

FALSE REPORTS OF THE "DICTATOR."

The trial of a new monitor, or vessel embodying the peculiar principles of its construction, is, by a portion of the press, made the occasion for general and total condemnation of it. These reports have two remarkable features: first, their malignity; second, their utter falsity; and the tone of them shows the writers to be prompted by the basest motives. The completion of the *Dictator*, No. 2, and her partial trial show her to be a perfect success; in fact, one of the greatest mechanical triumphs of the day; yet, in the face of this fact, some of the daily papers have allowed incompetent persons to express their "opinions" concerning her. Those who are familiar with the principles upon which the monitors are built need no refutation of the slander, but there are others to whom a letter from the distinguished inventor, Capt. Ericsson, will prove interesting. This letter recently appeared in the *Daily Times*, and says:—

"I beg to assure you that there are no grounds for the apprehension you express in your columns to-day with reference to the *Dictator*. The various statements published about the draft of this vessel are all incorrect. I avail myself of this opportunity to inform those who take an interest in the matter that there has been no guess work or miscalculation about the draft of water of the ocean monitors. The *Dictator* drew, after the launch, half an inch less than estimated, while the *Puritan's* draft was within a quarter of an inch of the estimate. I need hardly observe that the weight to be put on board, after the launch, was known almost to a pound, and, therefore, ultimate disappointment respecting the draft out of question.

"The draft of the *Dictator*, No. 2, published through the Boston journals, was 31 inches at the stern and 43 inches at the bow. In corroboration of the accuracy of those dimensions, it may be stated that the superintending engineer reported that the ship, on the 8th, was 30 inches out at the stern and 43½ inches out at the bow, showing a depression of ⅞ths of an inch compared with the draft on the 2d. The cause of the discrepancy is obvious, the ship being under completion. Yesterday and the day before the *Dictator* received an additional 215,000 pounds of coal, beside stores, equipment and crew. Accordingly, the superintending engineer reports that this morning, while at anchor in the bay, the ship was 26 inches out at the stern, 37 inches out at the bow, and 19½ inches out of water amidships.

"When the *Dictator* was planned, it was assumed, that keeping the side armor 18 inches out of water, amidships, would effectually protect the hull of the vessel against an enemy's shot during moderate rolling. Experience has shown that the maximum projection of the side armor above water, amidships, should be 16 inches, and that the fighting trim may, with propriety, be reduced to 12 inches, bow and stern being in that case two feet out. To bring the *Dictator* to the former immersion will require 220,000 pounds, the latter requiring 468,000 pounds in addition to the weight on board the ship this day.

"In considering the proper immersion or fighting trim of an iron-clad, which, like the *Dictator*, is intended to meet foreign iron-clads at sea, it will be well to bear in mind the recent improvement of naval ordnance in Europe. It is no longer 68-pounders that will be encountered, but projectiles that will put the side-armor of the *Dictator*, heavy as it is, to a severe trial. It will be well, therefore, to keep this side-armor well under water, more particularly since rolling, to a certain extent, must always be looked for. The great buoyancy of the *Dictator* at her present draft, viz., 62,000 pounds to the inch, is an important feature connected with the question of immersion.

"The supposition that the rudder of the *Dictator* had been damaged in launching the ship is quite erroneous. Nor is the published statement correct that the steering-gear is incomplete and out of order. The mechanism applied for working the rudder of this ship is considered by those best qualified to judge the most complete in the naval service. Under direction of the Navy Department, three distinct steering machines have been erected; one outside the turret, one within the pilot house, and a third placed on the berth-deck, under the turret. Each machine, or apparatus, operates by itself, but so arranged that the three may be worked together. The rudder has two

tillers, independent of each other, one above and the other below deck. The upper one is actuated by a chain on deck; the lower one by a wire rope, suspended under the deck beams. The trouble experienced with the rudder is simply this, that while the ship was aground at the Navy-Yard and washed into the step in which works the pivot on which the rudder turns. It will be proper to observe, that when the *Dictator* was taken from the Delamater works to the Navy-Yard, two men could work the rudder—a positive proof that no damage was received during launching. Commodore Rodgers, I am informed, intends to run his ship at a slow rate in the bay, until the sand is crushed and washed out of the step, and the pivot made to work free. The run to-day, it appears, caused the ship to work with considerably greater ease than yesterday. It is to be hoped that the naval reporters will not imagine that the Commodore is trying for speed while he is merely engaged in putting his rudders in proper working order.

