

45,818.—Piano-fortes.—David Decker, of New York City:

I claim the construction of the agraff used in piano-fortes, substantially as herein described, whereby the face of its head, which is toward the hammers, may be flush with or project slightly beyond the edge or face of the wrest plank, while its screw is entirely inclosed in the wood of the said plank, and a sufficient supporting thickness of wood is left on the outer side of it to obviate the necessity of securing it into the iron plate.

45,819.—Pocket-book.—J. Fred'k. Dubber, of Brooklyn, N. Y.:

I claim a pocket-book, provided with a strip of steel, d, in the edge of its closing flap, c, as a new article of manufacture.

45,820.—Valves for Steam Engines.—Oscar T. Earle, of Springfield, Mass.:

I claim, first, A cylindrical slide valve, constructed with one or more ports through it, the said port or ports leading behind the ends of the valve into the steam chest, and at proper intervals coinciding with ports of the valve seat, substantially as and for the purposes set forth.

Second, The arrangement of ports, F and F', with piston, B, and valve, F, when operating substantially in the manner and for the purpose herein described.

Third, The arrangement of the ports, K and K', with the ports, I and I', and valve, E, when operating substantially as herein described.

45,821.—Machine for Clipping Hair or Wool from Animals.—Charles W. Emery, of Dorchester, Mass.:

I claim, first, A series of shear blades attached by pivots to a circular cutting plate, in combination with a circular undulating path cam, formed in such a manner as to give a vibratory motion to the shear blades, substantially in the manner and for the purpose herein described.

Second, I claim the device herein described for rotating the circular cutter plate, and locking and unlocking it at proper intervals, so that it may remain at rest while the cut is being performed, and again revolve while the blades are open, substantially as herein set forth.

45,822.—Tube Packing.—Samuel L. Fox, of Philadelphia, Pa.:

First, I claim packing pump tubes of oil and other wells, or other tubes, or pipes, by means of a movable packing case, with expansible sides, substantially as above described.

Second, I also claim the packing case, Q, constructed and operated substantially as above described.

45,823.—Harvesters.—Daniel D. Gitt, of Arendtsville, Pa.:

First, I claim mounting the friction roller upon the pin which unites the connecting rod with the sickle, when the said roller occupies a central position in relation to both, as shown and described.

Second, In combination with the above, I claim the employment of a box closed on top, for the double purpose of guiding and protecting the anti-friction connecting device, substantially in the manner described.

45,824.—Head Blocks for Sawmills.—Ira Hart, of Clarksburgh, West Virginia:

First, I claim the sliding knee, B, and clamp, H, in combination with the link, G, and shaft, E, or their equivalents, when constructed substantially as and for the purpose specified.

Second, The combination of the clamp, H, guide, I, and spring, M, when constructed substantially in the manner and for the purpose specified.

45,825.—Combined Seeding Machine, Roller and Drag.—W. H. Hartman and Samuel Sheller, of Fostoria, Ohio:

I claim the special arrangement of the jointed dray, F, lever, G, chains, g h, in combination with the seeding apparatus and adjustable rollers, B B, when arranged and operating as and for the purpose set forth.

45,826.—Machine for Loading Hay.—S. Ross Higgins, of Parma, Mich.:

First, I claim the turn table, G, placed on a mounted framing, A, and having a fork bar, J, connected to it, be operated by means of a rope, N, under the action of the draught animal, substantially as and for the purpose set forth.

Second, The guard, M, with its forward and rear bars, l' and l, and pivoted to the fork bar, J, in combination with the pivoted fork, K, and the rope, N, by tension, in which the guard is pressed down upon the hay, the whole arranged substantially as and for the purposes described.

Third, The caster wheel, C, when used in combination with the framing, A, turn table, G, fork bar, J, and fork, K, for the purpose described.

Fourth, The bar, Q, on the rope, N, in connection with the notch, o, in the shaft, H, and the rope, R, and spring, S, for the purpose set forth.

[This invention relates to a new and improved machine for loading hay on wagons, from cocks or windrows on the field, and it consists in applying an adjustable fork to a turn-table placed on a mounted frame, and provided with a guard and connected with a draught animal, in such a manner that the machine may be drawn from place to place with facility, the fork lowered and adjusted to its work, and then raised with its load over the wagon, and the former discharged into the latter, the labor being performed by the draught animal, the attendant simply guiding or manipulating the parts during the loading operation.]

45,827.—Reaping and Mowing Machines.—Oliver T. Holbrook, of Rushville, N. Y.:

First, I claim the combination with the main frame, c, constructed as described, of the secondary frame, D, and plate, B, arranged and operating in the manner set forth.

Second, The cutters, K, formed with a slit in the rear, as shown and described, when arranged upon and secured to the bar in the manner specified, whereby one part of the rear end thereof is elevated above the other, for the purpose and in the manner set forth.

45,828.—Manufacture of Steel.—Edward P. Hudson, of Washington, D. C.:

I claim the manufacture of cast-steel by combining decarbonized iron, prepared substantially as herein described, with pig or other carbonized iron, as herein specified.

45,829.—Tallying Machines for Measured Grain.—Sidney Hudson, of Milford, Mich.:

I claim the combination and arrangement of the several parts which produce the result, in the simple concise and effective form described.

I claim, first, The circular hopper slide, L, as attached to oscillating plate, B, which works dog, d, as described; also crank, C, the journal of which passes through a slot in plate, B, and is attached near the edge to ratchet, R, which is held from turning back by dog, S, which prevents slide, L, being closed without tallying, when the parts are arranged to operate as and for the purpose described. This combination will work several varieties of registers.

Second, I claim the combination of the ratchet wheel, E, with cog wheel, H, which works over the center of E; also cog wheel, x, which gears with H, and works near the edge of E, one cog at a time extending beyond the edge of E, which, at every revolution of E, comes in contact with stop, I, by which wheels, x and H, are moved forward one point on their respective dials.

