

brim in shape, and yet preserving its flexibility; such a hat being light, cheap and capable of being folded up in such manner that it may be carried in an ordinary pocket without inconvenience. W. H. Mallory, of Watertown, Conn., is the inventor of this improvement.

**Submarine Gun.**—The object of this invention is to construct a gun which is placed in the bow or any other part of the vessel, below the water-line, and which is so constructed that the same on touching a hostile vessel discharges its contents and pierces said hostile vessel below the water-line, and below those parts usually protected by iron armor. The invention consists in the arrangement of a gun projecting from the bow or any other part of a vessel, below the water-line, in combination with a hammer and trigger or their equivalent in such a manner that when the muzzle of the gun comes in contact with a hostile vessel its charge is exploded and said hostile vessel pierced below the water-line, and below those parts which generally are protected by iron armor. The invention consists further in the arrangement of a screw cap and packing rings, in combination with the muzzle of the gun in such a manner that the water is effectually excluded from the barrel of the gun, and at the same time the egress of the ball or shell from the muzzle is not materially impeded. The invention consists further in the arrangement of a hinged and of a rising and falling sliding valve in combination with the stuffing box, through which the gun passes in such a manner that when the gun recoils on being discharged said valves drop down immediately in front of the gun, and prevents the water following after the gun into the interior of the vessel. The invention consists finally in the employment for the purpose of introducing the charge, of a tube fitting into the breech end of the bore of the gun, and provided with a plunger acted upon by a saw, and provided with a stop to arrest it in the proper position in combination with a rising and falling wedge or check block in such a manner that the charge can be forced in from behind and deposited at the proper spot of the barrel, and the barrel can be firmly closed by the check block ready for firing. Joseph Duffy, of Paterson, N. J., is the inventor of this improvement.

**Evaporating Kettle.**—The object of this invention is the economical use of coal as fuel for heating a long train or block of kettles, such as is employed in the manufacture of salt, and the uniform heating of all the kettles in the block or train. The fuel now commonly used in this country for the evaporation of brine in kettles is wood, the fire being under the first one or two kettles in a block, and the others being heated by the flame and gaseous products of combustion; and as a block sometimes consists of as many as a hundred kettles arranged in pairs, while the heat under the first two or three pairs is so intense as to burn the salt on the bottoms; that under the last is so low that a fortnight is required to complete the evaporation, though it is completed in a few hours in the first pair. Owing to the high price of wood, attempts have been made to use coal for heating the kettles, but have not succeeded. To enable coal to be used it has been proposed to substitute long pans for kettles, but the first cost of substituting such pans for kettles has prevented its adoption. This invention consists in a certain novel system or arrangement of grated fire places, bridges, partitions and flues or passages for the economical use of coal under kettles, an important advantage of which is that it can be applied at comparatively small expense to blocks of kettles which have been already put up and used with wood as fuel. W. S. Worthington, of Newtown, N. Y., is the inventor of this improvement.

**Tobacco Pipe.**—The object of this invention is to preserve the tobacco in the bowl perfectly dry, and to prevent the moisture, which may pass through the stem, from coming in contact with the tobacco, so that the same burns just as well and tastes equally sweet at the bottom of the bowl as on the top. This object is attained by a very simple and ingenious arrangement of a cavity on the side of, or under, the smoke passage leading from the bowl to the tube or stem, in such a manner that the spittle or moisture, running down through the tube, will collect in said cavity, and not be allowed to find its way into the smoke passage or bowl, and thereby prevented from

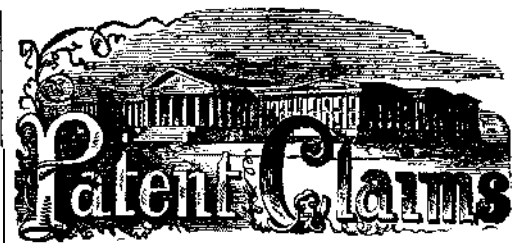
being drawn back into the mouth. Henry Kurth, of East New York, L. I., is the inventor of this improvement.

**Grinding Mills.**—It is well known to every one who has experience in milling, that a run of stones requires the almost constant attention of the miller to prevent them from grinding either too fine or too coarse. The reason of this variation in the grinding lies in the fact that, the spindle being heavily laden, and at times moving with considerable velocity, becomes heated by the friction of the followers (which are necessarily set snugly against the spindle to keep it from trembling) and expands and throws the runner a greater distance from the bed stone, and consequently, they don't grind as fine as before. Then, again, if the supply of grain is stopped for awhile, the labor of the spindle being reduced, the tendency of it is to cool and contract; and, consequently, to bring the stones nearer together, so that when the grain is again supplied to them they will grind too fine. To compensate for this variation no provision is made except that of adjusting the runner higher or lower, by hand, according as the stones are grinding too fine or too coarse. This adjustment can only be made by the miller, because only a practised eye and touch can discover the variation in the grinding and know just how much adjustment is required to correct it. The object of this invention is to prevent this variation in the grinding consequent upon the expansion and contraction of the spindle from the cause above-mentioned, and to this end it consists in having a number of longitudinal openings or apertures provided in the upper bearing of the spindle in combination with a fan which is secured to the spindle, and revolves within a suitable case below the bed stone, whereby a current of air is forced through the longitudinal apertures of the bearing of the spindle, and thereby both bearing and spindle are prevented from heating, and consequently from expanding, so that when the mill is once set to grind to a certain degree of fineness or coarseness, it will so continue to grind without any perceptible variation, so long as the grinding surfaces of the stones are in good working condition. The invention also consists in a facile mode of setting the followers up to and around the spindle. Cornelius Bollinger, of Harrisburgh, Pa., is the inventor of this improvement.

**Sawing Machine.**—This invention relates to a new and improved machine for sawing direct from the log, strips for the manufacture of hoe, fork and broom handles, and other similar articles. The invention consists in the employment or use of a vertical and a horizontal saw in connection with a feed carriage in which the log is suspended, the carriage being arranged in a novel way, and the log suspended within it in such a manner that it may be adjusted relatively with the saws, so that the latter may act properly on the log to effect the desired end.

**Clothes-washing and Wringing Machine.**—This invention consists in the employment of a suds-box provided with rounded ends, and having its bottom and ends covered by a series of rollers; the above parts being used in connection with a rubber which is also provided with rounded ends and rollers and a perforated top, all arranged in such a manner as to operate very efficiently. The invention further consists in the application to the suds-box of a wringer, arranged in such a manner as to be capable of being operated by a treadle, in order to subject the clothes to the requisite degree of pressure. Isaac W. Bowers, of Ovid Center, Mich., is the inventor of the above two patents, which bear date Aug. 25, 1863.

**LENGTHENING THE CANAL LOCKS.**—The engineers on the Erie Canal are making a survey for the proposed extension of the locks. The surveys and estimates are for locks two hundred and twenty-five feet long between the gates, and wide enough to pass boats twenty-six feet wide—the estimate to be presented to the legislature on the first day of its next session. It is supposed that locks of these dimensions will enable boats of five hundred tons burden to navigate the canals, and also pass iron-clad gunboats into the lakes if required. Some idea of the size of these new structures may be obtained when it is remembered that the present locks are only one hundred and ten feet long between the gates, and seventeen feet four inches in the bottom.



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39,787.—Mode of Removing Obstacles under Water.—Thomas K. Anderson, Hornellsville, N. Y. Ante-dated Oct. 26, 1862 :

I claim the application of a cannon or mortar, constructed in such a manner that it may be suspended, and the muzzle brought to bear upon an object, at any angle, or in any position, under water, in the manner described and for the purpose herein specified.

39,788.—Construction of War Vessels.—Peter Andrew, Cincinnati, Ohio :

I claim, first, Constructing the gun deck of oblique plank in combination with the gun battery to be used thereon substantially as and for the purpose set forth.

Second, I claim constructing portholes with projecting sides substantially as and for the purpose described.

Third, I also claim the combination of beam, c, with the deck plank, when the same are locked together and braced substantially in the manner and for the purpose set forth herein.

Fourth, I claim the lock pieces, g g, in combination with the rampart, or the back of the vessel, substantially in the manner and for the purpose set forth.

