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49,209.—Manufacture of Paper.—J. W. Allen, Marion, Mass.: I claim the described new article of manufacture.

49,210.—Pencil-sharpener.—H. P. Andrews, Cleveland, Ohio: I claim, first, A pencil sharpener, made with two hinged jaws, B B', and a sheath, C, substantially as and for the purpose set forth.

Second, The groove, b, and tongues, a a', in combination with the sheath and jaws, applied and operating substantially as and for the purpose described.

This invention consists of a pencil-sharpener, composed of two converging jaws, which are hinged to each other and to a sheath, and provided with projecting tongues, which drop into a groove of the sheath in such a manner that when the two are turned up together they are held closed by the grooves in the sheath, and in this case they are precisely like a pencil-sharpener of the ordinary construction, but if they are turned out each jaw can be readily cleaned and sharpened, or the jaw be removed and replaced by another whenever it should be desirable, without throwing away the whole instrument.

49,211.—Inkstand.—John Axtman, East Cambridge, Mass.: I claim the combination of the stationary or inferior perforated cap, b, or its equivalent, the perforated gate, d, and the rotary or superior perforated cap, a, arranged and applied together, substantially in manner and so as to operate as specified.

I also claim the construction of the rotary cap, concavo-convex, in manner and to act as a spring, as described, with respect to the gate. I also claim the construction of the two caps, a, b, when having the gate arranged between them, with the concavo-convex head, n, arranged in the manner and for the purposes specified.

49,212.—Submerged Force Pump.—A. Baldwin, Flora, Ill.: I claim the combination of the upper and lower chambers, provided respectively with the ball valve and openings, and the hollow piston rod and chambered piston, the latter also provided with ball valves and openings, the whole arranged and constructed as described and represented.

[This invention relates to that class of pumps known as double-action. It has a hollow piston-rod, and a valve-chamber within the piston. The piston rod passes through the center of the upper valve-chamber.]

49,213.—Book Cover.—George F. Barden, South Adams, Mass.: I claim a book cover, made substantially as herein described.

[The object of this invention is the production of an outside casting or covering, for the covers and backs of books, so made and folded as to be readily and easily inserted or placed thereon when desired, which coverings are made of different sizes, to conform to the varying dimensions of books.]

49,214.—File-cutting Machine.—James K. Barker, Lawrence, Mass.: First, I claim the springs, R, and the rods, U, to bear upon the springs, R, for the purpose herein set forth.

Second, I claim the frame, Fig. 7, which is attached to the bed, A, of the machine, and independent of the carriage, B, in combination with the chisel-holders, O, rollers, Q, the springs, R, and the means of operating the springs and chisel-holder.

Third, I claim the springs, H, and the cam wheels, arranged as described, to regulate the force of the springs, H, for the purpose herein set forth.

Fourth, I claim the described improved machine for cutting a series of files at the same time, in the same machine, by a corresponding series of hammers and chisels, consisting essentially of the combination of the elements above claimed, and operating substantially as herein set forth and described.

49,215.—Process for Rendering Barrels Impervious to Petroleum, Etc.—Julius Baur, Brooklyn, N. Y. Antedated July 24, 1865: I claim the within-described process of producing an oil-tight lining for barrels, etc., by first treating the wood with alum or its equivalent, and afterward with soluble glass, substantially as and for the purpose set forth.

49,216.—Snow Plow.—Abner L. Bausman, Minneapolis, Minn.: I claim, first, A snow plow for railroads, constructed with double walls to admit of a steam or hot-air chamber between its exterior surfaces, to the purpose of keeping said surfaces in a heated state to prevent the snow adhering thereto, substantially as set forth.

Second, The employment or use of rotary shovels and brushes placed at the rear of the plow and over the two lines of rails, and arranged to operate in the manner substantially as and for the purpose set forth.

Third, The combination of the double-walled plow and rotary shovels and brushes, all arranged to operate substantially as and for the purpose specified.

49,217.—Water Elevator.—Jacob H. Best, Schenectady, N. Y.: I claim the application to the usual barrel and axle used for hoisting and lowering the bucket of a well or any weight, of a wheel, E, operating as a ratchet and friction or brake wheel, in combination with the winch, W, its brake piece, b, and its pawl, R, also the pawl, P; the whole arranged substantially as described and for the purposes set forth in the within specification.

49,218.—Preparing Peat for Fuel.—Albert Betteley, Boston, Mass.: I claim the employment of a tank in the preparation of peat for fuel, substantially as described.

49,219.—Nailed Boot or Shoe.—Lyman R. Blake, Boston, Mass.: I claim a shoe in which the vamp and sole are united by nails having an inclination with respect to each other, substantially as set forth.

49,220.—Artificial Cork.—Louis Bock and Albert F. Wheeler, Sheboygan, Wis.: We claim a compound of caoutchouc or india rubber and waddy dust or fiber, in the proportions hereinbefore set forth, or in any other proportions producing the same results, substantially in the manner and for the purposes herein set forth.

49,221.—Hygrometer.—Reinhold Bocklen and Wm. Stachlen, Brooklyn, N. Y.: We claim, first, The employment of the spring, A, made of raton or any other kind of wood, and artificially coiled and prepared, operating in the manner and for the purpose herein shown and described.

Second, The combination of the spring, A, made of raton, with the band, B, or its equivalent, for indicating moisture contained in the air surrounding it.

Third, The peculiar treatment and construction of the spring, A, in hardening, preparing and preserving the same, for the purpose and in the manner herein shown and described.

49,222.—Attaching Horn Handles to Knives, Etc.—Miles Bradley, Westport, Conn.: I claim by means of a die, molding or compressing the horn into the desired form while on the tang and countersinking the heads of the rivets and washers at one and the same operation, substantially as set forth.

49,223.—Lock.—E. W. Brottell, Newark, N. J.: First, I claim the vibrating knife, I, partaking of the motion of the bolt, B, but compelled to turn around a center, i, substantially in the manner and for the purpose herein set forth.

