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It would require many columns to detail all the ways in which the inventor or patentee may be served at our offices. We cordially invite all who have anything to do with patent property or inventions to call at our extensive offices, 37 Park-row, New York, where any questions regarding the rights of patentees will be cheerfully answered. Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New York.



ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING FEBRUARY 21, 1860.

[Reported Officially for the SCIENTIFIC AMERICAN.]

* Pamphlets giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

27,195.—Robt. Anderson, of Brooklyn, N. Y., for an Improvement in Machines for Hulling and Finishing Rice:

I claim a series of revolving beaters of alum-dressed hide, acting to finish the rice, substantially in the manner specified.

27,196.—S. R. Atkins and J. R. Hitchcock (assignors to J. R. Hitchcock), of Plantsville, Conn., for an Improved Sausage-filler:

We claim a revolving presser, *d*, within the case, *a*, with the cut-off *i*, in the manner as and for the purpose substantially as described.

27,197.—F. L. Baily, of Boston, Mass., for an Improvement in Printing Presses:

I claim giving to the vibrating platen its periods of rest and motion for the purpose described, when operated by the arms, *ll*, *ll*, and shaft, *l*.

Second, I claim the cavity, *d*, and screw, *b*, for the purpose set forth.

Third, I claim the combination of the rack, *G*, and cam, *P*, for the purpose set forth.

Fourth, I claim the combination of the guide, *K*, and vibrating platen, *D*, for the purpose set forth.

27,198.—E. C. Betts, of Huntsville, Ala., for an Improvement in Presses:

I claim, first, The combination of the rack bars, *F F*, and the lever *G*, when the latter is provided with the pawls, *I I*, and the movable fulcrum rods, *H H*, arranged to operate as and for the purpose set forth.

Second, The arrangement of the movable or sliding box, *B*, and follower rack bars, *F F*, operated as shown, to admit of the exposure and consequent accessibility of the compressed article, for the purpose specified.

27,199.—H. F. Bond, of Waltham, Mass., for an Improved Bread-slicer:

I claim the combination and arrangement of the eccentric gear wheels, *B* and *C*, the knife, *G*, the lever, *E*, the carriage, *I*, and the rack, *D*, all substantially as and for the purpose specified.

27,200.—Max Braun, of Brooklyn, N. Y., for an Improvement in Inkstands:

I claim the chamber, *E*, with flexible perforated diaphragm, *e*, hollow stem, *D*, and tubes, *a b*, combined with a fountain cup, *F*, and arranged in the manner and operating upon the principles set forth.

[This invention consists in a peculiar constructed top for the ink-cup, and the novel introduction of a small finger force pump for increasing the pressure of the air in the ink in the cup, and in this manner forcing it up into a fountain cup, by supplying new air instead of densifying the air in the reservoir in the present manner where flexible diaphragms are used to raise the ink by pressing on them. The devices to be so constructed that the fountain cup can be filled with ink, or only partly filled, and so that all the ink in the fountain cup may be driven back into the reservoir by removing a portion of the air above the ink into the reservoir.]

27,201.—Hugh B. Brown, of Huntington, N. Y., for an Apparatus for Teaching Orthography, &c.:

I claim the arrangement upon axes in a frame, as described, of a series of blocks with printed or otherwise marked, and with blank sides, substantially as and for the purposes set forth.

27,202.—Wm. A. Carpenter, of Elgin, Ill., for an Improved Permutation Lock:

I claim, first, The employment of a bolt, *C*, which is of a form approximating to a circle, and is arranged so as to be adjusted on a solid spindle, *C'*, which has an index, *e*, on its front end, in combination with the face plate of a safe door or lock which has a circle or a part of a circle of figures, or characters, *D*, marked on it, substantially as and for the purposes set forth.

Second, The combination of a series of bolts, *C*, of the form stated, having index spindles, *d C'*, with a series of circles or parts of circles of figures or characters, *D*, on the face of the lock or safe door, substantially as and for the purposes set forth.

Third, The combination with the bolts, *C*, having index spindles, *d C'*, of a turning shaft, *ll*, a wedge plate, *I*, of the same shape circumferentially, at the bolts, a series of spring catches, *F F*, a series of short levers, *G G*, a series of stops, *I I*, and a series of indented plates, *E E*, substantially as and for the purposes set forth.

27,203.—Thos. Castor, of Philadelphia, Pa., for an Improvement in Passenger Railway Cars:

I claim, first, The frame *H*, trussed and otherwise constructed, substantially as set forth, combined with and connected to the roof, *F*, of the car, and arranged on the same in respect to the opposite ends, *C* and *C'*, of the car, as and for the purpose set forth.

Second, I claim the detachable spiral ladder composed of the pole, *k*, its "rounds" *m*, and connecting rib, *n*, when the said ladder is arranged in respect to the platform, *B* or *B'*, and overhanging portions *e* or *e'*, of the roof and connected to the same, substantially in the manner specified.

Third, I claim the guards, *P P*, constructed and applied to the car, substantially as set forth, when the said guards are arranged to be controlled by the foot of the driver through the medium of the vertical rods, *R*, and the levers, *Q Q*, or their equivalents, as set forth for the purpose specified.

27,204.—G. B. Clark, of Leonardsville, N. Y., for an Improvement in Ventilating Apparatus:

I claim combining with the damper, *F*, and air valve, *J*, or their equivalents, the slotted crossbar, *H*, guide bracket, *o*, and twisted rod or wire, *G*, substantially in the manner and for the purposes specified.

[This invention consists in combining a damper and an air valve with a twisted rod in such a manner that the expansion or contraction of the said rod caused by the increasing or decreasing temperature of the stove-pipe causes the damper to close and the air valve to open, or vice versa. By these means the temperature of a room regulates itself in a simple and efficient manner.]

27,205.—E. B. Clement, of Barnet, Vt., for an Improved Churn:

I claim the arrangement of the toggle-joint, *F*, walking beam, *E*, crank, *H*, and connecting shaft, *I*, operating substantially as described and for the purpose set forth.