I also claim spring, D, which is used to keep the machinery in place, when arranged in combination as and for the purpose herein shown and described.

45,830.—Cartridges.—Samuel Jackson, of Philadelphia, Pa. Ante-dated Jan. 3, 1865:

I claim the combined paper and metallic cartridge case, when constructed and arranged to operate substantially as set forth.

45,831.—Root-cultivator and Weeder.—Charles Jarvis, of Ellsworth, Maine:

I claim, first, Constructing the front edges, n, of the sides, g g, of the cutters, G, so as to project beyond the latter, substantially as and for the purpose described.

Second, The cutters, G, arranged as described, in combination with the bar, A, tongue, B, and wheels, F, substantially as and for the purpose specified.

45,832.—Bed Bottom.—Frank G. Johnson, of Brooklyn, N. Y.:

I claim the peculiar manner in which the cord is laced into the frame, A B C D, so that no two consecutive cords are parallel to each other, substantially in the manner and for the purposes herein set forth.

45,833.—Cultivators.—Adam Keck, of Montgomery, Ill.:

I claim, first, The attaching of the axles, C, of the wheels, B, to plates, D, secured to castings, E, at the under side of the framing, A, by means of bolts, a, passing through oblong slots, c, in the castings, substantially as shown and described, to admit of the wheels, B, being adjusted further forward or backward, to keep the machine in a proper equipoised state, as set forth.

Second, The plow beams, G G, provided at their front ends with upright bars, g, connected by joints, h, to the castings, E, and provided at their back ends with upright bars, H, having each a notch, i, to receive a catch, I, all arranged substantially as and for the purpose set forth.

Third, The springs, K, on the back part of the framing, A, in combination with the upright bars, H, of the plow beams, G G, as and for the purpose specified.

Fourth, The attaching of the plow beams, L L, by means of the uprights, M, and joints, j, to the pivoted plate, N, arranged on the framing, A, substantially as shown, to admit of the working or moving of the plows, Q, as set forth.

[This invention relates to a new and improved implement for plowing or cultivating corn and other crops which are grown in hills or drills, and it consists in a novel arrangement of the plows, or in the manner of applying them to the frame thereby, whereby they may be manipulated with the greatest facility while at work, and the invention further consists in an improved mode of attaching the wheels to the framing of the machine, whereby the former may be kept in a properly counterpoised state at all times, and the team relieved from any unnecessary downward pressure of the draught poles.

45,834.—Mode of Constructing Railroad Car Trusses.—Joel F. Keeler, of Pittsburgh, Pa.:

I claim the railway car truss, constructed and used substantially in the manner and for the purposes set forth.

45,835.—Feathering Paddle Wheel.—Geo. A. Keene, of Newburyport, Mass.:

I claim arranging the floats of a paddle wheel in pairs at right angles to each other, one at each end of a shaft passing through the center of the wheel, so as to present more area on one side of said shaft than on the other in order that the one float, entering the water flatwise, in passing through the same shall gradually turn and emerge edgewise, while at the same time it is turning the opposite float so that it shall enter the water flatwise, substantially as described.

45,836.—Securing the Necks to Door Knobs.—Thomas Kennedy, of Branford, Conn.:

I claim securing the neck to knobs substantially as and for the purpose herein set forth.

45,837.—Treadles for Operating Machinery.—John J Kimball, of Naperville, Ill.:

I claim the treadle, D, hung centrally on a shaft, a, provided with two pitmen, C C, which are connected to reverse cranks, B B, on the shaft, A, in combination with the foot piece, E E, hung on shafts, b b, which are fitted in the treadle, and all arranged to operate, substantially as and for the purpose specified.

[This invention consists in constructing a treadle in such a manner that the weight of the operator will be made subservient in actuating it, muscular force not being expended or required in any great degree.]

45,838.—Swinging Gear for Threshing Machines.—James Kline and Vroman Becker, of Chicago, Ill.:

We claim the combination of a stationary hanger with two sleeves and a socket, and a movable hanger or stirrup, with a perforated plate attached, and the hook, all combined and operating substantially as described.

45,839.—Fly Traps.—David Lake, of Smith's Landing, N. J.:

First, I claim the angular wheel, A a', operating in connection with the cap, D, and passage, E, to conduct the flies, in an undisturbed manner, to a point from which it will be impossible for them to regain their freedom, substantially as set forth.

Second, In combination with the aforesaid angular wheel, I claim the circular trough, G, adapted by its form to be readily inserted and removed, in the manner and for the purpose described.

Third, In combination with the said angular wheel, I claim the pivoted gate, H, weighted as and for the purpose described, and employed to cause the flies to leave the wheel, A, and enter the receiver, F, in the manner explained.

45,840.—Dress Facing.—James A. Mackee, of Boston, Mass.:

I claim the new manufacture or combination dress facing, as composed of the water proof or enameled cloth band, and the flexible linen band, or its equivalent, arranged and connected together in manner and to be used substantially as specified.

45,841.—Machine for Cutting Sheet Metal.—Hosea Low, of Waukon, Iowa:

I claim, first, The employment or use in machines for cutting sheet metal of two sets of cutters, F F', arranged in one and the same oscillating frame, E, or in two frames, the open ends of which point in the same direction, substantially as and for the purpose set forth.

Second, The combination of the cutter frame, E, with the slotted shaft, a, substantially as described, so that said frame can be lengthened and shortened from the center.

Third, The combination of the central shaft, a, with the adjustable U-shaped standard, D, and cutter frame, E, and clamps, H, substantially as set forth, so that the center around which the cutters turn can be brought in any desired position in relation to the clamps.

Fourth, The radial sliding arms, K K, applied in combination with the carriages, I I, movable center, a, and cutter frame, E, in the manner and for the purpose, substantially as set forth.

Fifth, The employment or use of a slide, M, carrying a pair of circular cutters, i, and moving in rectilinear guides, substantially as described, for the purpose of cutting off bevels, as for squaring plates of sheet metal.