39,789.—Self-cleaning Chuck.—Jno. W. Bartlett, of Har-mar and A. Morris, of Marietta, Ohio :

We claim the fans, D D D, openings, e e c, or their equivalent in combination with the chuck, a, in the manner and for the purposes set forth.

39,790.—Scroll Saw.—Abram Beekman, New York City :

I claim the oscillating beam or frame, C, in combination with the rockers, D G, saw, J, attached thereto, as shown, and the bars, E H, the latter being connected to the rockers and to the fixtures, F I, and all arranged substantially as and for the purpose herein set forth.

39,791.—Car Spring.—J. D. Billings and F. L. Tyler Rutland, Vt. :

We claim the torsion springs, C, in connection with the arms or levers, D, and block, E, arranged to operate in the manner as and for the purpose herein set forth.

39,792.—Mode of Cleaning Chimneys.—C. D. Blinn, Port Huron, Mich. :

I claim a cleaner for lamp-chimneys composed of two rods, A A, connected by a fulcrum pin, a, and provided at one end with cotton or woolen twist or other fibrous material substantially as set forth.

[This invention consists in the employment or use of two bars or rods connected by a fulcrum pin, and having a suitable fibrous material attached to one end, the parts being so arranged as to form a very convenient and efficient device for the purpose of cleaning lamp chimneys.]

39,793.—Grinding Mill.—Cornelius Bollinger, Harrisburgh, Pa. :

I claim, first, The fan, E, attached to the spindle, D, and revolving within the casing, F, in combination with the longitudinal apertures, e, in the upper bearings, f, of the spindle, when the former is used to force a current or currents of air through the apertures, e, of the bearing, in the manner and for the purpose substantially as described.

Second, The keys, c, terminating at the bottom in rounded screw threaded shanks, d, having nuts, e, fitted upon them, in combination with the lugs, b, and followers, c, when arranged to operate in the manner specified.

39,794.—Temperature Alarm.—Robert Boyle, Detroit, Mich. Ante-dated Aug. 19, 1863 :

I claim the combination of the gate, G, graduated arc, E, and electric alarm, H, with the index, D, float, C, and mercury tube, B, in the manner herein shown and described.

[This invention consists in the arrangement of an oscillating index operated upon by a float projecting from a tube partially filled with mercury or other suitable liquid, and operating between a gate or two stops that are adjustable upon a graduated arc, in combination with an electro-magnetic hammer operating upon a suitable alarm bell in such a manner that when the temperature in the room or space where the apparatus is put up, rises above or sinks below a certain point, the oscillating index by the expansion or contraction of its mercury in the tube and consequent rising or falling of the float, is brought in contact with either of the stops on the graduated arc, and thereby the circuit of the electro-magnetic alarm is closed, and the hammer is caused to sound the alarm bell.]

39,795.—Faucet.—John Broughton, Chicago, Ill. :

I claim the arrangement of the cylindrical barrel, F, working in the interior of the shell, G, in combination with elastic washers, b, c, screw cap, D, and handle, G, or its equivalent, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

[This invention relates to certain improvements in the manufacture of cocks, faucets, &c., whereby all the parts can be readily finished on the turning lathe, no grinding of the plug or any other part is required, and an article is produced which is not liable to wear perceptibly, and which will remain tight for any length of time.]

39,796.—Door Bell.—N. F. Cone, La Crosse, Wis. :

I claim, first, The frog, G, in combination with the arms of the hammers, D D', and with the cam, E, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, The ribs h h' in combination with the springs, d d', and arms, b b', of the hammers, D D', constructed and operating in the manner and for the purpose set forth.

[This invention relates to an improvement of that class of door bells in which a striking mechanism is brought in such relation to a stationary bell, that by rotating a crank or knob in either direction a hammer will be actuated and the bell struck.]

39,797.—Mode of Keeping Sweet Potatoes.—William and James Davis, Richland, Iowa :

We claim packing or filling the interstices between and around the potatoes with caliche or burnt sand, and excluding air or moisture from the potatoes by the means and in the manner above substantially described.

39,798.—Automatic Gate.—Levi S. Denning, of Newington, Mass. Ante-dated April 18, 1863 :

I claim in combination the gates, *a*, with the angle hinges figure 2, double latch, figure 3, side latches, *q*, axles, *h*, boxes, *i*, connections, *m*, weights, *n*, arranged and operating without ground frame work substantially as described.

39,799.—Governor for Steam Engines.—Frank Douglas, Norwich, Conn. :

I claim, first, The screw-arbor, *g*, movable clutch collars, *K* and *M*, and clutch block, *l*, when used in combination with the box, *O*, and bevel gears, *N* and *R*, the whole combined to operate as described, so that the clutch collars, *K* and *M*, may be caused to run up and down out of clutch, and allow the clutch block, *l*, to remain at any point indicated by the regulator balls.

Second, The guide socket, *f*, when used to form a guide for the spindle, *F*, and screw-arbor, *g*, as described.

Third, The manner of suspending the link, *V*, as herein specified.

39,800.—Skate Fastening.—Frank Douglas, Norwich, Conn. :

I claim, first, The flange washer, *B*, with projections, *c*, *c*, to receive a flat or dovetail head or screw, *D*, when firmly attached to a skate runner, as herein described.

Second, The screw, *D*, with a flat or dovetail head, when used in combination with the flange washer, *B*, and nut, *F*, for the purpose herein specified.

39,801.—Submarine Ordnance.—Joseph Duffy, Paterson, N. J. :

I claim, first, The arrangement of a sliding gun, *A*, projecting from the bow or side of a vessel, *C*, below the water line, in combination with a hammer, *E*, and nose, *a*, or the equivalents, constructed and operating in the manner and for the purpose substantially as herein shown and described.

Second, Having the stuffing box, *D*, provided at front and rear with valves, *f*, *g*, constructed and operating with the gun, *A*, in the manner herein shown and described.

Third, The charge introducer, *E*, composed of a tube, *h*, and a screw-plunger, *j*, made and operating in the manner herein shown and described.

39,802.—Army Cooking Stove.—Horace L. Duncklee, Boston, Mass. :

I claim the combination of a sheet-iron cylindrical or equivalently-shaped body, *A*, strengthened and stiffened by a band or hoop, *a*, riveted or otherwise secured to the bottom thereof with a cast-iron top, *B*, provided with a flange, *b*, projecting downward, and fitting into the top of said cylindrical body so as to form the sole connection between the body and top, substantially as and for the purpose herein set forth.

39,803.—Device for Stopping the Shuttle in Power Looms.—David S. Esten, Hinsdale, Mass. :

I claim the spring, *b*, applied to act upon the picker staff through the medium of the two hooked cylinders, *E*, *F*, strap, *e*, and hooked rod, *g*, the whole applied and arranged to operate substantially as and for the purpose herein specified.

[This invention consists in an improved mode of applying a spring to operate upon the picker staff, for the purpose of checking or stopping the shuttle in the shuttle box, whereby the use of a lighter friction spring, and the necessity of producing the usual amount of friction upon the shuttle as it enters the box, is obviated.]

39,804.—Harvester.—Franklin Ewer, Mendon Center, N. Y. Ante-dated Jan. 3, 1863 :

I claim connecting the finger-beam with the frame by means of the oblique coupling and brace bars, *E* and *F*, joined both to the said finger beam and frame, thereby allowing a free movement of the former, and at the same time so connected together and braced as to resist any strain in the whole arranged, combined and operating substantially as herein set forth.

In combination with the frame and finger-beam, I also claim the chain, *L*, or its equivalent, the crank, *g*, rod, *p*, and pendulum weight, *N*, arranged substantially as and for the purpose specified.

I also claim the cutter bars, *P*, *P*, rasped, roughened, or provided with points on their outer surfaces, and having secured between them the knives, *l*, *l*, the latter projecting in the rear thereof, as well as in front, and forming the guide in the guard fingers, while the outer bars slide free from contact, and clear the fingers from choking, substantially as herein set forth.

39,805.—Mode of raising Sunken Vessels.—William K. Fairbank, Broad Creek Neck, Md. :

I claim the combination of the screws, jacks and chains, or their equivalents, when used in connection with a pair of floats or buoys of similar size, and connected by the chains passing down through tubes centrally situated along the length of each buoy or float, when each of the tubes is so formed with one curved or oblique side as to prevent the chains from binding in the tubes when the sunken object to which the chains are applied approaches towards the surface, thus continuing the strain or pressure centrally on the decks of the buoys or floats, and nearly in a vertical direction, from the commencement of the lifting until the object is raised to the surface of the water substantially as represented and described in the accompanying drawings and specifications.