27,206.—A. H. Crozier, of Oswego, N. Y., for an Improved Machine for Cutting and Distancing Locks on Hoops:

I claim binding the jaws which hold the hoop so as to allow them to vibrate, or arranging them to traverse, and mounting them on a spring, substantially as described, so that may be moved to carry or feed the hoop to the cutter that cuts the lock or score; and in combination with the jaws for holding the hoop, I claim the cutter for cutting the lock.

I claim a yielding gage, so constructed as to allow the operator to vary the length of the hoops somewhat in proportion to the thickness or crooks in the hoop worked.

27,207.—S. S. Curtis, of Croton Corners, N. Y., for an Improvement in Cooking Stoves:

I claim curving the fire-back, *K*, concentrically with the line described by the grate, *G*, when vibrated or turned substantially as and for the purpose set forth.

27,208.—J. A. Davis, of New York City, for an Improvement in Sewing Machines:

I claim connecting the lever, *B*, having its fulcrum near to the power shaft, as set forth, with or to the driver, *C*, by the spring, *E*, or flexible bar, as and for the purpose described.

27,209.—Sylvester Denton, of Penn Yan, N. Y., for an Improvement in Fences:

I claim the sill, *A*, upright, *B*, post, *D*, cleats, *F*, and brace, *II*, and the method of securing it, when constructed and arranged as specified and for the purposes set forth.

27,210.—George W. Dickinson, Jr., of Breckenridge, Va., for an Improved Surveying Compass:

I claim the arrangement of the scales *e f* and *h*, in combination with the main screw, *C*, and with the additional semi-circle, *F*, and protractor, *G*, constructed and operating substantially as and for the purpose specified.

[The object of this invention is to arrange a surveyor's compass in such a manner that the same, by means of a series of adjustable scales, serves to solve all triangles, and consequently all rectilinear figures which may occur in the various operations of a surveyor, and at the same time it facilitates materially the drawing of said figures.]

27,211.—H. W. Dopp and William K. Mead, of Buffalo, N. Y., for an Improvement in Burners for Vapor Lamps:

We claim, first, The arrangement of the pipe, *A*, wick tube, *e*, and stop-cock, *o'*, by means of which the fluid is supplied to either or both of the pipes or tubes, *A* and *c*; said cock being operated by means of a cam wheel, *D*, substantially as and for the purpose specified.

Second, Arranging the burner, *G*, with the heater, *B*, in the manner specified; the burner being secured to the heater, and the heater being provided with pins, *E*, which pass through the dark portion of the flame above the burner, substantially as specified.

Third, The arrangement of the burner, *G*, heater, *B*, pipe, *A*, and tube, *C*, together, substantially in the manner and for the purpose specified.

27,212.—Eliakim B. Forbush, of Buffalo, N. Y., for an Improvement in Apparatus for the Ventilation of Railroad Cars:

I claim the arrangement of the revolving aprons, *A A'*, water and ice tank, *E*, and stove, *K* (or other heating apparatus), in a separate apartment or room within the car, relatively to the blower, *H*, for the purposes described.

I claim the described arrangement of the distributing air pipes, *S S'* and *T*, when arranged relatively to the described apparatus for purifying the air from dust, as set forth.

27,213.—Wm. L. Force, of Keyport, N. J., for an Improvement in Oyster Dredges:

I claim, first, The combination of the sled runners, *A A*, and deflecting board, *E*, when the same are arranged in the manner and operate as set forth.

Second, I claim the flat-headed rake head in combination with the teeth, *a a*, when said teeth are bent over the front edge of the head; all in the manner and for the purposes set forth.

27,214.—James E. A. Gibbs, of Mill Point, Va., assignor to J. O. Wood, of New York City, for an Improvement in Sewing Machines. Ante-dated August 21, 1859:

I claim, first, The mechanical production of the interlaced chain-stitch in an organized sewing machine, by the combination with the reciprocating eye-pointed needle and discoidal thread case or rotary hook and bobbin, or their equivalents, of the described automatic feeding mechanism to the cloth when so arranged in relation to, and operating in concert with, the said devices as to cause each loop taken from the needle to be carried by the hook through the preceding loop, substantially in the manner described.

Second, The combination and arrangement substantially as described, of the eye-pointed needle, discoidal thread case, provided with two loop-taking bolts, with an automatic feed mechanism, operating in the manner set forth, so that a mere change in the direction of the feed shall effect the difference described between the several stitches.

27,215.—Jeremiah Heath, of Providence, R. I., for an Improvement in Heel Screws for Skates:

I claim the wheel and screw, arranged and operating substantially in the manner and for the purposes set forth.

[This invention consists in fixing in the center of a suitable wheel furnished with handles or holes punched in its periphery a suitable screw which is capable of being rotated with the roller, and which, by turning said roller, will be forcibly driven into the heel of the boot either before or after the skate is strapped to the foot.]

27,216.—Chauncey O. Green, of Troy, N. Y., for an Improvement in Cooking Stoves:

I claim the hollow, cylindrical transversely grooved grate bar, or grate bars, *N*, when arranged lengthwise of, and so as to be capable of revolution within, the oblong fire-box, *A*, and having communication at one end with the open air and at the other end communication with the smoke flues of the stove, by means of an air passage or air passages, arranged in contact with the outside of, or leading through, the part or parts of the grate not sufficiently heated by the fire-box and smoke flues, substantially as and for the purposes set forth.

27,217.—Joseph Grice, of New York City, and Robert H. Long, of Philadelphia, Pa., for an Improvement in Running Gear for City Railroad Cars:

We claim the vibrating truck, *C*, pivoted in advance of its axles in the line of motion of the car, in combination with the arcs, *C'* and *C''*, and friction rollers, *K*, with suitable bearing surfaces in the bottom of the car body; the whole constructed and operating substantially as specified for the purpose set forth.