Sixth, The gauges, L, applied in combination with the clamps, H, substantially as described, and acting in the double capacity of gages and of eccentric cams for compressing the clamps.

Seventh, The employment of the adjustable plate-holder, N, in combination with the cutters, F F', and cutter frame, E, constructed and operating substantially as and for the purpose set forth.

This invention relates to a machine for cutting sheet metal, in which two sets of cutters are arranged in one frame, or in two frames, the open ends of which point in the same direction, and

which turn on the same center, in such a manner that by the action of these cutters two consecutive circles are cut in one operation.]

### 45,842.—Automatic Folding Gates.—John B. Mahana, of Benson, Vt.:

I claim, first, The combination of the folding or rising and falling gate, with the trippers, D, for opening and closing the gate by the action of the wagon or other wheel in passing the gate, substantially in the manner and for the purposes set forth.

Second, I also claim the peculiar arrangement of eccentrics, I, wires, L, cords, G G', and pulley, H, for opening and closing the gate, substantially as described.

### 45,843.—Ladies' Breast Pads.—John A. Mason, of Brooklyn, N. Y.:

I claim the breast pads, constructed with the parts, A B and C, substantially as above described.

[This invention consists in an improvement in breast pads, whereby economy and simplicity of construction, and elegance of shape are attained in a high degree, and this article of a lady's attire is made less liable to the objection that it is injurious to health by reason of the thickness and solid character heretofore given to it.]

### 45,844.—Presses.—James A. McGillirrae, of Dyer, Ind.:

I claim, first, The employment or use of a cast-metal beater, I, provided with holes, b, to admit of the escape of air from the press box, substantially as set forth.

Second, The trip wheel, N, constructed and arranged substantially as shown, for operating the beater, I, in combination with toothed wheels, O and P, as described.

Third, The two levers, E E, in combination with the inclined plains, H H, for operating the follower, F, substantially as set forth.

[This invention relates to a new and improved press for baling purposes, and of that class which are provided with a beater for compacting in the press box the material to be pressed previous to the pressing operation.]

### 45,845.—Rotary Boilers for the Manufacture of Paper Pulp.—Harrison B. Meech, of Fort Edward, N. Y.:

I claim, first, The combination of the pipes, b' c c' and d', with their respective stop cocks, P N and O, with the pipe, a C, entering into the rotary, Y Y, in the manner and for the purposes above described.

Second, I claim the perforated cap, B, in combination with the steam pipe, A a a, passing out of the rotary through its journals, a', in the manner, and for the purpose above described.

Third, I claim the combination of the pipe, A a a, the steam chamber, K, the pipe, g', and the stop cock, M, in the manner and for the purpose above described.

### 45,846.—Manufacture of Prussian Blue.—John M. Merrymon, Indianapolis, Ind.

I claim the use of a solution of Bichromate of Potash and a solution of acetate of lead in the manner and for the purposes herein described.

### 45,847.—Sawing Machines.—Henry J. Miller, Shanesville, Ohio.

I claim the combination of the shaft, J, pinions, h i, suspending racks, H I, hangers, D E, slideways, b c, guides, d e, cross heads 1 m, and horizontal saw, A, all arranged to operate as herein specified.

[This invention consists in the application of two pairs of slides suspended from vertically adjustable posts in combination with a saw secured to cross heads to which a reciprocating motion is imparted by head steam or any other suitable power in such a manner that a log placed under the saw is exposed to the full weight of said saw augmented by that of slides, cross heads and forks, and by these means the operation of sawing is effected in an expeditious and easy manner.]

### 45,848.—Fruit Box.—Edmund Morris, Burlington, N. J.:

I claim the above described method of constructing fruit boxes without the use of nails or glue, whether made of wood or other material, and of whatever shape.

### 45,849.—Ejectors for Oil Wells.—George M. Mowbray, Titusville, Pa.

First, I claim the frame constructed substantially as described with one or more stuffing boxes to receive the tube connecting with the blast pipes, substantially as described and for the purposes set forth.

Second, I claim the collar, a, forged upon or otherwise secured to the tube, A, in combination with the hollow sleeve screw, B, for the adjustment of the tube, A, substantially as described and for the purposes herein specified.

Third, I claim the hollow screw, B, and templet female screw plate, C, in combination with the tube, A, substantially as and for the purposes described.

Fourth, I claim the hollow cap, G, in combination with the blast tube, A, substantially as described and for the purposes explained.

Fifth, I claim the combination of a T, fitted with a cap, G, stuffing box, D, and lugs to receive bolts, c c, with templet and hollow screw substantially as described and for the purposes set forth.

### 45,850.—Machine for forging File Blanks.—Wm. S. Nicholson, Providence, R. I.:

First, I claim swaging and shaping a file blank or similar article by the method and on the principle substantially as described.

Second, The method substantially as described of regulating and varying the rate of speed at which the devices for swaging the metal shall travel, by means of an irregular surface, K, moving with the swages in combination with the mechanism by which such swages are moved as herein specified.

### 45,851.—Elevators.—A. B. Nimbs, Buffalo, N. Y.:

I claim a wrought iron elevator leg constructed of wrought iron angle bars, C, and connected and strengthened by wrought iron diagonal braces, D, or by sheet iron plates, L, the two trunks of the leg being connected at the top by the semicircular arches, c2 c3, and at the bottom by the cast iron foot box, A, substantially as described.

### 45,852.—Wire Fence.—Joseph W. Norcross, Middletown, Conn.:

I claim, first, the use in the construction of a wire fence of one continuous piece of wire for each section substantially as and for the purposes set forth.

Second, The pulleys, a b c d, attached to rigid posts, c c', and to movable posts, D D', and operating in combination with the wire, W, and with right and left handed screws or their equivalents substantially as and for the purpose described.