39,806.—Rotating Harrow.—S. M. Garver, Monticello, Ill. :

I claim the relative arrangement of a harrow, *a*, suspenders, *e*, adjustable lever, *f*, and adjustable hand lever, *k*, in the manner and for the purposes set forth.

[The object of this invention is a rotary harrow suspended from a wheeled frame, and adjustable in position and in the depth of its penetration.]

39,807.—Paddle Wheel.—Rollin Germain, Buffalo, N. Y. Ante-dated June 30, 1863 :

I claim supporting and operating the paddle upon a shaft, *I*, whether said shaft is stationary or revolving, so that the paddle may be left free, to be moved outwardly towards the periphery of the wheel, and edgewise to its line of motion, by centrifugal force, or to be moved transversely to the rim of the wheel by the action of the water, as the wheel revolves, substantially as described.

I claim the circular inclined planes, *K*, double or single, for the purposes and substantially as described.

I claim the circular inclined planes, *K*, in combination with the paddles, for the purposes and substantially as herein set forth. I claim the friction rollers, *l*, in combination with the paddle for the purposes and substantially as herein set forth.

I claim holding the paddle stationary in a position parallel with the direction of the vessel when desired, by means of the hook, *M*, chain, *N*, or by other means, substantially the same, for the purposes set forth.

I claim so hanging the paddle upon its shaft, that an outward movement will be communicated to the paddle by centrifugal power, and an inward movement by the action of the water thereon, for the purposes and substantially as set forth.

39,808.—Butter Worker.—C. L. Gilpatrick, Lewiston, Maine :

I claim the combination of the worker, *C*, and box, *f*, with the box, *A*, provided with the zinc lining and water-chamber, *F*, all constructed and arranged in the manner and for the purpose set forth.

39,809.—Umbrella.—Gideon Hamilton, New York City. Ante-dated Dec. 18, 1861 :

I claim, first, An umbrella furnished with a receptacle for water draining therefrom as described.

Second, The combination and arrangement of the receptacle, *A*, leader, *B*, concave top, *C*, with its holes, and the ring, *D*, as and for the purposes described.

39,810.—Sirup Evaporator.—Lyman P. Harris, Mansfield Ohio :

I claim, first, The construction of sirup and sugar evaporators, substantially as and for the purposes described.

Second, The combination of a corrugated and a plane surface in the one pan bottom, substantially as described.

39,811.—Grates for Stoves.—Luther W. Harwood, Troy, N. Y. :

I claim, first, Two sub-grates, *B*, *C*, mounted side by side on shanks which are fast on the sub-grates, and so shaped and arranged together in sockets or bearings, that the said sub-grates can be reciprocated along each other on their respective shanks, and also rocked or tilted together like one grate on the said combined shanks, as an axis common to both sub-grates, substantially as herein set forth.

Second, I also claim in combination with two reciprocating and rocking sub-grates, mounted together on divided journals common to

both sub-grates, substantially as herein described, a supporting arm or arms, *G*, arranged on the under side of and carried by the said combined sub-grates, substantially as herein set forth.

Third, I also claim the combination of a pair of levers, *H*, *H*, two sets of followers or drivers, *f*, *f*, and two connecting rods, *K*, *K*, with two sliding and turning sub-grates, *B*, *C*, mounted together on divided journals, common to both of the said sub-grates, substantially as herein set forth.

Fourth, I also claim in combination with two sliding and turning sub-grates, *B*, *C*, mounted together on divided journals common to both sub-grate, *a*, and provided with drivers or followers, *f*, *f*, *f*, substantially as herein described, the inclined guides, *m*, *n*, arranged on the under side of and carried by the said combined sub-grates and followers, substantially as herein set forth.

39,812.—Hydrant.—Napoleon Hayman, New York City :

I claim the slide, *B*, fitted within the box, *A*, and provided with the opening, *a*, and recess, *b*, in combination with the service or discharge pipe, *D*, supply-pipe, *E*, and waste-pipe, *F*, arranged respectively in relation with the opening, *a*, and recess, *b*, in the slide, *B*, to operate as and for the purpose herein set forth.

[The object of this invention is to obtain a hydrant which will admit of the waste water escaping from the service or discharge pipe in a more rapid manner than hitherto, after the flow of the water from said pipe is stopped, so as to prevent the possibility of the freezing up of the hydrant in severe weather in winter.]

39,813.—Clothes-wringer.—Reuben G. Holmes, Worcester, Mass. Ante-dated Jan. 21, 1863 :

I claim the combination of the two springs as shown by *II*, as fully set forth in this specification.

39,814.—Clothes-wringing Machine.—Reuben G. Holmes, Worcester, Mass. Ante-dated April 20, 1863 :

I claim the arrangement of the springs, *K* and *L*, so arranged as to bear upon the center of the bar, *I*, thereby producing a greater and more equal pressure.

39,815.—Pegging Awl-holder and Extractor.—Hugh Huston, Cannonsburgh, Pa. :

I claim, first, The awl extractor, *c*, its extensions, *cl*, *cl*, its pin, *h*, and its mode of fastening, *K*, *K*, *K*, as and for the purposes specified.

Second, The flange, *j*, as and for the purposes specified.

Third, The ferrule with its slot, *i*, and pin hole, *K*, as and for purposes specified.

Fourth, The awl-holder, *f*, *f*, *f*, the awl, *g*, the spiral spring, *d*, in combination as and for purposes specified.

39,816.—Means for defending Harbors and River Channels.—R. H. Jewett, Mount Sterling, Ill. Ante-dated April 29, 1863 :

I claim, first, The employment as a harbor defense of one or more vessels, *A*, each having ports, *b*, *b*, a hatch, *c*, fitted with pipes, *d*, *e*, and a superstructure, *B*, the whole combined substantially as herein specified.

Second, The employment in combination with the above described vessel or vessels of floats, *C*, *C*, applied and secured substantially as herein specified.

39,817.—Lathe for turning Billiard Balls.—L. A. Johnson, San Francisco, Cal. :

I claim, first, The rotating center formed of the rod, *I*, provided with a collar, *h*, and fitted in a socket, *ff*, for the arbor, *B*, and also provided with a socket or cap, *d*, to receive a piece of india-rubber, *e*, or other suitable yielding material, in combination with the concave chuck, *G*, attached to the mandrel, *C*, all arranged substantially as and for the purpose specified.

Second, The tool rest, composed of the adjustable plate, *l*, turning plate, *p*, and slide, *u*, all arranged to operate in connection with the chuck and rotary center, for the purpose set forth.

[This invention consists in the employment or use of an adjustable tool rest in connection with a concave chuck and a revolving center, all arranged in such a manner that billiard balls and other spherical articles may be turned very expeditiously and in a perfect manner.]

39,818.—Dry Dock.—Casper Krogh, Kroghville, Wis. :

I claim, first, The combination and arrangement of the air-distributor, *C*, the flexible pipes, *c*, *c*, the tubes, *d*, *d*, with the air-tight chambers or compartments, *D*, *B*, constructed and operating substantially as and for purposes herein delineated and set forth.

Second, I claim the combination and arrangement of the stationary uprights, *D*, *D*, the tubes, *d*, *d*, and *e*, and scale board, *s*, substantially as and for the purposes specified.

Third, I claim the combination of the hinged standards or uprights, *D*, *D*, the hinged valve rods, *m*, *m*, the jointed tubes, *d*, *d*, and *e*, arranged and operating substantially as and for the purposes described and herein set forth.

Fourth, I claim constructing said lifters or docks, *B*, *B*, with the partitions and providing them with the outlets, valves, and valve rods, and tubes, *d*, *d*, *e*, substantially as described.

39,819.—Tobacco-smoking Pipe.—Henry Kurth, East New York, N. Y. :

I claim a smoking pipe which has its shank, *B*, made with a smoke passage, *a*, and a moisture cavity, *b*, arranged in respect to each other and to the bowl and stem, *C*, in the manner herein shown and described.