And we also claim, in combination with a vibrating truck pivoted at a point not over the axles, the employment of sustaining arcs, so arranged on each side of the axles as to support the car and relieve the turning point of all weight, as specified.

27,218.—Thos. Hanson, of New York City, for an Improvement in Apparatus for Supplying Water to Buildings:

I claim combining the engine which is operated by the head of water with the pump, forcing water to the upper part of the building by means of a lever with a shifting adjustable fulcrum, substantially as and for the purpose specified.

I also claim the arrangement, substantially as described, of the engine and pump, so that the connecting lever can be removed and a hand lever substituted, as described, that the pump may be operated by hand when, from any cause, the pump cannot be operated by the engine.

I also claim the split packing rings and plates secured thereto, substantially as described, in combination with the conical boss on the piston rod, substantially as described, to render the piston self-packing by the pressure of the fluid.

27,219.—Samuel H. Gilman, of New Orleans, La., for an Improvement in Apparatus for Evaporating Saccharine Juices:

I claim, in the construction of pans or kettle for evaporating saccharine juices or other liquids, making the bottoms thereof a series of vertical compartments, open at the upper edges to receive the liquid from the upper part of the pan or kettle and closed at the bottom, except for the purpose of connecting the inside of the series, and with open spaces between every two of the series forming continuous passages open to the flue space, except where obstructed by the connecting pipes for the action of the products of combustion, substantially as and for the purpose specified.

I also claim making each of the said compartments of the series constituting the bottom of a pan or kettle, separate from the others and from the upper part of the pan or kettle, and provided with flanges to connect it with the series and with the lower edge of the upper part of the pan or kettle, substantially as and for the purpose specified.

I also claim increasing the heating surface of each pan or kettle of a train relatively to its liquid content, in the ratio of its greater distance from the furnace, by making the series of compartments constituting the bottom thereof, substantially as described, of greater depths each in succession as they are more distant from the furnace, for the purpose specified.

I also claim the manner, substantially as described, of connecting the series of pans or kettles constituting the train, by means of the flaring sides, substantially as described, in combination with the manner of connecting the bottoms therewith, substantially as described and for the purpose specified.

And finally, I claim the vibrating dipper, connected and combined with the pans or kettles, substantially as described, for the purpose of transferring the liquid from one pan to the next in the train, as set forth.

27,220.—George E. Hoyt, of Brooklyn, N. Y., for an Improvement in Machinery for Breaking Coal:

I claim, in connection with the plunger and screen, the gage, M, and rake, H, arranged substantially as and for the purpose described.

[This invention consists in the employment of a plunger armed with teeth, and placed over an intermittently rotating or a rectilinearly-reciprocating screw, which serves as a bed for the toothed plunger; the above parts being also used in connection with a gage and rake, and the whole arranged to operate in such a manner that the coal may be broken and screened with but little waste and in a very expeditious manner.]

27,221.—Charles W. Hubbard, of Pittsburgh, Pa., for an Improved Machine for Grinding and Polishing Saws:

I claim the use of an adjustable friction roller, set in a swinging frame and raised up by springs, in combination with another friction roller on a permanent revolving axis, for the purpose of revolving the saw at a uniform speed, differing from that of the grindstone, independently of the motion of the stone and unaffected by it; thus preventing the tendency of the stone to affect the revolutions of the saw.

27,222.—Enoch Jacobs, of Cincinnati, Ohio, for an Improvement in Joining Plates of Metal:

I claim the construction of the joint, made by means of the closely abutting plates, A, A, and the flat and semi-cylindrical plate, B, B, and rivets, C, C, substantially in the manner and for the purposes set forth.

27,223.—Daniel Jones, of Boston, Mass., for an Improved Steering Apparatus:

I claim the direct application of the power of the traversing screw, H, to the tiller, C, or the yoke tiller, L, in the manner described, when the steering wheel operates the screw, H, by single gear, and is placed on the middle line of the ship, as specified and shown.

I also claim, in combination with the above arrangement, the cam yoke tiller, L, constructed and operated substantially as described.

27,224.—Gilbert Daniel Jones, of New York City, for an Improvement in Mills:

I claim constructing the bottom or grinding surfaces of the runners conical, in the form of an inverted cone, and the bed in and around which they revolve with corresponding conical surfaces, substantially in the manner described.

27,225.—W. J. Johnson, of Newton Corner, Mass., for an Improved Dish Cloth-holder:

I claim the described dish cloth-holder, constructed with round or square jaws or tines, and bent or curved in such a manner that the cloth will be satisfactorily drained by the same and held in a closed state by a metal slide, or its equivalent, forming a new article of manufacture.

[This invention, which consists of three curved prongs and a slide, is a novel device for holding a dish cloth for washing dishes, bottles, and small-mouthed vessels which are difficult to make clean. It is an exceedingly simple article, easily made, holds the cloth securely, and is very handy to use. It keeps the hands out of hot water, and is a useful and cheap article for the culinary department.]

27,226.—Ferdinand C. Lighte, of New York City, for an Improvement in Grand Piano-fortes:

I claim the construction of the iron frame with two plate-like portions, A, B, one elevated above the other, and with an opening, a, b, between them for the turning pins of the wrest plank, and constructing the wrest plank with a step, h, and fitting it to the bottom of said parts, A, B, of the frame; all substantially as described.

[This invention consists in a certain novel construction of, and mode of combining, the wrest plank and the iron frame of a grand piano-forte, whereby the wrest plank is better sustained by the frame against the strain of the strings than it is in other grand piano-fortes.]

27,227.—John Lippincott, of Pittsburgh, Pa., for an Improvement in the Manufacture of Axes:

I claim making axes with a head of cast iron, cast into and around a steel bit, and afterwards finished and dressed, as hereinbefore described, as a new article of manufacture.