Third, The brackets, g', with oblique slots, h, applied to movable or rigid posts, E, and operating in combination with the wire, W, substantially as and for the purpose set forth.

Fourth, Casting the bearings of the pullies, a b c d, solid with the posts, C C' D D', substantially as and for the purpose described.

### 45,853.—Preparing Hay for Baling.—G. H. Nye, Monmouth, Ill.:

First, I claim the rollers, B C, when provided with flanges, c c, substantially as and for the purpose herein specified.

Second, The combination of flanged crushing rollers, B C, with the knives, g g, substantially as and for the purpose set forth.

### 45,854.—Manufacturing Screw Drivers.—George Parr, Buffalo, N. Y.:

I claim manufacturing screw driver blanks or blades and other similar tools, by the process substantially as herein described.

### 45,855—Method of Preventing Oil-barrels, &c., from Leaking.—George T. Parry and William S. Warner, Philadelphia, Pa.:

We claim the employment of paraffine to prevent leakage from barrels and other vessels of wood.

### 45,856.—Water Gages for Steam Generators.—Townsend Poore, Scranton, Pa.:

I claim, first, The arrangement, consisting of the cock, F, plug, G c, flanged tail stock, C, segment pipe, D, and index hand, g; the whole being combined and fitted to the boiler substantially as and for the purposes herein described.

Second, So fitting the several parts of the apparatus together and to the boiler that the one plug, G c, answers the two fold purpose of opening or closing the cock, F, and of twining the segment pipe, C D, to any position desired in the manner herein described.

Third, The application of a hollow perforated vessel, H, to the hollow drain pipe of a try-cock substantially as described.

Fourth, The application of a cup, K, to the inner end of the discharge pipe, D, for determining the hight of water in the boiler when there is no pressure therein, substantially as described.

### 45,857.—Composition for Lining Barrels, &c., containing Petroleum.—Henry Preuss, New York City:

I claim a composition produced by combining litharge with glue or its equivalent with or without other materials, for lining barrels or other packages of oil.

### 45,858.—Fence Gates.—Fitch Raymond and August Miller, Cleveland, Ohio:

We claim the arrangement of the ring or hoop, D, with the groove, f, and gate, A, in combination with the rollers, e e, cord, d, and weight, when operating conjointly as and for the purpose set forth.

### 45,859.—Beehives.—Oliver P. Reeve, Tipton, Iowa:

I claim the arrangement of the comb frame and comb guides constructed as described in combination with the groove, i, in the side of the hive and the double inclined bottom, substantially as and for the purposes specified.

### 45,860.—Cultivators.—Cyrus Roberts, Three Bivers, Mich.:

I claim, first, The combination of the main frame, the shifting plow frame, the lifting lever, and the shifting machine arm, O P, with the driver's seat, when arranged for joint operation as described.

Second, The shifting foot lever, R, constructed and arranged to operate as and for the purposes described.

Third, The combination of the shifting frame, the plows, and the corn guard with the main frame when constructed and arranged in operating as described for the purposes set forth.

### 45,861.—Cultivators.—Cyrus Roberts, Three Rivers, Mich.:

I claim, first, The combination of the double ended shovos with their stocks, by means of the reversible swiveling brackets, e, and bolts, c, in the manner described, for the purpose of reversing the shovels when worn or injured, and of turning them sidewise to throw the earth more or less towards or from the plants as desired.

Second, The combination of the shovel stocks and shifting frame by means of the brackets, J, bolts, j3, and clips, j4, as described for purpose set forth.

Third, The combination of the shovels, the auxiliary or shifting frame, and the main frame when constructed and arranged as described for the purposes set forth.

Fourth, The combination of the plow stocks and shifting frame by means of the brackets, J, slots, j', and set screw, j, as and for the purposes described.

### 45,862.—Feeding Corn to Corn Shellers.—H. C. Robinson, Monmouth, Ill.:

I claim the employment or use of an endless apron or carrier in connection with a crib or corn receptacle, provided with removable slats or boards, d, at its bottom, substantially as and for the purpose herein set forth.

I also claim a crib or corn receptacle divided into a series of compartments and provided with a well hole, arranged as shown, when used in connection with the endless apron or carrier and the removable slats substantially as described.

I further claim the arrangement of the endless apron or carrier, E, with the bottom, i, of the box, F, and the spout, G, for the purpose of carrying off the loose or shelled corn as set forth.

[This invention relates to a new and useful device for feeding corn to corn shellers from cribs so as to avoid all handling or carrying of the corn from the place where it is stored to the sheller. The invention is more especially designed for shelling corn in large quantities for shipment from warehouses.]

### 45,863.—Baling Press.—Chas. H. Robinson, Bath, Me.:

I claim the combination of the levers, C, bars, D, ropes, F, and shaft, E, all arranged and applied to the follower, B, to operate in the manner substantially as and for the purpose herein set forth.

[This invention relates to a new and improved baling press of that class in which levers and a windlass are employed for elevating the follower.]

### 45,864.—Shifting Gear.—Charles D. Rogers, Utica, N. Y.

I claim the lever, I, with cam, J, attached, provided with two notches, f f', in combination with slide, E, connected with the pinion, C, and provided with the pin, K, and the sleeve, H, provided with the pin, K', and arranged with the spiral spring, G, all arranged to operate in the manner substantially as and for the purpose specified.

I claim the lever, I, and cam, J, in combination with the slide, E, provided with two pins, K K', either or both being fixed or movable. When said pins are arranged so as to engage with or lock into the notches, f f', as set forth.

I also claim the flange, L, provided with the slot, i, when arranged in relation with the box, M, substantially as and for the purpose specified.

[This invention relates to a means whereby the pinion which gears into the large spur wheel of reaping and mowing machines, may be moved or adjusted so as to render the long or crank shaft, and consequently the sickle, operative or unoperative as desired.]