39,820.—Gas-burner.—Frederick Lumkenheimer, Cincinnati, Ohio :

I claim the conical adjustable valve, *g*, figure 2, in combination with the caps or hood, *C*, with the screw, *h*, the openings, *F*, *F*, *F*, the tubes, *H*, *H* and *G*, *G*, for the purpose of regulating the flow of the gas, substantially as set forth and described.

39,821.—Water Indicator for Steam Boilers.—George Lutz, Lancaster, Ohio :

I claim the combination and arrangement of the pinion, ratchet, rock shaft and float, substantially as set forth, for the purpose specified.

39,822.—Hat.—W. H. Mallory, Watertown, Conn. :

I claim a hat constructed of flexible material, with a brim extended and held in shape by means of covered flat steel springs, applied in perpendicular positions, all as herein described and for the purposes specified.

39,823.—Metallic Cartridge.—Edward Maynard, Washington, D. C. :

I claim a combining any suitable detonating compound, with a metallic or otherwise solid and durable cartridge by means of an arm, cord or thong, substantially in the manner and for the purpose herein set forth.

39,824.—Machine for Handling Hides.—B. B. Mereness, Georgetown, N. Y. :

I claim, first, The combination of the outer perforated cylinder, with the perforated paddles of the inner cylinder, substantially as described.

Second, I claim giving the surface or edge of the paddles, alternately a convex and a concave surface, substantially as set forth.

Third, I also claim arranging the paddles relatively to each other, substantially as described, that is to say, one diverging from the head in one direction, and one or more diverging from the head in any opposite direction, as set forth.

39,825.—Self-cocking Revolving Fire-arm.—R. S. Mershon, Philadelphia, Pa., and Jehu Hollingsworth, Zanesville, Ohio :

We claim the application of a reservoir of power to a repeating fire-arm, as described herein, for the purpose of cocking the hammer and by liberating, rotating and locking the chambered cylinder simultaneously for one or more discharges, without using the hand to cock the arm as in the ordinary way.

Second, We claim so combining the reservoir of power with the hammer and its independent spring, as herein described, that the action of the reservoir of power can be instantly suspended and the hammer cocked, chambered cylinder liberated, rotated and locked, by hand, as in ordinary hand-cocking revolving fire-arms.

Third, We claim the axis, shaft or spindle, on which is placed the arbor for the coiled spring, the escape wheel, the hammer, the stop-work and the winding disk, as herein described, in combination with the reservoir of power or coiled spring, acting as a spindle or bearer for each piece.

Fourth, We claim the combinations of the reservoir of power with an arbor, escape wheel, hammer, hammer dog, hammer finger, chamber lock, chambered cylinder and trigger, as herein described, so that when the reservoir of power is wound up, by pulling the trigger the hammer will be liberated and the arm discharged, and then by simply

letting go the trigger, the hammer will be instantly cocked, chambered cylinder liberated, rotated and locked, ready for another discharge.

Fifth, We claim the combination of the reservoir of power with the stop-work, as herein described, for the purpose of limiting the power and action of the reservoir of power.

Sixth, We claim the combination of the reservoir of power with the winding disk, as herein described, for the purpose of accumulating power, by winding for said reservoir of power.

Seventh, We claim the combination of the reservoir of power with the winding disk and bolt, substantially as described, for the purpose of suspending the action of the reservoir of power, so that the arm can be operated by hand.

Eighth, We claim the combination of the trigger and its two arms or forks, with the escape wheel, and also with the hammer dog, as herein described, so that when the trigger is pulled, one of the arms will liberate the hammer dog, and hammer, and permit the arm to be discharged; and at the same time its other arm will be entering into a scape-wheel tooth or notch, thus holding at rest the scape-wheel and reservoir of power; the arm or fork which has been holding the scape-wheel and reservoir of power at rest, being withdrawn by releasing or letting go the trigger, the reservoir of power and scape-wheel will become free to act, and will, by means of the hammer dog, rotate and cock the hammer, and by it, liberate, turn and lock the chambered cylinder in its place, ready for another discharge.

Ninth, We claim the application of the self-cocking mechanism herein described, to all chambered cylinders in which metallic cartridges are used.

39,826.—Flour Bolt.—Richard Mohler and John Becker, Lancaster Co., Pa. :

We claim the arrangement of a series of levers or beaters, *F*, made adjustable separately or collectively by means of the holes, *h*, pins, *G*, *G*, *G*, *G*, and end supports, *E*, operating substantially in the manner specified against the under surface of the reel, as shown.

39,827.—Churn Power.—J. D. Parrot, Morristown, N. J. :

I claim the arrangement of two or more springs, *C*, *C*, on the same shaft, *B*, in combination with the cog-wheels, *D*, *D*, and pins, *a*, *a*, and with the adjustable plungers, *G*, *G*, on the shaft, *E*, constructed and operating in the manner and for the purpose substantially as shown and described.

[The object of this invention is to combine two or more springs with a series of plungers and cog-wheels, and with a crankshaft, in such a manner that either one or more springs can be wound up and made to impart a rotary motion to said crank shaft, and that by the action of the crank on said shaft, the dasher of a churn or any other small machine can be operated with any desired power, as long as may be required to accomplish a certain amount of work.]

39,828.—Process of Recovering Wool from Mixed Fabrics.—J. G. Perzel, New York City. Ante-dated April 3, 1863 :

I claim the solution of chloride of zinc or analogous chlorides, either alone or with the aid of diluted sulphuric acid, in a manner as described and for the purposes set forth.

39,829.—Rotary Engine.—James Platt, New York City. Ante-dated March 14, 1862 :

I claim, first, The shell, *I*, provided with the pistons or valves, *J*, *J*, attached to the shaft, *F*, and encompassing the stationary head, *C*, which is provided with the abutment, *D*, and communicates with the induction and suction passages, *e*, *f*, of tube, *B*, substantially as and for the purposes set forth.

Second, *I* in combination with the stationary tube, *B*, head, *C*, and rotary shell, *I*, the stationary shell, *A*, the latter encompassing the shell, *I*, and head, *C*, and arranged as shown.

Third, The operating or turning of the valves, *J*, *J*, by means of the arms, *K*, and guide or groove, *M*, arranged as shown, when said means are used in connection with the head, *C*, and shell, *I*, and all combined and arranged for joint operation, as set forth.

[This invention relates to a new and improved arrangement of parts whereby it is believed that the chief difficulty hitherto attending the operation of rotary engines, is obviated; namely, the unequal expansion of the parts, which produces leakage and consequent wear and tear, and a general derangement of the mechanism, which is soon rendered inefficient.]

39,830.—Bearing for Vertical Shafting.—James Platt, Utica, N. Y. Ante-dated Oct. 25, 1862 :

I claim the friction rollers, *F*, fitted in an annular revolving frame, *E*, in combination with the adjustable box, *G*, placed on the framing, *A*, and the collar, *G*, placed on the shaft, *B*, all arranged as and for the purpose herein set forth.

[This invention consists in the employment of a series of conical rollers placed in an annular frame, which is fitted loosely in an adjustable box placed in or on the framing designed to support the shaft, in combination with a collar placed on the shaft and provided with a beveled under surface, which rests or bears on the conical rollers, all being arranged in such a manner as to properly support the shaft and admit of its being rotated with but a comparatively small amount of friction.]

39,831.—Water Wheel.—James Platt, Utica, N. Y. Ante-dated April 2, 1863 :

I claim the buckets, *D*, *D*, of curved form attached to frames, *I*, which are connected by joints or hinges, *d*, to the plate, *B*, in combination with the case, *E*, and the curved inclined plane, *K*, all arranged and operating in the manner and for the purpose herein set forth. I further claim the combination and arrangement of the buckets, *D*, *D*, frames, *I*, *I*, plate, *B*, case, *E*, curved inclined planes, *K*, pressure plate, *M*, attached to the semi-circular plate, *L*, and spring, *N*, for the purpose herein specified.

[This invention relates to an improved horizontal water wheel of that class in which sliding buckets are employed, and consists in constructing and arranging the buckets in such a manner that they will yield or give, in case of any foreign substances, such as drift-wood, &c., entering the case of the wheel, and prevent the latter being injured thereby.]

39,832.—Water Wheel.—James Platt, Utica, N. Y. Ante-dated Oct. 17, 1862 :

I claim, first, The curved sliding buckets, *E*, *E*, connected to shafts, *D*, *D*, and arranged with springs substantially as shown to operate as and for the purpose specified.