27,228.—John W. Lyon, of Brooklyn, N. Y., for an Improved Machine for forming Guard or Gas Cocks:

I claim the combination of the taper mandrel, L, with the rotating cutter, H, substantially in the manner and for the purposes herein described.

The arrangement of the adjustable gage, Q, with relation to the mandrel, L, substantially as described.

27,229.—A. G. Mack, of Rochester, N. Y., for an Improvement in Last-holders:

I claim the arrangement of the movable standard, M, and spring rod, r, with the upright standard, B, sliding rest, D, and eccentric, E, as and for the purposes set forth.

27,230.—Wm. S. Mead and H. W. Dopp, of Buffalo, N. Y., for an Improved Ventilating Valve for the Delivery of Liquids:

We claim the employment of an elastic diaphragm, B, provided with a ventilating tube, C, in combination with an air chamber, A; the whole being arranged and constructed substantially in the manner and for the purpose set forth.

27,231.—Rensselaer Merrill, of Elmira, N. Y., for an Improved Clothes-dryer:

I claim the combination of the collar, C, cap, A, and braces, D and E, with the radial arms, B, when constructed and arranged in the manner and for the purpose set forth.

27,232.—John S. Mitchell, of South Boston, Mass., for an Improvement in Spring Skates:

I claim an improved skate as having its foot rest, A, constructed not only with sockets, a, a, for the reception of helical springs, b, b, for supporting the foot rest on the runner, B, but with separate sockets, c, c, and lateral passages, d, d, arranged with reference to the springs, b, b, substantially in the manner and to receive tenons and holding pins or stops connected with the runner as hereinbefore described.

27,233.—Elias Parish and Watson Parish, of Galesburg, Ill., for an Improvement in Mole Plows:

We claim, first, The combination of the grooved hinged piece, B, with the coulter, C, and mole part, A, arranged and operating substantially as set forth.

Second, The combination of the hinged plane, E, roll, F, hinged bearings, h, h, and screws, f, f, with the rear end of the draft beam, D, substantially as set forth.

27,234.—Johan F. C. Peikhardt, of New York City, for an Improved Sofa Bedstead:

I claim, first, The arrangement of the cushions, K, L, M, as shown and described, to wit, the cushions, L, M, connected by hinges, f, cushion, I, being attached to the bars, I, by means of the hooks, g, g, fitting in the slots, h, h, thereof, and the cushion, M, attached to the posts, A, A, by means of journals, j, fitting in either of two pairs of grooves or recesses, k, I, while the cushion, K, is connected to the bars, I, by hooks, n, fitting in the slots, h, substantially as and for the purpose set forth.

Second, In combination with the cushions, K, L, M, the adjustable and folding side pieces, O, O, arranged as shown to form sides for the article, when used as a bedstead, and be capable of being folded compactly against the side rails, D, when the article is used as a sofa.

[The object of this invention is to combine a sofa and bedstead in such a manner that the device may be converted from one of the above-named articles to the other, and vice versa, with the greatest facility, and made to serve in either capacity equally as well as articles made especially for either purpose.]

27,235.—Worden P. Penn, of Belleville, Ill., for an Improvement in Horse-powers:

I claim the combination of the loose cap, C, with the hub, E, of the wheel, D, and the ends of the bars, B, and also bracing the said bars from the said cap, C, by means of chains, e, e, e, for the purpose of taking the stress off of the rim of the wheel, D, and concentrating it in the said cap, and also the combination of the spider bracket, b, with the loose cap, c, and the center pin and the hub, E, for the purpose of securing the ends of the bars, B, substantially as described.

27,236.—Thaddeus S. Scoville, of New York City, for an Improved Mosquito Bar:

I claim the combination and arrangement of the supporting posts, p, p, adjustable doubly-turning hinges, f, f, curtain frame, c, d, cords, i, i, pulleys, k, k, and balance weight, j, substantially in the manner and for the purpose specified.

27,237.—Thomas S. Smith, of Cincinnati, Ohio, for an Improvement in Floors of Malt Kilns:

I claim in combination with the perforated plate, A, the tessellated frame work, C, B, the upper edges of which are rounded as described; the whole being arranged in the manner as set forth, for the purpose of enabling the heated air to pass equally upward through the perforated plate, there being no obstructing surface under the said perforated plate.

27,238.—Abraham Reese, of Pittsburgh, Pa., for an Improved Rivet and Bolt Machine:

I claim, first, The use of a sliding die carriage working upon rollers, in the manner described.

Second, The combination of a heading tool, re-acting by means of a spring with a trip hammer, so arranged as to give repeated strokes on the heading tool between each stroke of the gripping dies and with dies forming a matrix for the head of the bolt or rivets, for the purpose of forging the heads of bolts and rivets into shape when inclosed in a die by repeated blows of the hammer on the heading tool working in the cavity of the heading dies, in the manner hereinbefore described.

27,239.—P. H. Roots, of Connersville, Ind., for an Improvement in Water Wheels:

I claim the recesses, f, and the pistons, C, of described configuration, so as to insure requisite strength, in combination with the cylinders, A, D, so as to prevent the retardation of the piston by the water as the pistons enter and leave the recesses, substantially as and for the purposes set forth.

27,240.—Augustus Pruyt, of Albany, N. Y., for an Improved Device for allowing for Contraction or Expansion of Buck Saw Blades:

I claim the combination with the saw blade and saw frame, of a spring, c, when the said spring is placed within a slotted opening in the blade, and covered by the frame, as and for the purpose shown and described.

[This invention relates to an improvement in that class of hand saws which are formed of thin narrow steel plates or strips strained in frames, such as those for sawing fire-wood, frequently termed buck saws, and also those used by joiners and others for sawing scroll or curved stuff. The object of the invention is to obviate the difficulty hitherto attending the expansion of the saw consequent on the heating of the same by friction, and also avoid the loosening or slackening of the saw produced by the spring of the frame.]