### 45,865.—Loading and Unloading Hay Wagons, &c.—Seymour Rogers, Pittsburgh, Pa.:

I claim the turning upright, B, placed at the rear part of the wagon and composed of two parts, a b, connected by a joint in combination with the windlass, E, arm, D, and rope or chain, F, all arranged to operate substantially as and for the purpose herein set forth.

I further claim the same device for binding the hay on the wagon in combination with windlass, H.

[This invention relates to a new and improved loading and unloading attachment for wagons and has for its object facility in performing the work above specified as well as the securing of the load on the wagon.

### 45,866.—Cultivators.—E. H. Sawyers, Orleans, Iowa:

First, in combination with the lever, L', and shaft, L, I claim the oblong slot, i, formed and employed in the manner and for the purpose specified.

Second, I claim the described arrangement of the adjustable cultivator frame, I I' I2 I3, the brace rods, h, angular shaft, M, and draught rod, N, the whole being employed in the manner and for the purposes set forth.

### 45,867.—Device for Producing Motive Power by the Vertical rise and fall of the Tide.—Augustus W. Scharit, St. Louis, Mo.:

First, I claim the combination of a float, screw shaft and the valve or valves for fitting and emptying the same substantially as shown and described.

Second, I claim the combination of a float with the double rack for communicating the power substantially as shown and described.

Third, I claim the combination of a float with the single movable rack for communicating power substantially as shown and described.

Fourth, I claim the double-sided valves substantially as shown and described.

Fifth, I claim the combination of the screw cog wheels, ratchets and pawls substantially as shown and described.

Sixth, I claim the combination of the single rack and double ratchets and pawls substantially as shown and described.

Seventh, I claim the arrangement of the double or twin pairs of ratchets and pawls substantially as shown and described.

Eighth, I claim the combination of the double rack and wheels with the lever and screw and slotted rod and screw attached to frame guide substantially as shown and described.

Ninth, I claim the endless chain pulley, drum or windlass, in combination with the endless band or chain rods, hooks, pulleys, beam and hinged drop substantially as shown and described for loading and unloading vessels and for other purposes.

### 45,868.—Billiard Indicator.—R. Schmitz, Brooklyn, N. Y.:

I claim, first, The notched shaft, E, in combination with the slide, C, cam rods, i i, index, e, and scale, a, constructed and operating substantially as and for the purpose set forth.

Second, the cam rods, i i', in combination with the notched shaft, E, slide, C, and spring catch, f', constructed and operating in the manner and for the purpose substantially as described.

Third, the swinging bar, m, and cam, l, in combination with the slide, C, and registering device, v u, constructed and operating substantially as and for the purpose specified.

[The object of this invention is to protect the interest of the proprietor of a billiard saloon by compelling the players to play each game right straight through, and preventing them from pushing the index back for the sake of prolonging a game.]

### 45,869.—Drills for Boring Mills.—John Sheffield, Putneyville, N. Y.:

I claim a drill for artesian wells composed of the chisel bars, C D, and bent or oblique arm, B, of the drill rod, A, connected together by pivots, and arranged substantially as and for the purpose herein set forth.

[This invention has for its object the constructing of a drill in such a manner that it will be capable of expanding and enlarging the bore or shaft of an artesian well at its bottom. The invention more especially designed for enlarging the bottoms of oil wells so as to open more veins than the ordinary bore or shaft will intersect and cause the well to be more productive than it otherwise would be.]

### 45,870.—Rail Road Axle Boxes.—S. T. Shelley, Louisville, Ky.:

I claim, first, hinging the covers of axle boxes by means of a cam-joint hinge constructed substantially as described working on a reciprocating spring bolt or its equivalent.

Second, I also claim making an enlargement, e, in the hinge, A, for receiving the bolt head and spring, f, in combination with the reciprocating bolt, C, and the hinge, A, for the purpose of protecting the spring and bolt from dirt and other obstructions substantially as described.

### 45,871.—Rail Road Cars.—Sidney Skillman, Jersey City, N. J.;

First, In combination with the placing of the boiler and engine of a locomotive car on a truck in such manner that the boiler is received within a compartment at one end of the car. I claim the construction of the car with such an opening in the bottom or floor and a door or other suitable opening in one end as to permit the boiler to pass out with the truck when the latter is run out from under the car, substantially as herein described

Second, The stationary platforms arranged within the car body and in relation to the boiler and truck, D, substantially as herein described to serve as standing places for the engineer and as a protection against injury in case of getting off the track.

Third, In a locomotive car having the engine and boiler detachable. I claim attaching the smoke pipe permanently to the car substantially as and for the purpose herein described.

### 45,872.—Device for Shrinking Tire.—C. V. Statler, Wataga, Ill.:

I claim the two bars, B C, one, B, fitted in the bed, A, by a pivot bolt, c, and the other, C, arranged so as to slide therein, and the two bars connected at their lower ends by one or more bars, D, and provided above the bed with the dies, f f, in combination with the clamps, F F, pivoted to the bars, B C, the spring, E, and lever, J, provided with the cam, K, all arranged to operate in the manner substantially as and for the purpose set forth.

[This invention relates to a new and improved implement or device for upsetting or contracting tires for wheels so that the frame may, in case of the wheels shrinking, be reduced in diameter so as to be adjusted snugly on the latter without the trouble of cutting and re-welding a comparatively tedious and expensive process.]

### 45,873.—Weighing Bucket,—David D. Stelle, New Brunswick, N. Y. Ante-dated Nov. 14, 1862:

I claim, first, The weighing attachment, b c, or its equivalent in combination with the bucket, A, and its bail, B, constructed and operating substantially in the manner and for the purpose described.

Second, The arrangement of springs, i, and spring stop, g, in combination with the hinged bottom, D, of the bucket, A, as and for the purposes specified.

Third, I claim the arrangement of the rings, R and Q, grinding the string, P, as described within.