Second, The combination of the cam, *J*, and abutment, *G*, when used in connection with the sliding or yielding buckets, *E*, *E*, arranged as shown and described.

[This invention relates to an improved horizontal water wheel of the class which are fitted in a case provided with an abutment and which are provided with adjustable buckets. The invention consists in a peculiar arrangement of the buckets, and the means employed for operating the same, to enable them to pass the abutment and be brought in proper position to be acted upon by the water as the latter passes through the case.]

39,833.—Water Wheel.—James Platt, Utica, N. Y. Ante-dated Oct. 25, 1862 :

I claim, first, The employment or use of the drop buckets, *H*, attached to the shafts, *G*, *G*, when used in connection with the annular water passage, *d*, in the case, *A*, provided with the abutment, *B*, substantially as and for the purpose specified.

Second, The manner of operating the drop buckets, *H*, as herein shown and described; to-wit, by means of the bent arms, *J*, fitted on the shafts, *G*, *G*, of the buckets, provided with rollers, *J*, at one end; and the stationary cam, *J*, attached to the bottom, *c*, of the case, *A*, and the projections, *K*, attached to the under side of the top plate, *F*, of the case, *A*.

[This invention relates to an improvement in that class of horizontal water wheels which are provided with movable buckets so arranged as to present themselves at a proper time to the action of the water and receive its impacting force, and then move or adjust themselves so as to allow the water to escape freely from the case of the wheel.]

**39,834.—Water Wheel.—James Platt, Utica, N. Y. Ante-dated July 20, 1862:**

I claim the arrangements of the pivoted buckets, H H, recesses, m m, and segment, G, with the wheel, C, hubs, f, g, arms, f, and inclined sector chute, D, all in the manner herein shown and described. [The object of this invention is to obtain a water-wheel which will receive and retain the water so long as it acts most efficiently upon it, and discharge the water at the moment when it ceases thus to act, thereby preventing the water serving as a "drag" or drawback to the wheel, a result which detracts greatly from the efficiency of the wheel and is the principal source of loss in power in horizontal water wheels, a class of wheels to which this invention more particularly refers.]

**39,835.—Coal Breaking Roll.—William R. Reece, Tremont, Pa. Ante-dated Jan. 16, 1863:**

I claim a coal breaking roll made in sections, B, when each section has recesses for the reception of the shanks of the teeth, G, and recesses for the reception of keys, e, for confining said teeth to the sections, and when the keys of one section are retained in their places by the adjacent section, the whole being arranged substantially as and for the purpose herein set forth.

**39,836.—Fire Place.—David A. Ross, Cincinnati, Ohio:**

I claim the rotating or movable back, B, in combination with the adjuster, E, when constructed and operating substantially as described.

**39,837.—Cultivator.—G. H. Schanck, Libertyville, Ill. Ante-dated April 2, 1862:**

I claim extending the hinged frame, g, back, and locating the drivers seat, a, thereon, in relation to the foot board, f, handle, m, and spring, n, as described; whereby the driver can drop the cultivator plough, with his hands, and at the same time press them into the ground, or regulate their dip with his weight.

**39,838.—Truck for pulling Stone.—Gilbert L. Sheldon, Marlboro, Mass. Ante-dated July 26, 1863:**

I claim the combination of the single bar, H, of the frame, K K K K K K, and single pulley, A, with the accoupling shaft and ratchet, a, substantially in the manner and for the purposes described. Second, I claim the use of the chain, B, in combination with the single pulley, A, when said chain is attached on each side of the said pulley, substantially as represented and for the purpose described.

**39,839.—Last Holder.—George H. Smith, Lowell, Mass.:**

I claim, first, The sliding bolt, E, in connection with the perforated bar, D, arranged substantially as shown for holding the last at a greater or less degree of inclination as may be required. Second, The levers, N P, link, O, screw-link, Q, and nut, R, all arranged substantially as shown for the purpose of securing the last in proper position as set forth.

[This invention relates to a new and improved device for holding lasts designed for the use of shoemakers. The object of the invention is to obtain a device for the purpose specified which will, by a simple adjustment, hold the last securely in position, and at the same time admit of the latter being inclined at any desired angle and turned or revolved as required while being thus inclined.]

**39,840.—Army Stretcher.—Jacob J. Smith, Philadelphia, Pa.:**

I claim the employment of the knee jointed bars or plates, C C, so that they shall operate in combination with the side rails, A A, and canvas, B, of a stretcher, substantially in the manner described and set forth, for the purpose specified.

**39,841.—Hollow Auger.—George N. Stearns, Syracuse, N. Y. Ante-dated Jan. 16, 1863:**

I claim, first, The construction of the body of the auger substantially as described, and combining therewith the adjustable thimble, C, the adjustable cutter, B, and the adjustable shank, a, for the purposes substantially as specified.

Second, I also claim confining the cutter within the mortise and sustaining and locating it so as to obtain the longitudinal, vertical, and lateral adjustment and the drawing out, substantially as and for the purposes described.

**39,842.—Pump.—Nathan Stedman, Aurora, Ind.:**

I claim the hollow piston, B, provided with the hollow valve, H, and tubular rod, C, in combination with the water passages, D E F, and double puppet valve, G, all arranged to operate as and for the purpose herein set forth.

[This invention consists in the employment or use of a hollow piston provided with a valve of novel construction and a tubular piston rod; in connection with water passages and a doublevalve placed, in relation with the pump cylinder, and all arranged so as to operate in the most efficient manner.]

**39,843.—Bridle Bits.—C. E. Stockder, West Meriden, Conn.:**

I claim as a new article of manufacture a bit ring, A, provided with a tongue, a, and eye, b, as and for the purpose specified.

[This invention consists in the arrangement of an eye and tongue in the bit ring in such a manner that the end of the rein can be fastened directly in the bit ring itself, thus avoiding the necessity of doubling up the strap and without the application of an extra buckle and martingale stop, whereby the manufacture of the rein is rendered much cheaper than that of ordinary reins, and furthermore by the use of my bit rings the reins are made of a uniform thickness throughout, and therefore not liable to crook and break.]

**39,844.—Gas Check for Breech-loading Fire-arms.—John C. Symmes, U. S. Ordnance. Ante-dated Dec. 25, 1862:**

I claim, first, Making the gas-choke of the form and using it in the manner substantially set forth. Second, Making the gas-choke largely fire-proof, substantially as set forth.

**39,845.—Stop Motion for Railway Drawing Heads.—Henry Tabor, Hopkinton, R. I. Ante-dated Aug. 123, 1863:**

I claim, first, The employment in railway drawing heads of the plate, O, or its equivalent, standing between the rolls and so connected and arranged that a diminution in the size of the rolling will allow the rolls to bite upon and move the same so as to stop the machine, substantially as herein set forth.

Second, Connecting both the bugle, F, and the plate, O, to the same liberating apparatus, L, and its connections in the manner and for the purpose herein set forth.

Third, The arrangement in stop motions for a railway drawing head, of the lever, N, and spring, K, so that the latter shall perform the double function of holding the lever, L, and turning the shaft, J, as herein set forth.

**39,846.—Chimney Cap.—James Tomlinson, Racine, Wis.:**

I claim the scooped shaped wings or funnels, C, in connection with the conical plates, B D, and tubes, A, all arranged substantially as and for the purpose herein set forth.

[This invention consists in providing the smoke jack or ventilator with a series of scoop-shaped wings, arranged around the upper end of the smoke or ventilating tube and between two conical plates, whereby all air that enters the smoke-jack or ventilator laterally has a spiral motion communicated to it, which increases the draught and renders the device very efficient and perfect in its operation.]

**39,847.—Last Machine.—J. W. Town, South Woodbury Vt.:**

I claim the employment or use of different sizes of guides in a last machine, so that with the same pattern and set of knives lasts of different size can be turned and the proportion maintained perfectly.

Also the arrangement of guides, a, of different sizes on the periphery of a wheel, A, substantially as and for the purpose set forth. This invention relates to an improvement in the guide or model

wheel of a last machine, arranging the same in such a manner that without changing the cutters or pattern, different sizes of lasts can be produced.]