27,241.—August Semmendinger, of New York City, for an Improvement in Photographic Cameras:

I claim the spring board, A, in combination with a photographic apparatus, in the manner and for the purpose substantially as described.

Also the double grooves, e' and n', and the double tongues, e and n, in combination with the glass-holder, B, substantially in the manner and for the purpose set forth.

27,242.—George W. Ramsey, of New York City, for an Improvement in Steam Plows:

I claim the arrangement of the plow cylinders, J, J, driving wheels, guide wheel, boiler and engines; the whole being constructed, operated and operating as shown and described.

27,243.—Alva M. Southworth, of Dorchester, Mass., for an Improved Attachment for Sail Cringles:

I claim the arrangement of the broad metallic plate secured to the yard, and having formed on it a flange or shoulder, and the sliding hook engaging with the said flange or shoulder and the head cringle of the sail, as described.

27,244.—Timothy Sullivan, of New York City, for an Improved Tool for Cutting and Pulling Thread:

I claim, first, The combination of the blade, A, with the finger-like prong, B, or its equivalent, substantially in the manner and for the purpose specified.

Second, The arrangement of the spring jaw, D, in combination with the blade, A, and prong, B, constructed and operating substantially as and for the purpose described.

[This invention relates to a very simple and effective implement for pulling out basting thread. Its utility will be easily understood by every tailor or seamstress, and its simplicity recommends it to the public.]

27,245.—Benedict Swain, of Washington, D. C., for an Improvement in Projectiles for Fire-arms:

I claim the combination of a flat spiral tail with a conical tail so constructed as to form a shoulder for the wooden packings to rest against, thereby causing the head of the shell to receive the full force of the discharge of the gun, at the same time I secure the wooden packings at the extreme end by the use of a metal sabot which sabot also protects the composition which is pressed in the hollow shaft in the tail, intended for a rocket or to fuzee the head of the shell.

27,246.—Aaron W. Sweet, of Cincinnati, Ohio, for an Improvement in Conical Grinding Mills:

I claim, in combination with the conical cracking and grinding surfaces on the burr and concave, the feeding cone and its concave, constructed and arranged substantially as described.

27,247.—H. R. Taylor, of Roxbury, Mass., for an Improvement in Supporting Furniture Drawers:

I claim bringing out the slides, B, with the first part of the movement of the drawer, substantially as set forth.

27,248.—Charles Von Bonhorst, of Hancock, Md., for an Improvement in Lamps:

I claim the combination of the air space, c', air space, B, draft passage, c, and draft passage, a, in the manner and for the purpose described.

[This lamp has two wick tubes with an air space between and around them. The flames of the two wicks mingle together, and the smoke between and around the bases of the flames is supplied with oxygen, so that perfect combustion is accomplished, and the lamp sends forth a brilliant flame without smoke. This is a simple, good lamp.]

27,249.—A. A. Washburn, of St. Johnsville, N. Y., for an Improved Washing Machine:

I claim the arrangement of the fluted rollers, E, in the stationary washboard, D, and combination with the corrugated bottom of the tub and with the concaves, i, in the pounders, F, substantially as and for the purpose specified.

[This invention relates to certain improvements in that class of washing machines in which a concave swinging tub and a stationary washboard, together with two pounders, are employed. Fluted rollers in the washboard and a corrugated bottom, together with the peculiar shape of the pounders, facilitate the washing, and the operation is rendered quite easy by means of a counterpoise on the top of the tub.]

27,250.—John W. Wheeler, of Cleveland, Ohio, for an Improvement in Grain Mills:

I claim, first, The stationary adjustable hopper, G, in combination with the plate, Z, for regulating the feed of the grain to the cones.

Second, I claim the recess or groove, d', between the dress rings, whether in connection or not with extending a few of the teeth or ridges, e', of the dress across the recesses or grooves, as and for the purposes set forth.

27,251.—Andreas Willmann, of New York City, for an Improvement in Compositions formed of Caoutchouc:

I claim the combination with the rubber or its compounds of coke, or its equivalent, when reduced to a finely divided state, together with the anhydrous alkaline salts mentioned, and when the latter be used separately or in combination, substantially in the manner and for the purposes set forth.

27,252.—Charles B. Withington, of Rock, Wis., for an Improvement in Harvesters:

I claim the combination of the spring, W, connecting rod, V, shaft, I, sliding rack head, H, guide, G, loose pulley, f, ratchet wheel, J, spring, e, and catch, h, when these several parts are arranged in relation to each other and to the main frame and platform in the manner described, for the purposes specified.

27,253.—A. H. Wood, of Boston, Mass., for an Improved Engraver's Vise:

I claim the combination of a proper spring and the tilting frame, e, e, operating together in a suitable stock or standard, as described and for the purpose specified.

27,254.—Charles Wray, of San Francisco, Cal., for an Improvement in Furnaces for Plating Iron:

I claim combining with the crucible and the means of applying heat thereto, the employment of a muffle or roof to the crucible, leaving a narrow opening on opposite sides for introducing the sheets of iron or other articles to be plated, and for drawing them out of the molten metal, substantially as and for the purpose specified.

And I also claim, in combination with the crucible covered with a muffle or roof and heated in the manner described, the placing of the fire-door or doors above the muffle or roof, substantially as and for the purpose specified.

I also claim, in combination with the crucible covered with a muffle or roof and heated as described, making the openings through the outer shell of the furnace inclining upward and outward from the opening in the crucible, through which the articles being plated are drawn out of the crucible, substantially as and for the purposes specified.

And I also claim, in combination with the crucible and the surrounding fire chamber, constructing the side walls of the surrounding masonry with an opening in area equal to the sectional capacity of the interior chamber which contains the crucible, and closing such opening with movable sections, substantially as and for the purpose specified.

27,255.—Jones Yerkes, of Philadelphia, Pa., for an Improved Refrigerator:

I claim the upper chambers, G and G', with their respective openings, b and c, the lower chambers, H and H', with their respective openings, d and e, the ice chamber, I, and the cold air chamber, J, with its partition, h; the whole of the above-mentioned parts being arranged in respect to each other and to the air chamber, C, as and for the purpose set forth.