Second, I claim the tumblers, M, within two separately constructed casings, E and G, arranged to operate substantially as and for the purpose herein set forth.

Third, I claim the arrangement of the open tumbler, M, in the turning part, E, and adapted to operate relatively to the swivelling or vibrating knife, I, substantially in the manner and for the purposes herein set forth.

49,224.—Blacking Box.—J. S. Brooks, Rochester, N. Y.: I claim the combination of the form of the box with the holder, B, the same forming a new article of manufacture, when constructed as shown, and for the purposes specified.

49,225.—Bread and Meat Cutter.—Wm. Budd and J. L. Husband, Philadelphia, Pa.: We claim the combination and application of the rod, C, frame, D, and knife, A, figure 2, as heretofore substantially set forth, and for the purpose described.

49,226.—Feathering Paddle Wheel.—James Burson, Yates City, Ill.: I claim, first, A plurality of cam guides for feathering the buckets, as herein specified.

Second, In combination with the aforesaid cam guides, I further claim the guide rods, D, D', attached to opposite sides of the buckets in the manner described.

49,227.—Construction of Railway Train and Car.—Samuel R. Cathlorp, Roxbury, Mass.: I claim giving to the exterior surface of a railway train a form tapering from the center of the train toward either end, or tapering the engine or car at the front or rear of the train, substantially as described, for the purpose of diminishing the atmospheric resistance.

I also claim constructing the engine and its truck with a projection in front, in its several parts, of the shape substantially as set forth, and encasing its body both above and below, substantially as set forth, and remaining its cab, so that its projection and main casing, while protecting its own surfaces from the direct resistance of the wind, may, together with its rounded cab, form a single prow to the whole of the train, in the manner and for the purpose herein described.

I also claim placing a false bottom, substantially as described, under each carriage of the train for the purpose of protecting the trucks and other projecting surfaces under the carriages from the adverse action of the wind.

I also claim inclosing the whole space between any two contiguous carriages of the train flush with the sides, top and bottom aforesaid, which is extended under the platform, in combination with the projecting roof already in use, and a flexible hood or boots, substantially as set forth.

49,228.—Shingle Machine.—George Challoner Onro, Wis.: First, I claim the means employed for operating or tilting the bed, I, to tilt the sliding bar, L, provided with inclined projections, q, q, the lever, M, attached to L, and the lever, N, attached to wheel, C, all arranged substantially as set forth.

Second, The projection, t, at the inner side of the rim, b, of the wheel, C, in connection with the cranks, h, j, springs, f, and rollers, k, all arranged substantially as shown for operating the jaws, F.

Third, The sliding bar, K, provided with arms, p, p, pivoted to pendants, o, o, of the plate, n, which supports the bed, I, for the purpose of raising and lowering said bed, as set forth.

Fourth, The platform, O, in combination with the tilting bed, I, and the devices for releasing the jaw or dog from the bolt, substantially as described.

[This invention relates to a new and improved machine for sawing shingles, and of that class in which a series of bolts are placed upon a horizontal rotating wheel, and acted upon by a horizontal circular saw placed underneath the wheel.]

49,229.—Washing Machine.—John Champlin, East Middlebury, Vt.: First, I claim the beaters or battle boards, C, C, arranged in the box of a washing machine, so as to operate substantially in the manner specified.

Second, The combination of the trough, A, box, B, and battle board, C, C, substantially as shown and described.

[This invention consists in the employment or use, in a suitable revolving box, barrel, or other receptacle for clothes while being washed, of two or more beaters or battle boards, so arranged that they will act upon the clothes as the box is revolved, and thus the more effectually and quickly cleanse or extract the dirt from the same.]

49,230.—Apparatus for Filtering Petroleum.—Robert A. Chesbrough, New York City: I claim the application of heat to a filter for hydro carbon or other oils by means of a triple cylinder or steam worm coiled inside or outside of the filter, as herein set forth.

49,231.—Mode of Constructing the Heads, Necks and Connections of Gas Retorts.—John Chilcott, Brooklyn, N. Y. Antedated July 24, 1865: I claim making the neck and head and the connection for the main of a gas or other retort, or either of them with double walls having a space between the inner and outer walls filled with plaster of Paris, or other poor conducting material, substantially as and for the purpose herein specified.

49,232.—Amalgamator.—Thomas J. Chubb, Brooklyn, N. Y.: First, I claim subjecting the ores of precious metals in a disintegrated state to the action of revolving or oscillating plates, which are coated with mercury, when such plates are arranged within chambers that are formed in such a manner that the ore is subjected to both sides of the plates and caused to flow over a bath of mercury in a continuous stream, substantially as described.

Second, The arrangement of the fixed partitions, D, on each side of the movable disks, C, in such manner as to form a continuous passage through the cylinder, A, for the flow of the ore, substantially as described.

Third, The use of steam, in combination with a series of disks, C, moving in a bath of mercury, for the purpose of bringing the atoms in closer contact with the surfaces of said disks, substantially as described.

Fourth, Subjecting the ores of precious metals in a disintegrated state to the action of revolving or oscillating plates which are covered with mercury, when such plates are arranged in such a manner that the ore is subjected to both sides thereof, and caused to flow past or over the same and over a mercury bath, the plates dipping into said bath for the purpose of removing the precious metal, collected thereon and depositing them in the bath, the plates themselves becoming cleaned and freshly coated with mercury of the bath thereby, substantially as described.

49,233.—Steering Apparatus.—George Coffin, Boston, Mass.: I claim the arrangement of the two sets of toggle-jointed levers

attached to the rudder post, and operated by the steering wheel substantially as hereinbefore described.

49,234.—Artificial Limb.—Jesse Coombs, Greenfield, Mass.: I claim making artificial limbs of strips of metal or other material, woven spirally and riveted, or arranged spirally and riveted, substantially as described.

I also claim the spring, W, secured at the ankle joint, with one end working in the leg and the other in the foot, substantially as described.