**39,848.—Composition for Polishing Brass.—William H. Trissler, Cleveland, Ohio:**

I claim the combination of burnt clay, tartaric acid and common salt, substantially in the manner and for the purposes herein set forth.

**39,849.—Artizan's Stage.—Windsor B. Wait, South Reading, Mass.:**

I claim the stage or chair, A, as not only made with the platform, a, arranged as described, but with the auxiliary platform or seat, c, placed above the platform, a, and hinged to the body of the frame so as to be capable of being operated as specified.

I also claim the stage, a, as made with the end boxes or receptacles, d, d, arranged relatively to its arms and hinged seat as specified. And in combination with the stage, a, I claim the windlasses, B B, their operative mechanisms and tackles constructed to operate substantially as described.

And in combination with the stage, its windlasses and tackles, I claim an adjustable balancing mechanism, arranged and constructed so as to operate substantially as described.

**39,850.—Double-barrelled Revolving Fire-arm.—H. D. Ward, Pittsfield, Mass.:**

I claim, first, So applying two barrels in combination with one rotating cylinder having a single circle of chambers as to provide either for the discharge of two of the said chambers, one through each barrel, without rotating the cylinder between the discharges or for the discharge of the several chambers successively through one of the barrels, substantially as herein described.

Second, Combining the two hammers with each other and with the dog, h, for rotating the cylinder by means of the sleeve, f, or its equivalent, having a projection, p, the arm, I, having a projection, q, the spring, r, and the pin or projection, s, the whole arranged to operate substantially as and for the purpose herein specified.

**39,851.—Coffee Boiler.—Nathaniel Watermann, Boston, Mass.:**

I claim the improved coffee decoction apparatus as made with the forcimous cone, H, or its equivalent, arranged and combined with the hot water receiver, D, the coffee holder, F, or the same and its spring expander, substantially as specified.

I also claim the arrangement and combination of the helical spring, the sliding latch or latches, and the catch or catches thereof, together with the expander and water vessel, the same being substantially as specified.

**39,852.—Steam Pump.—William Watts, Newark, N. J.:**

I claim, first, The combination of the projection or bearing, P, with the wedge, W, bolt, B, and cap, C, substantially in the manner and for the purposes described.

Second, I claim the combination of the said wedge, W, with the valve, V, substantially in the manner and for the purposes described.

**39,853.—Closing Fruit Cans.—William Webster, Middletown, Ohio:**

I claim the spring, A, formed of tempered wire in the manner described, and applied by one direct operation, substantially as and for the purpose set forth.

Also the loop-formed traverse bar or its equivalent, applied and used in the manner and for the purposes specified. I also claim the combination of the traverse bar, C, and spring, A, as and for the purpose described.

**39,854.—Crutch.—John D. W. Wemple, Albany, N. Y.:**

I claim, first, The spiral springs, H H, fitted within the tubes, G G, and secured at their lower ends to the lower ends of said tubes in combination with the tubes, F F, in which the tubes, G, are fitted and allowed to slide freely, and which the upper ends of the springs, H, are connected by screws, o, which pass through the tubes, F, and through longitudinal slots, m, in the tubes, G, substantially as and for the purpose herein set forth.

Second, Constructing the crutch joints, C, arranged as shown or in an equivalent way, to admit of the folding of the crutch when desired, as herein described.

Third, The point or spur, D, inserted in the lower end of the crutch when used in combination with the sliding or adjustable tube, E, provided with a catch or fastening, substantially as and for the purpose specified.

[This invention has a three-fold object, to-wit, First to construct or provide the crutch with joints, so arranged as to admit of its being folded and rendered compact for convenient stowing away when not in use, as for instance, when the user or owner is seated in a vehicle. Second, to provide the crutch with a point or spur at its lower end, so arranged with certain parts, that the point or spur may be exposed when required for use, as for instance, in traveling over ice, and be covered or enclosed when not required for use, as for instance, when the crutch is used in the house and the point or spur would injure carpets or a good flooring. Third, in applying springs to the crutch in such a manner that the full benefit of their elasticity will be obtained at all points of their movement or tension, and the springs thereby rendered much more efficient than those previously used.]

**39,855.—Sugar Evaporator.—Abraham Whitenack, North Salem, Ind.:**

I claim the combination with the scraper or movable partition, I, of the evaporator pans, A B, and C, curved or bent tubes, D E, and gates, F and G, when the said parts are all constructed and arranged and operate in the manner and for the purposes herein specified.

[In this invention a movable partition or scraper is employed, having an elastic or yielding sole which adapts it to conform to any inequalities in the bottom of the pan, so that the entire body of juice may be moved from pan to pan without any escaping past the scraper.]

**39,856.—Burner for Coal Oil Lamp.—Anna C. Wilhelm, Philadelphia, Pa. Ante-dated May 13, 1863:**

I claim surrounding the wick-tube, B, with a tapering jacket, A, fitting closely around the upper orifice of the said tube, substantially in the manner described and set forth for the purposes specified.

Third, I claim in combination with the said jacket, A, the two projecting guards, a2 a2, the same being constructed and arranged substantially as set forth, for the purposes specified.

**39,857.—Elevating or Scaling Ladder.—Solomon D. Wollison, Pittsfield, Mass. Ante-dated Dec. 25, 1862:**

I claim the manner of attaching the said ladder to the base board, A, and platform, I, and the manner of applying the power for operating the said elevator, that is to say I claim:—

First, Cutting one end of the top and bottom toggle to the base board, A, and the form, I, in the manner described, so as to cause that end of all the toggles to raise and fall on a line drawn through the points so attached.

Second, The arrangement and combination of the wheel, L, with the lower end of the bottom toggle and the base board, A, as shown and described, to facilitate the rise and fall of the toggle.

Third, The arrangement of the lever, O, with the bottom toggle, the wheel, L, and the axle, Q, in the manner substantially as described and shown.

Fourth, The combination of the screws with the upper toggle joint and platform, I, in the manner shown and described, to enable a man to raise and lower himself as set forth.

Fifth, The block, D, in combination with the springs, c, and axle of the track wheel, in the manner described, for the purpose specified.

**39,858.—Apparatus for throwing Projectiles.—Solomon D. Wollison, Pittsfield, Mass. Ante-dated Jan. 31, 1863:**

I claim the combination of a torpedo, or similar projectile, with the elongating projector, for the purpose of projecting the same as described, for the purpose specified.

**39,859.—Setting Evaporating Kettles.—William S. Worthington, Newtown, N. Y.:**

I claim the arrangement of a series of fire grates, C1 C2 C3, bridges E E, partitions, F F, and intervening passages, H H, in relation to

each other and within the arch of a block or train of evaporating kettles, substantially as and for the purpose herein specified.

**39,860.—Horoscopes.—Michael Eble (assignor to Rudolph Engler), Ellwangen, Kingdom of Wurtemberg:**

I claim the arrangement of the oscillating, L-shaped index, A, in combination with the adjustable scale board, B, constructed and operating substantially as and for the purpose herein shown and described.

[This invention consists in the arrangement of an L-shaped index provided with plumb line and with a diopter and bracket to intercept the sun's rays, in combination with a T-shaped adjustable scale board, in such a manner that by the combined action of the scales on the scale board and of the L-shaped index, the position of which is governed by the position of the sun, the time of the day can be determined at any moment when the sun shines.]

**39,861.—Anti-typhus Remedy.—J. P. Fortig (assignor to himself and J. C. Salzgeber), St. Louis, Mo.:**

I claim the within-described composition of matter or remedy, compounded of the ingredients mentioned, in the quantities and proportions named, as a new article of manufacture and trade for the purposes set forth.

**39,862.—Apparatus for cutting Cloth.—Barnett Hansell, John McCann & Samuel McCambridge, Philadelphia, Pa.:**

We claim, first, The construction of the cylinder, B, with one or more cutter slots, g, substantially as described, for the purpose of cutting the cloth into definite and suitable lengths and forms as above set forth.

Second, Combining and arranging the extension bar or bars, J, with the cylinder, B, for the purpose of varying the circumference of the latter, substantially as described and for the purpose set forth.

Third, Constructing the apron, F, with the slotted outer bar, J, when with the cylinder, B, in combination with the cylinder, B, substantially in the manner and for the purpose above set forth.

Fourth, The combination of the knives, Q Q, with the cylinder, B, when arranged and operating substantially as described.