27,256.—N. B. Cleveland (assignor to Lyman Updike and J. M. Hosmer), of Waupun, Wis., for an Improved Submerging Barrel Head:

I claim the employment of the head, A, provided with the movable arms, B, B, when the same is used substantially as and for the purpose specified.

27,257.—John M. Jones (assignor to himself and H. O. Ames), of New Orleans, La., for an Improvement in Skimmers for Sugar Juices:

I claim, as an improved article of manufacture, a skimmer for sugar and other substances, composed of a metallic bowl, A, and an air chamber or float, B, constructed and combined substantially as shown and described.

27,258.—Daniel B. Neal and H. C. Emery assignors to themselves and Geo. E. House), of Mount Gilead, Ohio, for an Improvement in Apparatuses for Evaporating Saccharine Juices:

We claim, first, The employment in the furnace, A, of two flues in combination with a central cooling air chamber under the pan, the flues being divided from each other by means of a wall, B, and which are provided each with a series of dampers, C, C, substantially as and for the purpose specified.

Second, Providing the bottom of the pan with two flanges which fit snugly against the sides of the wall, B, the flanges, the wall and the bottom of the pan forming the four sides of an air chamber under the pan, substantially as and for the purpose specified.

27,259.—Charles L. Robinson, of Waukeshas, Wis., assignor to himself and Thos. G. Eggleston, of Fox Lake, Wis., for an Improvement in Tanning:

I claim the employment, as and for the purposes specified, in combination with the purified terra japonica liquor described, of carbonate, sulphate or caustic magnesia and sulphate of potassa in about the proportions set forth.

27,260.—James Rowe (assignor to himself and Martin B. Ewing), of Cincinnati, Ohio, for an Improvement in Sewing Machines:

In combination with a needle of a sewing machine, I claim the double-eyed curved looper, T, as constructed, the same being made to operate in the manner substantially as set forth for the purpose described.

27,261.—Elisha M. Smith, of Indianapolis, Ind., assignor to himself and Elbridge G. Mayhew, of Shelbyville, Ind., for an Improvement in Molding Machines:

I claim the combination of variable guides and their necessary appendages with a sash or molding machine, substantially as described in this specification.

27,262.—George Elliott and George F. Elliott, of Manchester, Conn., for an Improvement in Locks:

We claim, first, The combination of the hook plates, B B', spring pivot, h, h', and inclined slotted eccentric rim, F, the whole constructed, arranged and operating substantially as and for the purpose described.

Second, The movable tumbler, E, in combination with the hook plates, B B', spring pivot, h, h', and eccentric rim, F, substantially as and for the purpose described.

[This lock has a series of circular hook plates, so arranged in a case that, in order to unlock the lock, it is first necessary to disconnect said plates by certain movements of the key. The operation of unlocking is very simple and easy to those initiated, but rather difficult and tedious to the burglar. The construction is simple and cheap. We regard it as a good contrivance.]

RE-ISSUES.

R. H. Cole, of St. Louis, Mo., for an Improvement in Making Nuts. Patented June 3, 1856:

I claim forcing a portion or the whole of the metal displaced in forming the holes in the nuts in the bodies of the nuts, by which I am enabled to make the nuts thicker and more compact than the bar from which they are cut, all substantially as set forth.

R. H. Cole, of St. Louis, Mo., for an Improvement in Nut Machines. Patented June 3, 1856:

I claim the arrangement of the round punch, f', with an aperture in the angular punch, d, at the same time that a round punch, e, is arranged within an aperture in the bottom, j, of the nut box, when the said round punches are combined with the movements which causes them to act jointly in perforating holes in the nuts formed in said nut box, substantially as described.

I also claim the joint arrangement of the angular punch, d, and its interior round punch, f', with the bottom, j, of the nut box and the interior round punch, e, when the said bottom of the nut box is combined with a spring, or its equivalent, in such a manner in relation to the said angular punch, d, and the round punches, e, and f', that the action of the said parts in forming a nut will cause the completed nut to be thicker than the bar from which the blank was cut, substantially as set forth.

James M. Dick, of Buffalo, N. Y., for an Improvement in Railroad Frogs. Patented Aug. 3, 1858:

I claim combining the four rails, arranged in the manner described, to form a frog by attaching them separately to a series of separate chairs, in manner substantially as described, so that each part may be removed for repairs and replaced independently of the other parts, as set forth.

I also claim holding down the movable end of the spring rail of the frog to its chair, so that it shall be free to expand and contract and spring laterally by combining it with the chair by means of the lip extending under and embracing the chair, substantially as described.

George C. Dolph, of West Andover, Ohio, for an Improvement in Mowing Machines. Patented Sept. 8, 1857:

I claim attaching the cutter bar, B, and cutter, A, to the front of the frame of the machine by means of a plate or bar, so arranged that its front end may be raised or lowered by a lever independently of the main frame of the machine, and thus give to the cutting apparatus a tilting or rocking movement which will elevate and lower the points of the fingers, said parts being constructed and applied to the patterned machine of E. Ball referred to, in the manner substantially as described.

[This invention consists in giving the cutter bar and cutter an adjustable movement independently of the frame of the machine, so that the cutter or sickle may be raised and lowered and adjusted at any desired point, without moving or at all affecting the frame of the machine.]

James Powell (assignee of Martin Robbins and James Powell), of Cincinnati, Ohio, for an Improvement in Faucets. Patented Dec. 21, 1858:

I claim, first, The application to the key stem the collar, I, cushion, Q, and loose collar, R, or their equivalents, in the manner and for the purposes described.

Second, The valve stem, L, formed with three bearing surfaces, m m', when connected by a key, N, and operated upon by a suitable cam, H, in the manner and for the purpose explained.