I also claim an air or water cushion, for the sole or under the sole of the foot, inside of the boot or shoe, to enable the wearer to walk without, or with far less, jar to his system when he steps than he could do without the cushion.

I also claim making two or more cylindrical air or water cushions, or cushions of other materials, with a vacuum or suction space between them around the stump of the natural limb, substantially as described, to hold the artificial limb on to the natural limb.

49,235.—Ditching Machine.—A. W. Cox, Dublin, Ind.: I claim, first, The combination of trough, M, shovel, T, elevator, R, S, pulleys, L, L, constituting the apparatus for digging and carrying back the excavated matters.

Second, The described digging and elevating apparatus, hinged to the rear upper part of the frame, and having its forward or digging end both suspended and vertically adjusted by the racked cutters, gearing to pinions, O, O, under control of the attendant.

Third, The slotted bearings, n, in the racked cutters, for the purpose specified.

Fourth, The combination of the devices, F, G, H, I, for suddenly changing the course of the shovel, in the manner set forth.

49,236.—Locomotive Boiler.—Samuel Crawford, New York City: I claim the plan of making the bottoms of the water legs or boiler walls of the furnaces of steam boilers, of the character described, a removable but steam-tight frame, by the employment of the devices, substantially as described, and for the reasons and purposes explained.

49,237.—Pruning Metallic Cartridges.—Silas Crispin, New York City: I claim the cartridge, constructed as described; that is to say, with the fulminate placed within a projecting annular recess or rim, which is formed at a point between the ends of the cartridge case, substantially as described.

49,238.—Process of Preserving the Roots of Hop Vines by Charring the Stems.—Schuyler Cummings, Middlefield, N. Y.: I claim the process and mode of treating hop vines, substantially as above described, for the purpose of preventing them from bleeding after being cut in harvesting the crop.

[The object of this invention is to close the pores of that part of the vine which is connected with the root, and thereby prevent it from bleeding, and so preserve the root from exhaustion and premature decay when the vine is cut down in the work of harvesting a crop of hops.]

49,239.—Ditching Machine.—Wm. H. Dalbey, Clarksville, Ind.: I claim the team, A, having the mounted yoke, B, applied to it, as shown, in connection with the cutters, G, H, I, box, K, and inclined elevator, L, all arranged to operate in the manner substantially as and for the purpose herein set forth.

I further claim the toothed drum, M, armed with teeth, e, and connected to the roller, c, of the elevator, L, by gearing, f, for the purpose of driving the elevator, as set forth.

[This invention relates to a new and improved machine for cutting drains and ditches, and it consists in the employment or use of cutters, and an elevator, arranged with a beam mounted on wheels, whereby the work may be done very expeditiously and in a perfect manner.]

49,240.—Apparatus for Dressing Silk Thread, Etc.—John Day, Brooklyn, N. Y.: I claim the combination of a gunning apparatus, with a drying and finishing box, constructed and arranged substantially as and for the purposes set forth.

I also claim, in combination with the above, the hot air blast for drying the threads, as specified.

49,241.—Steam Boiler Furnace.—T. B. Dexter, Lynn, Mass.: I claim the arrangement of the devices for driving the blower, g, consisting of the team pipe, c, wheel, e, and shaft, f, operating substantially as set forth.

Also, The combination of devices, by which the blast can be changed from a hot to a cold, substantially as set forth.

49,242.—Manufacture of Capsules.—Dundas Dick, New York City: I claim, in combination with the central cone or plug, a, the detachable encasing or surrounding side mold pieces, arranged together, substantially as and for the purpose described.

[This invention relates to the molds in which capsules are molded, and consists in a novel construction and arrangement of them, whereby the capsules can be molded with great rapidity and nicety.]

49,243.—Car Brake.—S. R. Dimmock, Syracuse, N. Y.: I claim the arrangement of the pinions, L and H, inside of the oscillating frame, E, the stop, n, on the side of the piston, I, the drum, r, inclosing the spring, k, the two forms of spring later, M and m', with their attachment, as above described, the double crank in its several parts, and with its attachments, as above described, and the plate, J, all constructed and operating as and for the purpose herein shown and described.

49,244.—Lamp Stand and Clothes Dryer Combined.—John Donaldson, Rockford, Ill.: I claim, first, The combination of a lamp stand with a drying frame, arranged and operating substantially as described, for the purpose set forth.

Second, The combination of the slotted stem, carrying the drying arms with the screws on the pedestal or stem, substantially as described, for the purpose set forth.

49,245.—Steak Mangler.—J. P. Dorman, Galesburg, Ill.: I claim the construction of the cast-iron longitudinal triangular shape, tooth-plate, and the application of it, substantially in the manner and for the purpose herein set forth.

49,246.—Table Knife.—J. Olden Ely, Philadelphia, Pa.: I claim, first, The metal bolster, H, cast t, and arranged to embrace the handle and blade of a knife, substantially as and for the purpose here in set forth.

Second, The projection, s, of a dovetailed or equivalent form on the end of the handle, which arranged for the retention of the bolster, X, as set forth.

Third, The bolster, X, the dovetailed projection, and shoulders, y, y, of the handle, and the notches, c, of the blade, the whole being arranged as and for the purpose herein set forth.

49,247.—Manufacture of Pyroigneous Acid.—A. H. Emery, New York City: I claim the use of steam or superheated steam in the distillation of wood in the manufacture of pyroigneous acid, etc., in those cases in which the amount of steam used is greatly decreased or discontinued during the whole or a large portion of the time in which the wood is being charred.

49,248.—Manufacture of Pitch.—A. H. Emery, New York City: I claim the art of making pitch from pine wood by one distillation

49,249.—Manufacture of Turpentine, Etc.—A. H. Emery, New York City: I claim distilling wood under more than atmospheric pressure without the application of steam or superheated steam.