### 45,874.—Sleds.—Judd Stevens, of Marengo, N. Y.:

I claim in connecting the bolster, C, with the way, a, by means of the rounded bearing, c, fitting in the depression, b, for the purpose of allowing a free turning or oscillating movement of the bob, and employing the friction rollers, d f, to obviate the friction in the end movement of the bob, in adapting itself to an irregular surface, the whole arranged combined and operating substantially as herein set forth.

### 45,875.—Water Wheels.—Robert Stewart, of Fultonham, N. Y.:

I claim the buckets, d, having the vertical, transverse oblique and inclined surfaces, e f f, and attached to the case, b, with the bands h h, encompassing the inclined surfaces, f f, in connection with the scroll, A, all arranged substantially as set forth.

### 45,876.—Artificial Arms.—Ignatius Stoffel, of Washington, D. C.:

First, I claim the peculiar construction of my artificial hand and wrist joint, the palmar region of which is represented by a hollow metallic case, with an elastic palm; the phalanges, t t t t' t' t' t', and t'' t'' t'' t'', operated by the springs, p p p p, representing the four tendons of the flexor profundus, and articulated by the guide rings, u u u u, representing the tendinous bands at the corresponding places of the natural hand; also, the hinged thumb and the thumb lever, q, representing the flexor brevis pollicis, in combination with the stirrup, l, and the spring, m, by which arrangement the elasticity of the cartilages of the natural hand is secured, as described within.

Second, I claim the peculiar construction of rod, i, and ratchet bar, K, in combination with the fork lever, a, fastened to the elbow, and the construction and arrangement of the trigger, d, with catch, e, and trigger spring, f, as specified and for the purpose set forth.

### 45,877.—Digging Machine.—Charles H. Stratton, of Munroetown, Pa.:

I claim the employment or use in a steam digging machine of a series of spades, arranged in such a manner as to penetrate the earth, rise or swing upward with their load, and then turn one-quarter of a revolution to discharge the same, substantially as herein shown and described.

I further claim the slots, g, in the shafts, F F, having spiral outer ends, h, in connection with pins, i', fitted in the bearings, e, and passing into the slots, g, the shaft, G, to which the bearings, e, are attached, and the crank shaft, B, all being arranged to operate the spades, E E', as set forth.

[This invention relates to a new and improved machine for spading the earth, with steam as a motor, and it consists in the employment or use of spades or forks of any suitable or desired number, arranged in such a manner that they will, as the machine is drawn along, penetrate the earth and lift and turn over the same, similar to hand digging, and perform the work equally as well.]

### 45,878.—Ovens for Converting Iron into Steel.—William A. Sweet, of Syracuse, N. Y.:

I claim, first, The combination and arrangement of the heating furnaces with the converting chamber, A, substantially as described.

Second, The dead holes, H, in combination with the heating furnaces and chamber, A.

Third, The boshes or angular projections, m m, as related to the bottom of the chamber, A, and the dead holes, H.

Fourth, Gradually diminishing the fire spaces, S S, from the boshes, m m, to the openings, o o o, at the top of the chamber, A.

Fifth, The openings, o o o o p p p p, substantially as described and for the purposes set forth.

Sixth, Supporting the upper edges of the chamber wall from external pressure, substantially as described and for the purposes set forth

### 45,879.—Manufacturing Cutter Bars for Harvesting Machines.—George B. Taylor, of Worcester, Mass.:

I claim forming the holes for the rivets or bolts, by which the cutters are fastened to the cutter bars in reaping and mowing machines by punching, in combination with holding the cutter bar during the operation, so that it can not elongate in the direction of the heel of the bar, for the purposes herein set forth.

I also claim the use of the combined pattern and supporting bar, B, as shown and described, to aid in the operation of punching cutter bars, substantially in the manner herein described.

I also claim, in combination with the pattern or supporting bar, B, the bolt, d, and stay clamps, C, for holding the cutter bar, substantially as herein set forth.

45,880.—Harness Saddle Trees.—Samuel E. Tompkins, of Newark, N. J.:

I claim the two bearings, A A, connected together by a thin strip or plate, B, made of convex form at their under sides, to correspond to the shape of the back of the animal, and having a corresponding concave surface at their upper sides, when said bearings thus formed and connected together are provided with nuts, a, at their upper surfaces, to receive the turret screws, b, and all used in connection with the metal jockeys, E E, flaps, C, and back board, F, substantially as herein set forth.

45,881.—Stove Grate.—George Vander Heyden, of Troy, N. Y.:

First, I claim the bed plate, B, when constructed respectively at each end of said plate, with the direct bearings. a a, and reverse bearings, b b, in the manner substantially as herein shown, for the purpose of supporting and operating stove grates, in the manner herein set forth.

Second, In combination with the bed plate, B, I claim the fire grate, C, when constructed substantially in the manner as herein described and shown, so that the said grate can be operated in combination with said bed plate, fully in the manner and for the purposes as herein specified.

45,882.—Side-hill Plows.—Nathan Vars, of Newmarket, N. J.:

I claim the employment or use in a side-hill plow, of a subsoil share, G, having its standard, F, attached to an adjustable or swinging arm, G*, arranged substantially as shown, to admit of the subsoil share being adjusted to either side of the plow beam, to suit the position of the mold board, C, and share, D, as set forth.

[This invention relates to a combination of a subsoil and a side-hill plow, and it consists in having the subsoil attached to an adjustable standard at the rear of the plow beam, and arranged in such a manner that the subsoil share may be adjusted either to the right or left side of the plow beam, according to which side the mold board and share of the sod plow is adjusted, thereby admitting of a combination of the two plows, and in such a manner as to insure a perfect working of both.]

45,883.—Stove Grate. Geo. W. Walker, Boston, Mass.:

I claim a stove grate having capabilities both of horizontal reciprocation, and of vertical swinging movement, when the grate is hung at its rear side to allow these movements, substantially as set forth.