"New York, Nov. 12, 1864."

MELTING WROUGHT IRON BY ELECTRICITY.

By invitation of Professor Ogden Doremus, a few days ago we went into the Free Academy to see the great galvanic battery which he uses to illustrate his lectures on electricity. The cups hold one gallon each, and at the time of our visit 360 of them were filled and in operation. Standing in close rows, they nearly cover the floor of a long room. The conductors from the ends are copper ribbons an inch and a half in width, and they are led through holes in the wall into the lecture room.

This enormous battery enables Professor Doremus to exhibit the various effects of galvanism to his classes on the greatest scale. The light produced by the carbon points is far in excess of that resulting from the heating of lime by the oxyhydrogen blowpipe. This is demonstrated by employing the two in the solar microscope. By this electric light crystals of uric acid not larger than the head of a small pin are magnified to the size of ten feet, with perfect definition of outline and structure.

Among the effects of the battery which Professor Doremus exhibited was the decomposition of potash by the current. To direct the current into the cup of potash the pole was terminated by a wrought iron rod about the size of a lead pencil, and in the course of a few seconds the end of this rod was melted, a drop slowly gathering and finally dropping off, when it scattered in a hundred sparks.

A common class experiment with this battery is the volatilization of gold. A quarter of eagle gold piece is placed on a carbon support and the current directed upon it, when the gold rises as a yellow vapor. If a silver cup is held over it, the cup is gilded by the deposit of the golden fumes.

The other apparatus in the Free Academy is on the same large and costly scale as the galvanic battery; the most talented and brilliant lecturers are employed; and all these advantages are free to every child in the city who is gratified to profit by them.

"Thou my country, thou shalt never fall,
Save with thy children—thy maternal care,
Thy lavish love, thy blessings showered on all—
These are thy fetters. Seas and stormy air
Are the wide barrier of thy borders, where
Amid thy gallant sons that guard thee well
Thou laughest at enemies. Who shall then declare
The date of thy deep founded strength, or tell
How happy in thy lap the sons of men shall dwell."

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ISSUED FROM THE UNITED STATES PATENT-OFFICE

FOR THE WEEK ENDING NOVEMBER 15, 1864.

Reported Officially for the Scientific American.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying 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.

45,007.—Apparatus for Purifying Mineral Oils.—Wm. Adamson, of Philadelphia, Pa.:

I claim the mode herein described of purifying mineral oils, that is to say, mixing the oil with acids or alkalis and washing the mixture with water in a tank or reservoir, by means of a paddle-wheel acting on the contents of the tank, in the manner described.

45,008.—Manufacture of Cast-steel.—Daniel M. Adee, of New York City:

I claim, first, The use of antimony in the manufacture of cast-steel.

Second, The use of lime in the manufacture of cast-steel, substantially in the manner described.

Third, The use of the composition hereinbefore specified, and made of the ingredients above set forth, for the purpose described.

[This invention relates to a composition of the principal ingredients, of which are antimony or lime with franklinite or charcoal, and which when brought in contact with wrought iron, and melted with the same in a crucible, produces cast-steel of superior quality.]

45,009.—Bayonets.—F. W. Alexander, of Baltimore, Md.:

I claim the application of the principle of the saw to a bayonet; in other words supplying to each gun a saw as well as a lance or sword, whether the saw bayonet be constructed precisely like the shape in the drawings appended, or in a modified form.

45,010.—Pressure Gauges.—Alexander Allen, of Perth, Scotland:

I claim the pressure gauge as composed of the siphon tube, G, the non-transparent vessel, A, and the transparent glass tube, D, or its equivalent, arranged and connected substantially as described.