49,250.—Corn Planter.—J. W. Fawkes, Decatur, Ill.: I claim the pivoted bars, D, D, and springs, E, E, or their equivalents, in connection with the reciprocating slide, B, provided with the cells, a, a, substantially as and for the purpose set forth.

[This invention relates to a new and useful improvement in the corn-dropping device, and has for its object the dropping of the corn without breaking it, and the consequent even distribution of the same





49,292.—Car Coupling.—M. C. Morse, Boston, Mass.:

First, I claim the groove and pivoted cheeks, J J', in combination with the yielding clamps, J J', substantially as set forth and for the purpose described.

Second, The arm, G, projecting in front of the bunter, A, in combination with the lever, E, and shackling pin, D, substantially as and for the purpose described.

Third, The link or dog, F, in combination with the arm, G, and lever, E, for the purpose of holding up the latter, substantially as described.

49,293.—Oscillating Steam Engine.—David Nation and T. B. Hall, St. Louis, Mo.:

We claim the combination and arrangement of the segmental boxes, B C, oscillating pistons, E E D, piston rod, G, steam chests, d d', valves, e', pitman, n, and eccentric wrist pins, e o, as and for the purpose herein specified.

[This invention relates to certain improvements in that class of engines known as oscillating piston engines. The cylinder is composed of two segmental boxes, which are bolted together by means of flanges, and the inner spaces of which are separated one from the other by a central boss, which is firmly keyed to the oscillating piston rod, and from which extend the pistons, in combination with suitable steam supply and exhaust ports, in such a manner that by the action of the steam on said pistons an oscillating motion is imparted to the shaft, which, by suitable connections, are converted into a continuous rotary motion of the fly-wheel shaft.]

49,294.—Machine for Bending Metal Rods.—G. J. Neveill, Philadelphia, Pa.:

I claim the lever, D, with its slot c, the anvil, C, and pin, b, combined with the levers, E F I, and the cam, H, or their equivalents, so that a bar of metal may be bent to a shape corresponding with that of the end of the lever, substantially as specified.

49,295.—Packing for Tubes of Boilers or Condensers.—Jacob Newkirk, Factoryville, N. Y.:

I claim the combination of a conical recessed holding, and a conical-shaped packing ring fitting therein, both rings being held and tightened up against the head and the tube by screw bolts for holding and packing tubes to the heads of steam boilers or condensers, substantially in the manner and for the purpose described.

49,296.—Door Bolt.—J. E. Parker, West Meriden, Conn.:

I claim the combination of the bolt, a, spring, f, and dog, g, substantially in the manner and for the purposes set forth.

49,297.—Lock.—Jacob Post, Newark, N. J.:

I claim the combination with the notched latch bolt, c, of a lock of the spring bar or plate, g, and arranged together with regard to each other, and operating substantially as herein described and for the purpose specified.

49,298.—Lock.—Jacob Post, Newark, N. J.:

I claim the combination in locks of the turning cylinder, h, with its series of tumblers, a n n, outer casing or tube, d, and bridges, S, arranged together and operating substantially in the manner described.

[The above inventions relate to a novel mode of hanging the latch bolt, and also to a peculiar arrangement of tumblers in the turning cylinder of a lock the object being to produce a simple, cheap and strong lock for ordinary uses.]

49,299.—Machine for Slicing Cork.—John Power, Boston, Mass.:

I claim the yielding adjustable plug, E, in combination with the gaze, D, constructed and operating substantially as and for the purpose described.

49,300.—Torpedo Boat.—G. M. Ramsey, New York City:

First, I claim the inclination of the roof, A, of a torpedo boat, as and for the purposes specified.

Second, The hole, e, constructed and situated substantially as described.

Third, The ratch, n, in combination with the pawl, P, bar, m, and boom, O, substantially as and for the purpose specified.

Fourth, The springs, s, in combination with the bar, m, substantially as and for the purpose specified.

Fifth, The bars, r r, in combination with the bar, m, as and for the purpose specified.

Sixth, The tube, b, running longitudinally through the torpedo, substantially as and for the purpose specified.

Seventh, The division, c, separating the magazine of the torpedo from the lock, a, substantially as and for the purpose specified.

Eighth, The cock, d, in combination with the powder tube, e, substantially as and for the purpose specified.

Ninth, The rod, f, also in combination with tube, g, and gutta-percha, and tube, h, substantially as and for the purpose specified.

Tenth, The cap, i, in combination with the lock, d, and rod tube, g, substantially as and for the purpose specified.

Eleventh, The hand hole through which the cap is supplied to the cock, d, substantially as and for the purpose specified.

49,301.—Air Pump.—Franklin Ransom, Buffalo, N. Y.:

First, I claim combining the elevated chamber, C, having the valve, d, as shown, with the pump cylinder, B, by means of a hollow bed plate, A, through which a constantly open communication between the said chamber and cylinder is maintained, substantially as herein specified.

reception of the wheels of the door, and to hold the door either open or closed.

I also claim the application of each of the wheels to the door in such a manner that while the door may be raised in its frame, and with respect to the rail, the wheels may rest in contact with the top surface of the rail.

I claim the combination and arrangement of the relieving friction spring or springs, k, with the door, and to operate therewith and with the door case, substantially in the manner described.

49,309.—Buckle.—Cyrus W. Saladee, Putnam, Ohio:

I claim, First, Fastening buckles to harness, etc., by means of rivets, a, and plate, A, the plate, A, being the back bar of the buckle flattened out, and provided with a metallic loop, B.

Second, The combination of the metallic loop, B, plate, A, and rivets, a, for the purpose of securing loops to harness, etc.

49,310.—Apparatus for Liquefying Sugar in Centrifugal Machines.—Frank Seiberlich, Charlestown, Mass.:

I claim the combination of the jet tubes, A, the gate, C, and the conduit, B, applied together substantially as and for the purpose specified.

I also claim the combination of the lifter, D, the jet tube, A, the gate, C, and the conduit, B, the whole being arranged and so as to operate together substantially in the manner as described.