Fifth, The combination and arrangement of the reciprocating roller, U, with the cylinder, B, substantially as and for the purpose above set forth.

Sixth, The arrangement of the support bar, T, in relation to the knives, Q Q, and cloth, M, substantially as described.

**39,863.—Sofa Bedstead.—T. J. Magee (assignor to himself and James H. Hoole), Cincinnati, Ohio:**

I claim the arrangement of grooved trestles, B B', hinged vertically to the sofa back, and folding frame, F F', hinged horizontally to said back, in combination with studs, I, I', grooves, D D', springs, K K', and catches, M M', the whole being combined and operating substantially as set forth.

**39,864.—Clothes-wringer.—Caleb H. Packard, North Bridgewater, Mass., assignor to John J. Haley, Curtis G. Morse & Addison Boyden, Boston, Mass.:**

I claim in combination with a pair of squeezing rolls, one or both of which are hung in yielding bearings and both driven by cogged gears, the intermediate gears, E and F, for the purpose of causing to drive the squeezing rolls however much they may separate or approach each other, substantially as described.

**39,865.—Water-proof Boots and Shoes.—Edwin L. Simpson, Bridgeport, Conn., assignor to himself and Jared Wilson, Post, New Haven, Conn. Ante-dated Aug. 15, 1863:**

I claim as a new article of manufacture boots and shoes, when the same are made from the water-proof material, substantially as in the manner herein set forth.

**39,866.—Harvester Cutter Sharpener.—John K. Staman (assignor to himself, C. C. Staman & M. H. Mansfield), Mifflin, Ohio:**

I claim the concave, acute-angled, reversible bars, A and B, arranged and operating as and for the purpose set forth.

**39,867.—Lithographic Press.—John Taggart (assignor to himself and Stephen O. Thayer), Roxbury, Mass.:**

I claim the improved lithographic press made up by the stationary bed, B, but with the scraper, D, supported by a movable carriage, E, and provided with mechanism substantially as described (or its equivalent), for operating the scraper or depressing it upon and relieving it from the tympan and stone, the whole being as and for the purpose specified.

I also claim the said mechanism or combination for operating the scraper during the reciprocating rectilinear movements of its carriage, the same consisting not only of the channels, I, and their switches, g, and gates, t, constructed and arranged substantially as described, but of the arms, i, the depressors, h, and the elevating springs, m, arranged as set forth.

I also claim the combination of the spring latch, f', applied to the carriage, E, and the movable or spring dog, d' (applied to the tympan shaft), with the tympan shaft, the scraper and its carriage, the whole being as and for the purpose set forth.

**39,868.—Machine for stretching and folding Mosquito Netting.—Jacob A. Van Riper & Lewis Van Riper, deceased (Jacob A. Van Riper administrator), Spring Valley, N. Y.:**

I claim, first, The reciprocating platform, P, in connection with the reciprocating plates or feeders, K K, and rollers, L L, all arranged substantially as and for the purpose set forth.

Second, The combination of the oblique rollers, B, platform, P, plates, K, and rollers, G, all arranged for joint operation as and for the purpose specified.

[This invention consists in the employment or use of a series of oblique rollers arranged in pairs, and used in connection with feeders and a reciprocating bed; all being so arranged that the work of stretching and folding the netting or other material may be done in an expeditious and perfect manner.]

**39,869.—Cartridge Case for Revolving Fire-arms.—John H. Vickers (assignor to himself and Lucius W. Pond), Worcester, Mass.:**

I claim, first, The thimble or tube, C, constructed substantially as herein described, and applied substantially as herein set forth, in combination with a chamber bored large enough for the passage of the circumferentially projecting flanges of the cartridges from the front ends thereof, and closed or partly closed at their rear ends.

Second, The movable nipples, g, g, applied in combination with the thimbles or tubes, C, C, substantially as and for the purpose herein specified.

**39,870.—Lasting Machine.—Truman Wolcott, Stowe, Mass., assignor to himself and George T. Wolcott, Marlboro, Mass.:**

I claim, first, The heel, side and toe crimping bars, d d e e f, with plates, j, attached, arranged as shown and operated by the ring, G, provided with eccentric slots, c, in which pins, or friction rollers, on the slides, F, are fitted; substantially as and for the purpose set forth.

Second, The hooks, g, g, arranged as shown to operate in connection with the crimping bars as and for the purpose set forth.

Third, The elastic plates, l, in connection with the hooks, h, to operate in connection with the crimping bars as and for the purpose specified.

Fourth, The loaded treadle, B, with rod, D, attached, in combination with the crimping bars, all arranged to operate substantially as and for the purpose specified.

[This invention relates to a new and improved machine for adjusting uppers on lasts, whereby the work may be done in a superior manner and very expeditiously.]

RE-ISSUES.

**1,533.—Side Lights for Ships.—Enoch Hadden, New York City. Patented June 21, 1853:**

I claim the arrangement of screws, F, tapped into the main frame, B, in combination with inclined planes or spirals, O, forming part of said screws that hold the light frame or cell containing the glass fast to the india-rubber in its grooved seat in the main frame, with its stop pin, n, for stopping the screw in its proper position, when the light is to be opened for ventilation.

I also claim the projecting ears, E, with slots or chase mortises in which the pivots of the light frame or coil turn, allowing the light to be hauled from its seat, and consequently out of contact with the india-rubber, so as to allow the plane of the light to be placed at an angle to the main frame, thus freely admitting of ventilation.

I further claim the arrangement of a lead or other ductile metallic ring soldered on or otherwise joined to the main brass frame of the light, so that it can be turned round the outer edge of the opening in the vessel, securing any suitable material completely making the main frame of the light water-tight to the vessel: substantially as herein set forth.

[This invention admits of the light being adjusted in a water-tight position and also admits of it being adjusted in an open or partially open state for ventilation.]

1,534.—Tackle Block.—Isaac E. Palmer, Montville, Conn. Patented Nov. 1, 1859:

I claim so constructing a tackle block and pulley, that the rope or fall when desired may be clamped between a fixed portion of the block and a portion of the pulley, substantially as herein described, by simply leading it in a direction oblique to the plane of revolution of the pulley without tying, or the use of dogs, movable stops or any other means of fastening.

1,535.—Ventilated Hats.—William F. Warburton, Philadelphia, Pa. Patented Dec. 11, 1860:

I claim a flexible band or strip of metal or other equivalent material, secured to the inside of a hat, at such a distance from the same, and between such points that it will accommodate itself to the wearer's forehead, without interfering with the passage of air between the said band and the hat as set forth.

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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.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model of drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if 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 draft on New York, payable to the order of 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 but little risk in sending bank-bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

The revised Patent Laws, enacted by Congress on the 2d of March, 1861, are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the Government fee required on filing an application for a patent is reduced from \$30 to \$15. Other changes in the fees are also made as follows:—

- On filing each Caveat.....\$10
On filing each application for a Patent, except for a design...\$15
On issuing each original Patent.....\$20
On appeal to Commissioner of Patents.....\$20
On application for Re-issuance.....\$30
On application for Extension of Patent.....\$50
On granting the Extension.....\$50
On filing a Disclaimer.....\$10
On filing application for Design, three and a half years...\$10
On filing application for Design, seven years.....\$15
On filing application for design, fourteen years.....\$30

The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (but in cases of designs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

During the last seventeen years, the business of procuring Patents

or new inventions in the United States and all foreign countries has been conducted, by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the inventors throughout the country we would state that we have acted as agents for at least TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees at home and abroad. Thousands of inventors for whom we have taken out patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the inventors whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in our extensive offices, and we are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted, are invited to correspond with us on the subject, giving a brief history of the case, inclosing the official letters, &c.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The Government fee for a caveat, under the new law, is \$10. A pamphlet of advice regarding applications for patents and caveats, printed in English and German, is furnished gratis on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that three-fourths of all the European Patents secured to American citizens are procured through the Scientific American Patent Agency, No. 37 Park Row, New York. Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

Circulars of information concerning the proper course to be pursued in obtaining patents in foreign countries through our Agency, the requirements of different Government Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park Row, New York, or any of our branch offices.

ASSIGNMENTS OF PATENTS.

Assignments of patents, and agreements between patentees and manufacturers are 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.