And in a grate so constructed, I claim giving to each end bar of the grate such width and disposition that in its sliding movement under the stove lining, the capability of free movement of the grate is maintained, substantially as described.

45,884.—Pen-holder.—Sylvenus Walker, Boston, Mass. Ante-dated Sept. 11, 1863 :

I claim the hollow silvered glass pen-holder, sealed up and protected as and for the purposes set forth, as a new and highly ornamental manufacture.

45,885.—Grain Binder.—Saml. Jacob Wallace, Carthage Ill.:

I claim, first, The arm, Z, of wheel, O, sliding over slot of wire holder, Y, substantially as and for the purpose specified.

Second, The binder, G, in combination with a movable arm, F, or other equivalent movable part, so that the binder may be made traveling in relation to platform, A, substantially as and for the purpose specified.

Third, The combination of the rack, K, and twister, I, substantially as and for the purpose specified.

Fourth, The rack, K, arranged on frame, Q, substantially as and for the purpose set forth.

Fifth, The compresser shoe, V, arranged on frame Q, substantially as and for the purpose specified.

Sixth, The slotted wire holder, Y, bent or recurved, substantially as and for the purpose specified.

45,886.—Machine for Rolling Metals.—Hervey Waters, Northbridge, Mass.:

I claim the arrangement of a single yoke with its appurtenances and connections, substantially as and for the purposes specified.

45,887.—Adjustable Chair.—Theos. Weaver, Harrisburg, Pa. :

I claim, first, The construction of the arm frame, C C F F', and its combination with the haunch, U, or with the haunch, X, and its collar, K, and pin, when so constructed as to inclose the back, A, and seat, B, substantially as and for the purposes herein described.

Second, The combination and arrangement of the back, A, which is provided with the arm rests, D D, the tenons, S S, the ratchets, H, hooks and staples, O O', with the seat, B, which is provided with the arm rests, E E, the tenons bearing on R, the ratchets, J, when operated by the haunch, U or X, substantially in the manner as and for the purposes herein shown and described.

45,888.—Thill Attachment.—R. B. Willis, of Rochester, N. Y.:

I claim the combination and relative arrangement of the set screw, s, frictional plate, a, and the thill iron, B, with the bolt, b, and jaws, D, of the clip, the parts being constructed as and for the purposes shown and described.

45,889.—Mode of Operating Switches.—J. F. Wilson, Boston, Mass., and James C. Bartlett, Charlestown, Mass.:

We claim the employment of a shipping wedge connected with and operated at will from the car, and so as to enter between the switch and main rails of a track, substantially as set forth.

We also claim the arrangement of the shipping wedges for moving the rail in opposite directions, as shown and described.

45,890.—Derrick and Horse Power.—Dan. Woodbury, Rochester. N. Y.:

I claim, first, The employment of side braces, J, they being constructed, arranged and applied to mounted powers, substantially in the manner shown and described and for the purpose set forth.

Second, The peculiarly constructed stake iron, P, in combination with the double brace bars, J, for the purpose of holding the stake when driven more securely in position.

Third, Attaching the inner end of the sweep brace, I, to the bracket, R, or to the rim of the wheel, W, as and for the purpose shown and described.

Fourth, The combination and arrangement of the angle iron, D, with the joint plate, E, and the frame, A, of this class of horse-powers, as shown and described and for the purpose specified.

Fifth, Fitting the box, v, between the jaws or wings, n, of the joint plate, E, so as to have but a line of bearing vertically between the parts, as and for the purpose specified.

Sixth, The combination and arrangement of the rope spool or windlass, and the jack, G, constructed as shown and described, with the mounted powers, as and for the purposes herein set forth.

45,891.—Stake-holder for Railroad Cars.—A. R. Burdick (assignor to himself and J. D. Foster), Racine, Wis.:

I claim the box, A, provided with the flange, d, having a notch or recess, e, and two projections, f f, one or both in combination with the collar, C, provided with the flange, g, internal elliptical opening and the projection, h, all arranged substantially as and for the purpose herein set forth.

45,892.—Cultivating Land by Steam.—John Fowler, Jr., Cornhill, England, assignor to W. P. Tatham, Philadelphia, Pa.:

I claim the combination herein described, whereby the power of two engines, situated on distant headlands, is simultaneously employed in giving motion to an agricultural implement by an endless rope, in manner substantially as described, to haul the agricultural implement, alternately to and from each head land, as herein explained.

45,893.—Hand Stamp.—George J. Hill, Buffalo, N. Y., assignor to H. G. Leisenring, Philadelphia, Pa. :

I claim, first, The yoke, F, constructed and arranged in respect to the plates, E and G, substantially as specified.

Second, The bed, composed of the soft rubber ring, I, metal plate, J, and plate L, of harder rubber, leather or other equivalent material, the whole being confined in a recess in a base plate, B, and arranged beneath the stamp, as described, for the purpose specified.

45,894.—Calipers.—F. O. Washburn (assignor to himself and John C. Scott), Millville, Mass.:

I claim the index, C, and graduated plate, D, when arranged and applied to the calipers, substantially as and for the purpose specified.

[This invention consists in constructing the calipers in double form, or so as to have both ends capable of being used to gage or measure with, the prongs at one end being curved to measure the exterior of shafting, and the prongs at the opposite end being straight to measure the diameter of a hole or bearing to receive the shafting, both measurements being obtained at once or at the same time.]

45,895.—Revolving Grate.—P. J. Boris, Halifax, Nova Scotia :

I claim the revolving grate, D, arranged in the lower part of the flue or chimney, A, in combination with the eccentric, F, placed on the axis or shaft, C, of the plate, B, and arranged relatively with the dampers, E E, to operate automatically by the turning of the plate, B, and grate, D, substantially as described and represented.

45,896.—Automatic Hammer.—Wm. D. Grimshaw, Birmingham, England :

I claim, first, The system of employing a reservoir between the pump or pumps and the hammer cylinder for holding the compressed air, the reservoir to be formed in the framework of the machine.