49,311.—Hedge Trimmer.—A. Selover, Brooklyn, Ohio:

I claim the adjustable clamps, B, adjusting screws, H, in combination with the adjustable standards, C D, substantially as and for the purpose set forth.

49,312.—Tightening Pulleys by Friction.—Franklin Skinner, New Haven, Conn.:

I claim the combination of the adjustable collar and its appendages, Fig. 3, with the conical slide, Fig. 5, and pulleys, C C', when they are constructed substantially as herein described, and are fitted for use, either double or single, on a proper arbor or shaft, as herein set forth.

49,313.—Fence.—Samuel Stanbro, Northville, Mich.:

I claim the stakes, if H, driven in the earth, bent over the sill, E, and secured at the outer or upper ends to the lower part of the fence, substantially in the manner as and for the purpose herein set forth.

[This invention relates to a new and improved manner of attaching or securing the fence to the earth, whereby the fence is securely held in position and at the same time rendered capable of being readily taken up or removed, and also readily secured in the position designed for it.]

49,314.—Bee Separator.—Jesse H. Starr, Middleburgh, N. Y.:

I claim the bee separator consisting of a box divided into two compartments, which are made to communicate with each other by means of taper pipes, the lower compartment being provided with holes or apertures to admit of the exit of the bees, and all arranged substantially as and for the purpose specified.

49,315.—Photographic Camera.—John Stock, New York City:

I claim the arrangement of the front of the camera box, B, so that the same turns upon a horizontal axis passing through the center of the aperture, and also upon a vertical axis passing through the same center the bellows yielding to the motion without affecting their operation.

I also claim the tubular flange or ring, S, to which the lens tube is affixed, in combination with the tubular ring, T, acting as a universal joint, in the manner and for the purpose substantially as set forth.

49,316.—Elastic Mousing for Hooks.—Edward E. Stone, U. S. N.:

I claim a mousing of india-rubber or analogous non-corrosive material to be applied to hooks, substantially as described.

[This invention relates to a new and improved snap hook, and it has for its object the obviating of the difficulty attending the corrosion of the spring hitherto attached to this class of hooks, a contingency which precludes their use for marine purposes.]

49,317.—Machine for Cutting Tobacco.—Wiley J. Stratton, St. Louis, Mo., and H. G. Tidemann, New York City:

We claim the combination and arrangement of parts substantially as described, and consisting of the rotating cutting wheel, moving at right angles to the feed, the feeding arrangement consisting of the shaft, cam, pawl, ratchet, feed screw and follower, the latter depressed by a single screw shaft, C passing through the bridge nut, a, under the rotation of the wheel, D.

49,318.—Blowing off Steam.—Peter Taltavull, Washington, D. C.:

First, I claim the steam pipe, C, leading from the boiler, the water-inducing pipe, A, and the water-discharging pipe, B, combined and arranged so as to receive and discharge a powerful current of water through the side, M, of the vessel, substantially in the manner and for the purpose herein set forth.

Second, I claim the combination of the concentrically arranged and adjustable pieces, E F G and H, operating in the manner substantially as described and for the purpose set forth.

Third, I claim the combination of the pipes, A B and C, with the adjustable pieces, E F G and H, adapted to control the discharge of fluid, substantially as and for the purpose herein set forth.

49,319.—Bark Mill.—M. Spencer Thomas, Painted Post, N. Y.:

I claim the stationary hopper, A, provided with a circular rim, b, having a rough surface below, and with arms c, having a rough surface below, and teeth, e, above, in combination with the revolving rough surface disk, E, and breaker, D, all constructed and operating as and for the purpose set forth.

[This invention consists in a stationary hopper provided with a rim and arms made rough at their lower surface, and with teeth projecting upwards from the upper surface of said arms, in combination with a revolving rough surface disk below and a toothed revolving breaker above, in such a manner that by the action of said revolving breaker and toothed stationary arms the bark thrown into the hopper is crushed, and by the combined action of the rough surface disk and the corresponding rough surface rim and arms of the stationary hopper the crushed bark is reduced to the desired fineness in a simple and effective way, the whole being so constructed that it is simple in its construction, not liable to get out of repair, and operated with comparatively little power.]

49,320.—Stave Machine.—John S. Thompson, Glen Falls, N. Y.:

I claim the combination of the endless chains, G G, guides, H H, circular saws, T, cutter heads, U, cutters, V W, plates, X, and yielding plates, Y, all constructed, arranged and operating as and for the purposes described.

Second, The combination of the said parts with the escapement wheel, B, in the manner and for the purpose described.

Third, The adjustable pallets, b b, arranged and operating as described.

Fourth, The movable plate, C, operated by the set screw, f, for the purpose of setting and keeping the pendulum exactly on beat, as set forth.

49,324.—Horse Shoe.—A. Weitman, West Union, Iowa:

I claim the securing of the shoe to the hoof by means of one or more detachable or removable flanges, D, provided with lips, d, and constructed and applied in such a manner as to draw the shoe towards the hoof and cause it to fit snugly there-to under the action of the screw, e, and inclined surface of the parts, c and b, in combination with one or more fixed or permanent flanges, B, provided with lips, a, substantially as described.

I further claim the projections, 2 2, in connection with the detachable and permanent flanges, substantially as and for the purpose specified.

[This invention relates to a new and improved manner of attaching the shoe to the hoof of the animal, whereby the shoe will be firmly secured to the hoof, readily applied to and detached therefrom, and some elasticity allowed the shoe in order to render the latter comfortable to the animal, by relieving the hoof from jars and concussions.]

49,325.—Fire-place Heater.—H. H. Welch, Athens, Ohio:

I claim the fire-place heater, A, constructed as herein shown and described; that is to say, with the projections, D E, recesses, B, and pipes, C, for the purpose explained.

[The object of this invention is to save a large amount of the heat that is now lost when fuel is burnt in fire-places, and it consists in the construction and application of a heater, to be placed in a fire-place, next to and partly enclosed within the fire back thereof, which heater is to be constantly supplied with fresh air, which air, after being heated, is discharged through suitable conveying pipes, and registered to any part of a house.]