I also claim the means of fixing the glass tube in place with tight joints at its ends, the same being effected by the tubular screw nut, e, the female screw, f, co-operating washers, b and c, and the extension, B', the whole being arranged substantially as hereinbefore described.

45,011.—Sheep Racks.—Amos Allerton, of Aztalan, Wis.:

I claim the special construction and arrangement of the adjustable doors or covers, K, K', with the inclined floor, J, in combination with the racks, P, E, grain troughs, D, D', and guards, when used conjointly, so that the grain troughs are between the racks and racks, with the hay cribs inside, as and for the purpose set forth.

45,012.—Faucets.—Alexander Bain, of New York City:

I claim the yoke or lever, c, applied below the plug of the cock or faucet, in the manner specified, so that the liquid may be drawn by pressing the said yoke or lever by the vessel to receive the liquid, as specified.

45,013.—Apparatus for Drawing Liquids.—Alexander Bain, of New York City:

I claim, first, A pipe connected with the lower part of a vessel containing the liquid to be drawn, and rising above the level of such liquid to retain the same, and fitted so that said pipe can be turned down below the level of said liquid for its delivery, as specified, thereby dispensing with the cocks or faucets heretofore employed for stopping the delivery of liquid, as set forth.

Second, I claim the sleeve, f, fitted as specified, to make a water-tight joint at the place where the discharging pipe passes through the thimble or stationary pipe, e, as set forth.

Third, I claim the step or platform, i, and parallel motion bar, k, in combination with the pipe, a, as and for the purposes specified.

45,014.—Locks.—Halsey H. Baker, of New Market, N. J.:

I claim, first, The combination of the bar, B, with the catches, E' and the double-acting tumbler, I', substantially as and for the purpose set forth.

Second, The combination of the bar, B, and cam, L, with the recesses, M and N, of the projection, C, substantially as and for the purpose set forth.

Third, The combination of the plate, I, and its projections, with the recess, M, and the bar, B, substantially as and for the purpose set forth.

Fourth, The combination of the bolt, Q, and the catches, R and S, substantially as and for the purpose set forth.

Fifth, The combination of the small locks, G and H, one or both, with the catches, E', substantially as and for the purpose set forth.

Sixth, The combination of the flanges, J' and K', with the lock plates, A, and the bar, B, substantially as and for the purpose set forth.

45,015.—Flaring Metal Hoops.—Henry D. Barnes, of New Haven, Conn.:

I claim giving to a metal hoop the requisite flare, by rolling upon its edges, substantially as and for the purpose set forth.

45,016.—Sash Fastening.—Fordyce Beals and C. T. Griley, of New Haven, Conn.:

I claim the bolt, C, and spring, D, in combination with the plates, E, F, the latter being provided with the V-shaped slot, g, and the former provided with the pin, h, passing through said slot, g, all arranged substantially as and for the purpose herein set forth.

[This invention relates to a new and improved fastening for window sashes, designed more especially for car sashes, in order to hold or retain them at different heights. The object of this invention is to obtain a sash fastening which will be simple in construction, not be liable to get out of repair, and be capable of being operated without any special manipulation apart from the simple raising of the sash.]

45,017.—Felting Machines.—John H. Bloodgood, of New York City, and Moses A. Johnson, of Lowell, Mass.:

First, We claim the use in machines for felting of a rubbing cylinder, whose surface is so constituted that steam or hot air may readily pass through the same, from within or without, and act directly upon the material to be felted, whether said cylinder be used in combination with an endless apron, as herein described, or any other opposing surface.

Second, We claim in machines for felting, the use of a vibrating, rotating cylinder, heated from within by steam, hot air, gas or other means, substantially as and for the purposes described.

Third, We also claim covering the rotating, vibrating cylinder of felting machines with wire cloth, substantially as and for the purposes above set forth.

Fourth, We also claim the combination of the cam herein described, with the felting cylinder, for the purpose of giving the rapid vibratory motion to the latter.