Second, The combination of the adjustable but otherwise stationary valve, d' d', the slide valve, k, the cylinder, f, the piston, g, the piston rod, h, and the hammer, i, substantially as set forth.

Third, The combination of the valve rod, w, the friction wheel, y, the sliding friction wheel, b', and the shaft, d, substantially as and to the effect herein above set forth.

Fourth, The combination of the reservoir, b, the pump, o, and the stock-cock, t, as described.

Fifth, The arrangement described, of the pump, o, reservoir, b, friction wheels, b' and y, valve rod, w, valve, k, cylinder. f, and piston, g, by which they are made to operate in relation to each other, substantially as set forth.

45,897.—Gang Plow.—Thomas Short, Fairmont, Ill. :

I claim the arrangement of the double crank-shaped connecting rod, G, devices, e e, links, a' a', beam, E, lever, H, and post, I, the whole being employed for joint operation, in the manner and for the purpose specified.

45,898.—Rifling Breech-loading Fire-arms.—Hiram Berdan (assignor to Levi P. Morton, Trustee of Hiram Berdan, Abia A. Selover and Wm. B. Benson), New York City :

I claim the rifling or grooving of the counter bore of breech-loading fire-arms, substantially as and for the purposes herein shown and described.

45,899.—Breech-loading Fire-arm.—Hiram Berdan (assignor to Levi P. Morton, Trustee of Hiram Berdan, Abia A. Selover and Wm. B. Benson), New York City :

I claim, first, The protecting plate, E, swinging in a plane transverse to the barrel in combination with the ring, G, substantially as and for the purposes set forth.

Second, The protecting cover, I, and protecting plate, E, in combination with the latch, D, as herein specified.

45,900.—Suspended.

45,901.—Attaching Bayonets to Fire-arms.—Hiram Berdan (assignor to Levi P. Morton, Trustee of Hiram Berdan, Abia A. Selover and Wm. B. Benson), New York City :

I claim placing the bayonet blade and shank upon the underside of the barrel, in combination with the ramrod, substantially as and for the purpose herein shown and described.

## RE-ISSUES.

1,848.—Artificial Gums and Palate.—John A. Cummings, Boston, Mass. Patented June 7, 1864 :

I claim the plate of hard rubber or vulcanite or its equivalent for holding artificial teeth or teeth and gums, substantially as described.

1,849.—Tanning Hides and Skins.—Simon H. Kennedy and Henry L. Elder, Philadelphia, Pa., assignees of Wm. Fields and Israel Townsend, Wilmington, Del. Patented June 7, 1864 :

We claim, first, The employment or use in tanning hides or skins, of a current of compressed air applied to the hides or skins in combination with the ordinary or other tanning liquors, in the manner and for the purpose substantially as specified.

Second, The perforated pipe, E, extending through the air-tight vat, A, near its bottom, in combination with an air pump and loaded valve, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

1,850.—Lantern.—John H. Irwin and James F. Griffin, Chicago, Ill., assignees of John H. Irwin, aforesaid. Patented Nov. 4, 1862 :

First, I claim the cap or deflector, H, arranged below the top of the wick tube and operating substantially in the manner and for the purposes herein specified and set forth.

Second, I claim the combination of the jacket, G, and deflector, H, and forming the deflected air passage with the holes, e, all arranged and operating substantially as and for the purposes herein shown and described.

Third, I claim, in combination with the jacket, G, deflector, H, and holes, e, the prolonged oil cup, E, and vertical plates, d, arranged and operating substantially as and for the purposes described.

1,851.—Car Wheel.—Thomas Sharp, Chicago, Ill. Patented Sept. 29, 1863 :

First, I claim the construction of a car wheel, the combination of the two flanges, a d, with the broad tread described, when arranged and operating with respect to the different gages herein specified, substantially as delineated and set forth.

Second, I claim constructing said car wheel of a single casting, in the manner and for the purposes herein set forth and described.

## EXTENSIONS.

Two and Three-ply Carpets.—Alexander Smith, West Farms, N. Y. Patented Dec. 10, 1850. Extended Dec. 10, 1864 :

I claim the weaving of two or three-ply ingrain carpets, the employment of parti-colored warp and weft, operated by the jacquard or other mechanical means to form the figure, when the same colors in the warp and in the weft are caused to combine together to form the same colored figure in the fabric, substantially as described.

Vat for Tanning Hides.—Lewis C. England, Williamsburgh, N. Y. Patented Dec. 24, 1850. Extended Dec. 17, 1864 :

I claim the slats, as described, in combination with the vat and the handler, substantially in the manner and for the purposes herein set forth.

Trigger-operating Revolving Fire-arm.—Stanhope W. Marston, New York City. Patented Jan. 7, 1851. Re-issued July 26, 1859. Again Re-issued Aug. 21, 1860. Extended Jan. 7. 1865 :

I claim, first, So constructing the lock of revolving breech fire-arms which may be operated by trigger, as that the hammer, when raised to full cock, preparatory to firing, may be retained in that position of unstable equilibrium until the piece is fixed on a further pressure of the trigger, by means of a vibrating tooth or fly tumbler, independently of any dog, pawl, catch, or other mechanical device for that purpose.

Second, So constructing and arranging the lock of revolving breech fire-arms susceptible of operation by trigger, as that when the hammer is raised to cock, preparatory to firing, the trigger shall be held back or retained in a drawn position, by means of a vibrating tooth or fly tumbler.

Third, The use, in revolving breech fire-arms of a vibrating tooth or fly tumbler interposed between the hammer and trigger, and operating substantially as hereinbefore described, by an upward pressure on the hammer, so as gradually to increase the leverage and consequently the power applied to raise the hammer, and thereby reduce the effective resistance of the mainspring, for the purpose of securing steadiness of aim and greater ease in firing, and also allow the recovery of the trigger after firing, for repeated action.