49,326.—Explosive Shell for Ordnance.—Samuel Wells, New York City. Antedated June 28, 1865:

I claim the fuse hole, formed in the tapering portion of the shell, in combination with the projection, K, on the latter.

49,327.—Tool for Scaling Boiler Tubes.—John Werner, Jr., Prairie du Lac, Wis. Antedated July 26, 1865:

I claim the combination of the cutting tool, c, c, screw, A, nut, B, guide plate, C, and plug, D, all arranged to operate substantially as and for the purpose herein set forth.

I further claim the slotting of the plate, C, and the connecting of the nut, B, so that it may slide or be adjusted laterally, and having the plate, C, provided with a plug, D, substantially as and for the purpose specified.

[This invention relates to a new and useful implement or tool for cutting out and removing the incrustation in the tubes of tubular boilers; and it consists in the employment or use of an auger, arranged with a screw and nut, and also with a guide plate, whereby the desired work may be performed expeditiously and in a perfect manner.]

49,328.—Evaporating and Distilling Apparatus.—W. P. Wheeler, Louisville, Ky.:

I claim the vacuum pipe, C, or equivalent, with its lower end up turned, or otherwise sealed from the entrance of the atmosphere, applied in combination with the condenser, B, and evaporator or still, A, substantially as and for the purpose set forth.

49,329.—Method of Removing Incrustation from Gas Retorts.—A. J. White, New York City:

I claim the removing of the incrustation from the interior of gas retorts, by blowing a current of air through them by means of a pump, fan, or other equivalent device, substantially as shown and described.

49,330.—Gran Shovel.—E. P. Williams, Buffalo, N. Y. Antedated Aug. 4, 1865:

I claim a grain shovel, having a skeleton runner frame, A, and dependent flap shovel blades, B, with an elastic compressible top or covering, E, for the purposes and substantially as described.]

49,331.—Manufacture of Iron.—J. D. Williams, Allegheny City, Pa. Antedated July 9, 1865:

I claim the use of the ingredients herein named, when used in the manufacture of iron, said ingredients being used substantially in the manner herein described and for the purpose set forth.

49,332.—Steam-warming Apparatus.—C. A. Wilson, Cincinnati, Ohio:

I claim the separate return pipe, E, provided with the closable discharge passage, F f, and with the automatic valve-guarded return passage, G g, which empties into the boiler, the whole being combined and operating substantially as set forth.

49,333.—Coal Stove.—Gurdon G. Wolfe, Troy, N. Y.:

I claim, first, The employment of the said self-feeding reservoir or chamber, E, surrounded by the air heating chamber, D, with cold air supply tube, C, arranged and combined with a base-burning coal stove, in the manner substantially as and for the purpose herein described and set forth.

Second, I also claim the employment of a fire pot or combustion chamber, constructed with an annular hot-air chamber, with openings, B B, arranged in the manner substantially as herein described and set forth.

Third, I also claim the combination of the damper, H, with the openings or dampers, O, in the coal supply reservoir or chamber, and said air-heating annular chamber D, in the manner substantially as and for the purpose herein described and set forth.

49,334.—Portable Steam Engine.—William Wright, New York City:

I claim the arrangement of portable steam engines, with referenc to the manner herein described of attaching the engine proper to the boiler.

49,335.—Sirup Stand for Soda Fountains.—C. M. Berry and Charles C. Sheldrake (assignors to themselves and J. Bready), Philadelphia, Pa.:

We claim constructing mineral water sirup stands of cast iron, and enameling the interior and exterior surfaces of the same, to protect them from the action of the acid contained in the sirups.

49,336.—Boring Tool.—Wessel Brodhead (assignor to C. L. Edmonds), Rondout, N. Y.:

I claim the boring tool herein described, consisting of a fine feeding screw, B, and arm, C, sliding in the head of the said feeding screw, and having permanently attached to it the shank, d, of a cutter D, formed with a chisel point, e, a curved neck for the ejection of chips, and two beam shaped blades, f, f, all the parts being constructed and arranged to operate as and for the purposes specified.

49,337.—Connecting Gages, Calipers and Rules.—Nelson H. Bundy (assignor to Nahum M. Dow), Boston, Mass.:

I claim the mode of connecting the several instruments, viz , the calipers, wire gage and foot rule, as hereinabove set forth.

49,338.—Fastening Keys in Locks.—Joseph H. Desalusse (assignor to Alfred B. Justice), Philadelphia, Pa.:

I claim the use of a revolving escutcheon, in combination with a pall, as set forth.

49,339.—Military Insignia Woven in Cloth.—A. M. Dorman (assignor to himself and Samuel Yewdall), Philadelphia, Pa.:

I claim military insignia woven in the cloth, and excised therefrom preparatory to attachment to the apparel, all substantially as herein shown and described.

49,340.—Oyster Dredge.—Edward Fairbanks (assignor to himself and Levi Bowen), Baltimore, Md.:

I claim the combination and arrangement of a reel with a revolving standard and crane arm, when so arranged as to compose a

winder for oyster dredges, substantially in the manner and for the purpose described.

49,341.—Spoke Machine.—Junius Foster (assignor to himself and John Slocum), Long Branch, N. J. I claim the arrangement of the cutter, G, attached to the reciprocating block, C, the adjustable gage bar, H, and slotted plates, I, J, K, all constructed as and for the purposes herein specified.

49,342.—Device for Raising Sunken Vessels.—George W. Fuller, Chelsea, Mass., assignor to himself and Peter E. Falcon, Cohasset, Mass. I claim the mode substantially as above described of overcoming the adhesion of a submerged vessel to the mud or ground on which she may be deposited.

49,343.—Plumber's Hook Blank.—Benjamin F. Gladding, Providence, R. I., assignor to Elliott P. Gleason, New York City. I claim a new article of manufacture of my invention, the plumber's hook blank, with a disposition of its material, substantially as described.