Third, The elevated or projecting guide, G, or its equivalent, when combined substantially as and for the purpose set forth, with a valve stem formed and adapted to be actuated by a cam or other eccentric on the key stem in both opening and closing the valve.

Barney E. Sampson, of Boston, Mass., for an Improvement in Pole Coupling for Railroad Cars. Patented July 7, 1858:

I claim making the mth or face of the bunter between the plates, a and b, entirely open at the sides and in front, so that the coupling of the pole may be easily made, whether it point directly forward or deviate to the right or left, substantially as set forth.

Second, I also claim sustaining the pole of a horse car in the proper position by means of the brace, G, substantially as described.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim adjusting the expansion of steam in steam engines with the aid of an independent motion to determine when a weight or spring shall commence to close a separate moving cut-off valve for each end of the cylinder.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim the combination of a cam, arm or wiper, moved by an independent motion, with a reciprocating trip and catch to liberate a weight, spring or other force that act to close a cut-off valve.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim liberating the closing weight, or apparatus to cut off, by the aid of an independent motion in combination with a regulating reservoir to resist the force and momentum of the rapidly moving parts in cutting off.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim imparting a co-existing movement to two reciprocating catch pieces in the operation of trip cut-off valves.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim an adjusting mechanism, so arranged that the relative position of its parts, during any portion of its movement by the engine, can be changed to alter the closing action of the weight that operates the cut-off without altering the time or encountering the resistance of opening the two separate moving cut-off valves.

Frederick E. Sickels, of New York City, for an Improvement in Steam Engines. Patented Sept. 19, 1845:

I claim counterbalancing the weight of the lifting rods so as to relieve the engineer in working the engine, and so that, when the engine is hooked on, they will exert their full force in descending to overcome any opposing friction.

ADDITIONAL IMPROVEMENT.

Josiah Ells (assignor to Jas. M. Cooper and Wm. S. Lavelly), of Pittsburgh, Pa., for an Improvement in Revolving Fire-arms. Patented Aug. 1, 1854; re-issued Sept. 6, 1859:

I claim, first, The combination of the cam, i, on the hammer and cam, j', on the trigger, constructed and arranged substantially as described, for the purpose of drawing back the trigger and retaining it and the hammer at the point of full cock without the use of any pawl or catch to retain them in that position.

Second, The use in fire-arms cocking as well by hammer as by trigger, of a pawl, in combination with a notch on the front edge of the hammer, for the purpose of preventing the complete fall of the hammer and the discharge of the piece in case of the partial raising of the hammer or drawing of the trigger, substantially as described.

Third, The combination and arrangement of the cam, i', and pawl, n, on the trigger and the cam, i, on the hammer, and stud, r, and lifter, y, on the trigger, so that their conjoined action will effect the entire operation of the arm, viz., in half cocking or full cocking the hammer and rotating the breech into position, locking it and setting the trigger in a drawn position, preparatory to the discharge, by the manipulation, of either the hammer or the trigger.

Fourth, The spring stop on the arbor or spindle and ratchet grooves in the bore of the cylinder in which it works, to prevent the backward rotation of the breech, in combination with the spring stop on the hammer spring and ratchet groove on the external circumference of the breech, in which it works, to prevent the forward rotation of the breech, for the purpose, by their combined action, of perfectly locking the breech in position before the hammer reaches the point of full cock, by either mode of manipulation, preparatory to firing.

Fifth, The lever and spiral spring in the trigger, combined and arranged as described, for the purpose of operating the vibrating stud.

DESIGNS.

N. S. Vedder (assignor to Abraham Cox, Joseph Cox and John Whitman), of Troy, N. Y., for a Design for a Cooking Stove.

Isaac De Zouche, of St. Louis, Mo., for a Design for Iron Railings.

James E. A. Gibbs, of Mill Point, Va., for a Design for a Sewing Machine.

H. S. Hubbell, T. H. Wood and J. E. Roberts, of Buffalo, N. Y., for a Design for Stoves.

William H. Smith, of Newport, R. I., for a Design for Stoves.

Notes & Queries

J. G. of Ind.—The claim of H. B. in his communication on page 83 of our present volume is, that by compression he avoids the loss of the steam which is required at each stroke to fill the space between the port and the piston. If he cut off at the proper point to save this, it does not follow that by cutting off sooner he would save more—he could not save more than the whole of what is now lost. Water in a close boiler does become hotter than 212°, not in an open boiler. Why the bottom of a boiling pot remains cool, if such is the fact, is to us a mystery. We should not want to live any greater length of time than would be required to pick a millstone with a glazier's diamond.

W. McC., of Ala.—The water taken up by a whirlwind in the form of a water-spout will be found to be salt when it falls to the earth. Most of the rain is formed of water which rises by evaporation, and this process does not carry up the salt.

C. L., of Conn.—A fall in the mercury of the barometer generally indicates approaching rain, a high wind, or a thunder storm; but it frequently rises prior to a snow storm. The reason of this is but imperfectly known.

C. A. P., of Ky.—An ambrotype can be copied photographically by transmitting the light through the glass in a dark room, and allowing the rays to fall upon the paper. We are not acquainted with any artist in this city who makes a practice of taking pictures in this manner, though several know how to do it.

G. L. B., of Maine.—There are plenty of oscillating steam engines so constructed that the trunnion itself is the valve, and the steam is shut off and taken in by the cylinder itself.

C. H. H., of Ind.—Smoke consists principally of carbon. The plan of burning it by passing it into a hot furnace has been in operation for several years; it is extensively practiced in England. An escape flue is necessary.

O. B. M., of Mass.—Your article on the Pemberton Mill is accepted, and will probably appear in our next issue.

J. W. S., of N. Y.—Your article on the obstruction of river navigation is accepted, and will appear soon.

C. W. K., of Ga.—We know of no liquid which will prevent insects from sucking the blossoms of apples and pears.

T. H. Y., of Ohio.—There can, of course, be no way of drawing all the wine from one cask into another on the same level without the use of power, applied either to a pump or some other apparatus.