It would require many columns to detail all the ways in which inventors or patentees 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, No. 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.



R. S. G., of Maine.—The difference between stenography and phonography is this: the one means short-writing, the other sound-writing—both being of Greek derivation. Short-hand was known to the ancient Romans; sound hand is the invention of Isaac Pitman, of Bath, England, not thirty years ago. His brother, Benn, of Cincinnati, Ohio, is a publisher of phonographic and phonetic works in this country, and has done much for the dissemination of the art in America. Stenography is composed of arbitrary signs; phonography of conventional characters, variable by rule, and completely supplanting our alphabet. The Hebrew and Chinese are examples of phonetic languages, oftenest seen in this country. Next to telegraphy, phonography is the most wonderful invention of this age. The fastest writer in long-hand can only record forty words in a minute; a good phonographer can report two hundred—just five times as many. It is the only way in which rapid discourses and fluent orations can be recorded verbatim. It is by this wonderful art that we get all that is said in Parliament or Congress. Pitman's characters are not so even and beautiful to look at as Morse's dot-line space reading, yet they are equally wonderful as an invention, and as indispensable in their utility. Phonetic printing, or printing by sound, does not seem to take in America, though it has been adopted in the common schools of Massachusetts and California. The Bible has been printed in it in England.

D. McIn., of C. W.—You will find no difficulty in melting metal in a cupola 5 feet in height and 15 inches internal diameter, if you employ sufficient blast. A fan will run smoother with four than three arms; one with six vanes will run with less noise but the effect will be no greater. Volcanic grindstones, composed of emery and vulcanized india-rubber, are manufactured here, but no artificial sand-stones, so far as we know.

A. S., of N. Y.—Insert an advertisement in the SCIENTIFIC AMERICAN, and you will obtain any kind of a lathe you require. We cannot advertise your wants gratuitously.

G. E. P., of Pa.—We are not aware of your small spinning

jennies containing about 8 spindles, adapted for family use, being manufactured anywhere. We believe that jennies of such a size would meet with an extensive sale, among our farmers: who could operate them with their horse-powers, and spin their own flax and woolen yarn.

L. R., of N. Y.—A complete business directory for the State of New York is published by Messrs. Adams Sampson & Co. Boston, Mass.

F. N. B., of Wis.—Cotton thread is numbered according to the number of hanks to a pound. A hank is 840 yards.

J. B., of Maine.—You will find the mode of making vegetable parchment described on page 136, current volume of the SCIENTIFIC AMERICAN.

H. C. A., of Ohio.—There is no special work published on caloric engines. You will find more information respecting such engines in former volumes of the SCIENTIFIC AMERICAN; than in all other published works extant.

E. J. H. H., of Pa.—"Holtzapffel's Mechanical Manipulations" have not been republished in America.

G. W. J., of Mo.—To bronze the barrel of your fowling piece, apply the tincture of iodine diluted with an equal quantity of soft water, allow it to dry, then brush it and rub with a little bees-wax and turpentine. Another method of bronzing consists in applying a composition of 1 ounce of the murate of iron, 1 ounce of nitric acid, and 1 ounce of the sulphate of copper dissolved in 3 ounces of water. It is put on with a clean rag, and the barrel allowed to dry; then a second application is made in the same manner, and when the barrel again becomes dry it is washed with a little limewater, dried, brushed, and rubbed with wax and turpentine. Some persons use a solution of the sulphate of copper and nitric acid only. The first mode described above—using the iodine, will be most convenient for your purpose.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, Sept. 9, to Wednesday, Sept. 16, 1863:—

- L. M., of N. Y., \$16; D. D., of N. Y., \$16; J. G. G., of N. Y., \$16; P. B., of Ill., \$20; P. J., of France, \$20; M. F., of N. Y., \$16; M. L. S., of N. J., \$10; G. & H., of Mass., \$20; G. F. J., of Iowa, \$20; B. R. & V., of Ohio, \$20; R. H. R., of N. Y., \$16; L. & S. B. H., of Mass., \$20; E. C. W., of N. Y., \$123; J. W. S., of Conn., \$20; H. A. A., of N. Y., \$16; L. O. B., of Ind., \$55; J. C., of Ind., \$45; J. H. of Mass., \$20; A. H., of Ill., \$20; S. E. T., of N. J., \$36; E. C., of N. Y., \$20; J. D., of Ill., \$20; C. S., of N. Y., \$22; T. H., of Cal., \$63; W. D., of N. Y., \$41; J. M., of N. Y., \$20; R. L., of N. Y., \$25; C. L., of N. Y., \$25; J. E., of N. Y., \$25; R. W. C., of N. Y., \$25; H. J. Van T., of N. Y., \$25; F. J., of N. Y., \$25; W. D., of N. Y., \$25; E. J. K., of Mich., \$20; S. R., of N. Y., \$16; H. & G., of Ill., \$25; T. G. E., of R. I., \$100; W. G., of N. Y., \$16; A. T., of N. Y., \$16; N. V., of N. J., \$12; W. H. B., of Cal., \$23; C. W. & W. W. M., of Ill., \$25; J. C., of Mich., \$16; J. W. R., of Conn., \$25; H. L., of Mich., \$60; P. G., of Mo., \$21; C. J. B., of Ill., \$16; G. M., of Canada, \$20; E. W., of Mich., \$26; E. M., of N. Y., \$30; H. & S., of Pa., \$26; J. C., of N. J., \$24; E. & W., of N. Y., \$16; A. H. T., of R. I., \$25; J. V. V. B., of N. Y., \$131; S. M. P., of Ohio, \$16; C. H. H., of N. Y., \$41; D. B. N., of Ind., \$10; N. V., of N. J., \$22; G. W. of Iowa, \$16; W. A. S., of N. Y., \$16; A. J. M., of N. Y., \$20; P. C. of Pa., \$16; W. B., of Canada, \$26; C. R., of Pa., \$25.

And a check of \$20 from Lowell, Mass., on a Boston bank, enclosed in an envelope, but no note or name attached to indicate the sender, if this meets the careless person's eye he will probably take warning in future.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, Sept. 9, to Wednesday, Sept. 16, 1863:—

- S. E. T., of N. J.; C. S., of N. Y.; T. H., of Cal. (2 cases); W. D., of N. Y.; F. J., of N. Y.; H. J. Van T., of N. Y.; R. W. C., of N. Y.; J. E., of N. Y.; C. L., of N. Y.; R. L., of N. Y.; W. B., of Canada; C. R., of Pa.; C. B., of Cal.; N. V., of N. J.; W. R., of N. Y.; H. & S., of Pa.; J. C., of N. Y.; A. H. T., of R. I.; E. W., of Mich.; E. M., of N. Y.; C. J. B., of Ill.; F. B. P., of Mass.; J. W. R., of Conn.; W. H. B., of Cal.; C. W. & W. W. M., of Ill.; H. & G., of Ill.

RATES OF ADVERTISING.

Twenty-five Cents per line for each and every insertion payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns, and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.

THE "KING MICROSCOPE"—DOUBLE LENS.—Prof. Horsford, of Harvard University, says: "It works very well, and you have got it up very nearly." Magnifies 25 diameters—55 cents in Postal Currency. The "BOWEN" microscope, 25 cents. The "S. WOODWARD" microscope, 33 cents. Or one each of the three kinds for \$1. All free of postage. Address T. EDWIN KING, Box 330, Boston, Mass. 12 4 \*

SEWING MACHINES.—GROVER & BAKER'S NEW Lock-stitch Machine, No. 9, 495 Broadway. This is the best and cheapest machine for Tailors' use ever produced. Price \$45. 13 13

ROTARY BOILERS.—WE HAVE ON HAND AND For sale two Rotary Boilers, made of 2 1/2-inch iron, 22 feet long, 6 feet in diameter, 6-inch heads, with safety valves and all gearings necessary for operation of them. They were manufactured by J. A. Brooks & Co., of Frankfort, Pa., and are in perfect order. Address PEASLEE & CARPENTER, Ancram Paper Mills, Ancram, N. Y. 13 3 \*

IRON PLANERS, ENGINE LATHES, DRILLS AND other machinists' tools, of superior quality, on hand and finishing, for sale low. For description and price address NEW HAVEN MANUFACTURING COMPANY, New Haven, Conn. 14 \*