49,344.—Stove Grate.—James Glass (assignor to Cox, Church & Co.), Troy, N. Y. I claim the removable end piece, D, in combination with the grate, B, shaft, C, and bed plate, A, operating as, and for the purposes set forth.

49,345.—Churn.—Horace L. Hervey (assignor to himself and John Hart), Philadelphia, Pa. I claim the combination and arrangement of the two cylinders, A, and piston, D, E, with the perforated plates, F, at the bottom of the cylinders, for the purpose of simultaneously forcing the cream up through one plate, F, by exhaustion, and down through the other plate, F, by pressure, substantially as described.

49,346.—Gas Engine.—Pierre Hugon (assignor to Emil Just), Paris, France. I claim first, the method herein described of igniting in gas engines, the gaseous detonating compound, in the manner and for the purpose hereinbefore set forth, that is to say, by the employment, in combination with one or more side valves constructed for operation, substantially as shown and described, of one or more lighting or inflammable originating burners, whereby the use of electricity as the medium to unite the said compound may be dispensed with. Second, in gas engines, that is to say, in engines in which the motive power is a gaseous compound, to be ignited within the cylinder, or in any vessel communicating therewith, I claim the employment and combination with the said, a gaseous compound of water, or other vaporizing liquid, substantially in the manner and for the purposes hereinbefore set forth.

Third, I claim the arrangement substantially as herein described, of the slide valves for the distribution of the detonating mixture and of the ignition thereof at given intervals of time, in combination with lighting or igniting burners, as set forth. Fourth, I claim the arrangement and combination of parts for the injection of water around and into the cylinder, substantially as herein described and for the purpose set forth. Fifth, I claim the general arrangement and combination of gas engine, substantially as hereinbefore described and shown in the annexed drawings.

49,347.—Paper Collar.—S. B. Hutchinson, Nashua, N. H., assignor to himself, G. W. Kay and V. N. Taylor, Springfield, Mass. I claim a paper collar, part of the surface of which is enamelled, as herein described.

49,348.—Car Coupling.—Sylvanus D. Locke (assignor to G. C. Campbell), Janesville, Wis. I claim, first, a car coupler, when constructed and arranged substantially as and for the purpose set forth. Second, the combination and arrangement of the dog, g, and swing table, o, substantially as and for the purpose set forth. Third, the combination and arrangement of the case, m, and spring, k, substantially as and for the purpose set forth.

49,349.—Wet Machine.—B. U. Lyon (assignor to himself, Grant Judd, E. P. Whitney and J. P. Reed), Stamford, Conn. I claim the combination of the guides, G, G', with the two pressure rollers, B, B', all arranged to operate in the manner and for the purpose herein described.

49,350.—Snap Hook.—Clark Marsh, Bridgeport, Conn., assignor to Hotchkiss Sons, New York City. First, I claim in snap hooks the employment of the spring, E, in combination with a bearing, d, at some distance from the clip or root of the spring, adapted to brace the spring stiffly against the strain thereon in one direction, while allowing the elasticity of the entire spring to be made available in the proper yielding action, substantially as herein set forth. I claim in snap hooks the passing of the spring, E, through the body, so that a portion shall serve in the front and another portion serve at the back, and contribute its elasticity to operate the portion in the front, substantially as and for the purposes herein set forth.

49,351.—Ice PITCHER.—Frederick C. Meyer (assignor to Ernestine Meyer), Philadelphia, Pa. I claim the valve, C, adapted to the spout and operated by the weight, D, through the lever, F, or its equivalent, all substantially as and for the purpose herein set forth.

49,352.—Oil Cup.—Robert Poole (assignor to himself and German H. Hunt), Baltimore, Md. I claim an oil cup in which the lid or cover is united to the bowl by a hinge, section and screw ring, substantially in the manner and for the purpose herein described.

49,353.—Felted Fabric.—Enoch Waite (assignor to Elliott Felting Mills), Franklin City, Mass. I claim the compound fabric made of felt cloth and hair combined or arranged substantially in the manner as described.

49,354.—Horse Hoe Cultivator.—Albion Webb (assignor to himself and D. M. Dunham), Bangor, Me. I claim, first, the manner in which the plates, E, E', are secured to the cross bars, B, B', of the machine, to wit, the oblong grooves, A, in said bars, E, B, with notches, c, at their under surfaces, the covered rods, F, and eye bolts, G, all arranged in the manner substantially as and for the purposes specified. Second, the securing of the blades, H, to the plates, E, by means of a single bolt, a, in connection with the ribs, b, and grooves, c, substantially as shown and described.

[This invention relates to certain improvements in horse hoes or cultivators of that class which are provided with oblique hoes or shares. The object of the invention is to render the hoes or shares of the machine capable of being adjusted with greater facility than hitherto, and also to render it stiffer and firmer, and to perform or work in a better manner.]

49,355.—Cabinet Organ.—George Woods, Cambridge, Mass., assignor to Mason & Hamlin, Boston, Mass. I claim the application to or within the aperture of the safety valve of cabinet organs or other wind instruments, or other apertures for the passage of air, of a perforated or porous diaphragm, whether of porous or other material, substantially as and for the purpose above described.

49,356.—Crimping Wire Cloth.—William Zerns (assignor to himself, J. R. Deighm and Jasper Snell), Pottsville, Pa. I claim the crimping of wire cloth, by placing the same, after being woven, between toothed plates, and subjecting it to pressure, substantially as set forth. [Wire cloth of the coarse kind requires to have the wires crimped or bent, in order to bring the same as near as possible to a plane surface, and retain the wires in position. Hitherto the wires have been crimped before the weaving process, but, by this improvement, they are crimped after they are woven, by means of toothed plates.]