A SUBSCRIBER, of Canada.—Bodies falling through a vacuum fall with the same velocity whatever their density or size. This is true only of bodies whose weight, compared to that of the earth, is inconsiderable. Planetary masses would fall with velocities proportioned to the quantity of matter which they contained.

J. D., of N. S.—It would be necessary to know more of the facts than you communicate in order to answer your question. How great is the present head? How large is the pipe through which the water flows? and how much water do you want to raise per day? We recommend you to write directly to the Alaire Works, this city.

F. F., of Kansas.—In commencing the study of chemistry, use only the most simple apparatus. A blow-pipe, spirit lamp, retort and a few glass tubes will enable you to perform quite a number of experiments Morfitt's "Chemical Manipulations," published by Lindsay & Blakiston, Philadelphia, is the most suitable work for your purpose. You can only obtain books published by government from members of Congress.

F. A. C., of N. Y.—Napoleon II. was the son of Napoleon I. and Maria Louisa, of Austria. He died young. The Sons of Malta constitute a secret order—great upon malt liquor, for ought we know to the contrary. We cannot give you the peculiar information desired about the microscopes which were advertised.

J. H. F., of N. Y.—The beautiful gloss to which you refer, upon marble and alabaster, is produced by rubbing the surface (after it has been reduced with emery and pumice stone) with a moist linen cloth and the powder of calcined tin. After rubbing with this for some time, take a cushion of soft dry cloth, or, what is better, a piece of soft white leather, and rub very lightly. Fine soft silk is the best substance to finish up the polish with, but it is seldom used.

G. P. D., of C. W.—There must be something wrong with your battery when you cannot get a copper deposit from a strong solution of the sulphate. It is a difficult matter to silver-plate cast-iron, but it has been done in some instances by having an excess of chloride of silver in the cyanide solution. Use stronger solutions than those you have yet tried.

J. J. B., of N. Y.—A windmill may be capable of doing all the work you want in a wagon shop, but you cannot depend upon it because it is not constant. A horse-power, we think, would be the cheapest which you could use in a small business. If it is not sufficient, we advise you to get a small steam engine.

J. B. B., of Fla.—Short iron chimney caps are not objectionable with lightning rods attached, if you have the lower part of the cap properly connected with the rod. All large pieces of metal, such as gutters and caps, about the roof and sides of the house, should be connected with the rod. The latter should be as large as possible, in order to carry off the most intense stroke with ease.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, Feb. 25, 1860:— P. C., of Conn., \$30; N. A. P., of Tenn., \$70; J. M. B., of Iowa, \$30; J. W. A., of Vt., \$25; J. B. C., of N. Y., \$35; C. E. H., of Mass., \$30; J. W. C., of Fla., \$250; B. B., of Ohio, \$30; N. S. G., of N. Y., \$30; N. A. S., of Ill., \$30; E. D., of Mass., \$12; H. B. J., of N. J., \$250; O. C., of Vt., \$30; S. & M. of N. Y., \$30; G. H. B., of Ill., \$25; R. B., of N. Y., \$25; B. S., of Va., \$30; D. McK., of N. Y., of \$20; J. S., of Ind., \$10; H. S., of R. I., \$30; J. D. B., of N. C., \$25; S. A. Co., of N. Y., \$30; C. M., of N. Y., \$42; A. & W., of N. Y., \$30; G. V. B., of Conn., \$30; J. E. E., of Cal., \$20; G. P. E., of Ill., \$35; J. E. A., of Tenn., \$20; E. B., of Ind., \$30; F. S. M., of N. Y., \$30; D. A., of Ohio, \$30; G. W. D., of N. Y., \$30; A. B. H., of Fla., \$25; W. S., of Ill., \$30; J. H., of N. Y., \$30; W. W., of Pa., \$400; J. H. L., of N. Y., \$30; A. S., of N. Y., \$25; W. T., of Mich., \$30; G. H. M., of Mass., \$30; R. R., of Vt., \$40; J. M., of Iowa, \$30; R. M. L., of Minn., \$30; H. N., and J. C. B., of Conn., \$30; A. C. L., of Mich., \$30; L. E., of Mich., \$300; H. G. L., of Iowa, \$30; J. T., of N. Y., \$25; G. W., of N. Y., \$35; W. M. G., of Ohio, \$25; B. F., of N. Y., \$100; J. A. C. J., of Pa., \$25; W. F., of N. Y., \$30; B. M., of N. J., \$30; J. Y., of Pa., \$30; J. S., of N. Y., \$30; U. S. I., of Ind., \$30; S. R. A., Co., of Conn., \$76; P. J., of N. Y., \$30; T. & R., of N. H., \$25; D. D., of N. Y., \$10; M. L. B., of N. Y., \$30; C. R. S., of Vt., \$30; T. C., of Ill., \$30; E. K., of Pa., \$25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Feb. 25, 1860:—

J. B. C., of N. Y.; N. T. S., of N. Y.; J. A. C. J. S., of Pa.; J. M., of Ala.; J. W. A., of Vt.; W. E., of Texas; A. S., of N. Y.; C. G. C., of Ill.; J. Y. H., of Pa.; E. K., of Pa.; R. E., of Vt.; Mrs. S. D. G., of N. Y.; L. D. B., of N. Y.; R. B., of Miss.; C. & P., of Ind.; J. T., of N. Y.; S. & L., of N. Y.; M. M., of Md.; G. W. of N. Y.; E. & D., of Mass.; J. D. B., of N. C.; C. M., of N. Y.; J. H., of Pa.; A. H., of N. Y.; G. W. R., of La.; G. E. H., of Ill.; M. & M., of N. Y.; R. B., of N. Y.; A. B. H., of Fla.; R. I. G., of Md.; J. E. E., of Cal. (8 cases); F. B., of N. Y.

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