49,357.—Apparatus for Burning Hydro-carbons.—Wm. Lim and Arthur Barf, Glasgow, North Britain. We claim the general arrangement and construction of apparatus for the utilization of the gases produced by the vaporization of mineral hydro-carbon oils, for the generation of steam and the production of heat generally, as hereinbefore described, or any mere modification thereof.

REISSUES.

2,047.—Harvester.—Rufus Dytton, New York City. Patented March 19, 1861. Reissued Sept. 13, 1864: I claim, first, in machines having a hinged or flexible finger bar, raising such finger bar by means of a lever supported or pivoted at one end on the shoe or heel of the finger bar, and turning freely toward the finger bar, but rigid with it when turned in an opposite direction, by causing such lever, when the heel of the finger bar is raised, to be brought in contact with the pole or the frame of the machine, or a projection therefrom, so as to press or force down such lever, and thereby raise the outer end of the finger bar, substantially as set forth.

Second, in two-wheeled machines having a hinged finger bar and having the driver's seat controlled by the pole, instead of by the frame of the machine, and not using or employing a castor wheel to support the drooping end of the frame and the inner end of the finger bar, raising the inner end of the finger bar by means of a lever and cord or chain, or its equivalent, acting upon the pole or some part connected therewith as a fulcrum, when the outer end of such finger bar is raised by means of a lever supported or pivoted at one end on the shoe or heel of the finger bar, and turning freely toward the finger bar, but rigid with it when turned in an opposite direction, and operated as first set forth in the first claim. Third, in two-wheeled machines having a hinged finger bar and a loose pole, and having the driver's seat controlled by the pole instead of by the frame of the machine, so arranging, with reference to the frame of the machine, the finger bar and the mechanism for raising it and the shoe that when the finger bar and shoe are raised by such mechanism their weight will be so thrown upon the two driving wheels that the use of a center wheel to support the drooping end of the frame can be dispensed with, and the machine can also be moved and turned with greater ease and facility.

Fourth, in a machine having two independent driving or supporting wheels, and having the driver not controlled by the pole of the machine, hanging the cutting apparatus by one of its ends, so that not only the entire cutting apparatus will be so thrown upon the independently of the other end, can freely rise above or fall below the plane or surface on which the driving wheels are moving, in combination with mechanism or devices for raising both the outer and inner ends of the finger bar, by which the driver, when in his seat, by operating a single lever moving in one direction in a plane substantially parallel with the sides of the driving wheels, can raise the entire cutting apparatus, and support it upon the driving wheels, for the purposes set forth. Fifth, in two-wheeled machines having a hinged finger bar and a loose pole, and having its driver's seat controlled by the pole instead of the frame of the machine, so arranging the levers that raise the inner and outer ends of the finger bar, that as these levers are operated the inner end of the finger bar shall be raised higher than the inner end, for the purposes set forth.

Sixth, I do not claim forming a guard finger in a single piece, nor do I claim forming it in such a manner as to cover the sickle bar and have openings in its under side for the escape of grass and other substances, as such a form of guard finger has been known; but I claim a guard finger made in a single piece, covering the sickle bar, and having openings in the bottom thereof for the escape of grass and other substances entering with the sickle, when such guard finger is provided with a bearing surface, as I, connecting the upper and lower portions of said guard finger and resting against the edge of the finger bar and braced and sustained against lateral strain, as herein set forth.

2,048.—Apparatus for Rendering Lard, Tallow, Etc.—C. E. Gray, New York City. Patented January 31, 1865. I claim, first, making a close water jacket, in combination with the tank and a part of it, and arranging said water jacket so made a part of said tank, in direct communication with the furnace so that the water jacket shall intervene between the fire and the tank, and act as a means of conducting and distributing the heat from the fire to and around the substance contained in the tank. Second, using the steam generated in a close tank from the condensation of water in the fat for the purpose of aiding and controlling the escape of the noxious gases and vapors, either to a superheater, for consumption in the furnace, or to a deodorizer, for the purpose of condensing them, in the manner substantially as described for the purpose specified.

2,049.—Apparatus for Rendering Oils and Fats.—C. E. Gray, New York City. Patented Aug. 18, 1863: I claim, first, in connection with the digester, the use of a second steam-tight vessel, for receiving melted fat or other fluid material down and purifying the same until it is in a proper condition for exposure to the atmosphere, substantially as described. Second, the placing of a glass tube in the draw-off pipe from the digester or similar apparatus for the treatment of material under steam pressure, for the purpose specified, substantially as before described. Third, in combination with the digester or receiver, the use of the jointed delivery pipe, V, supported near the surface of the fluid fat by the floats, as by W, W', for the purpose of drawing off the supernatant contents of the receiver or tank automatically.

2,050.—Roof for Railroad Car.—A. P. Winslow, Cleveland, Ohio. Patented Aug. 9, 1859: I claim, first, the plates, D, E, F, and grooved rafters, B, when arranged substantially as herein set forth, for the purpose described. Second, I claim forming an air chamber, G, between the sheeting, or roof, A, and plates, D, when arranged as herein described, for giving free circulation of air to cool the car, and, at the same time, allow the water, dust, etc., to pass off at the end of said plates.

DESIGNS.

2,159.—Bust of Abraham Lincoln.—George J. Haller, Buffalo, N. Y.

2,160.—Trade Mark.—George Hosmer (assignor to himself and J. R. Winch), Boston, Mass.

2,161.—Bust of Abraham Lincoln.—Thomas D. Jones, Cincinnati, Ohio.

2,162.—Spoon Handle.—Rauldolph Wendt, New York City.

PATENTS GRANTED

FOR SEVENTEEN YEARS.

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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 your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers. Yours very truly,

CHAS. MASON.

[See Judge Holt's letter on another page.] Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows: MESSRS. MUNN & CO.—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.

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Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent, free of charge. Address MUNN & CO., No. 37 Park Row, New York.

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The assignment of patents, and agreements between patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park Row, New York.

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Every applicant for a patent must furnish a model of his invention is susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by a draft on New York, payable to the order of Messrs. MUNN & CO. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is out little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

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