Fifth, We also claim the wire guides, R, R, shown in Figs. 4 and 5, the object of which is to form suitable channels for guiding the yarns, substantially as described.

which admits of being opened and closed by a rider or rive with out the latter dismounting from a horse or getting out of a vehicle

45,064.—Calendar for Almanacs.—John H. Mead, New York City. Ante-dated Nov. 3, 1864:

I claim the combination and arrangement of the stationary sections, A, and revolving rings, B, constructed as and for the purposes set forth.

45,065.—Tree Protector.—Benjamin Merritt, Jr., Newton Corner, Mass.:

I claim the apparatus having a construction, substantially as and for the purpose specified.

45,066.—Cultivator.—George D. Miller, Lovington, Ill.:

I claim, first, The swiveled frame, D D D₁ D₂, in combination with the segmental pulley, E, bar or lever, E', foot-piece, e, e', cords, H, and pulley, J, the whole being arranged to operate substantially as and for the purposes herein set forth.

Second, I claim the manner herein described of employing the roller, K, so that it may be adjusted simultaneously with the plows, by means of the lever, O.

45,067.—Harvester.—S. M. Moore, Beloit, Wis.:

I claim the combination of the hand lever, L, post, M, and link bar, N, with the finger-beam, when arranged and operating substantially as described and for the purpose set forth.

I also claim the combination of the main frame, finger-beam, rock-shaft, radius bars, racks and pinions, hand-lever, lifting chain and link bar, as described for the purpose set forth.

45,068.—Drill and Sand Pump.—Enoch R. Morrison, New York City:

I claim, first, The peculiar form of the drill head, so constructed and combined with a cone or ball valve and a hollow shaft, as to perform the double action of a drill and sand pump for boring oil wells, as herein described.

Second, I claim the manner of taking up the detidus in boring wells, and discharging the same from the openings at the lower end near the bottom of the drill, as herein specified.

45,069.—Water Wheel.—Henry G. Nelson, Lockport, N. Y.:

I claim the combination of the turbine buckets, K K, with the horizontal buckets, C C, shaft, A, scroll, G, and annular eduction passage, H, arranged and operating substantially as set forth.

I also claim the diaphragm, H, in combination with a wheel composed of the straight buckets, C C, and turbines, K K, arranged in the manner and for the purpose described.

In combination with the collars, B B', on the shaft, A, and buckets, C C, I claim the supporting lip, a, flange, b, and pin, c, operating conjointly with the bolt, f, substantially as and for the purpose set forth.

45,070.—Hoop Skirt.—Frederick S. Otis, Brooklyn, N. Y.:

I claim, first, Forming the covering to the ends of the bustle hoops where they are attached to the tapes of a woven fabric secured to the tapes and hoops by small clasps or spangles, and having a strip of kid or similar material at the edge of said covering, as specified.

Second, I claim the clasp, f, formed in the manner specified and securing the hoops, where they are brought end to end, in the manner set forth.

45,071.—Clothes-wringer and Mangle.—S. W. & J. F. Palmer, Auburn, N. Y.:

We claim the arrangement of the levers, F, for carrying the oil or yielding roll, and their connection with the frame, and non-yielding roll, as and for the purpose described.

We also claim in combination with the wringer and mangle, the cams, h, levers, b, springs, i, and projections, n, m, for making clamping device, for holding the machine to a tub, table, stand, or other support, substantially as described.

45,072.—Evaporator.—Wm. H. Parmelee, Hopkins, Mich.:

I claim, first, The arrangement of the pipe, I, trough, J, valve, P, rod, l, float, L', and curb, L, in combination with the pans, A and B, when operating conjointly, substantially as and for the purpose specified.

Second, I claim the float, n, cistern, D', valve with the stem, p, balance beam, p', in combination with the evaporator, substantially as and for the purpose set forth.

45,073.—Life Raft.—E. L. Perry, New York City:

I claim, first, The cylinders, C, attached by membranes to the framing of the inner vat, B, and provided with stays, D, and lacing cords, d, substantially as described and represented.

Second, I claim in combination with the above the inner elastic air and waterproof sacs, O, for the purpose set forth.

45,074.—Stove.—Moses Pond, Boston, Mass.:

I claim a stove of the kind described (that is, one having an oven over its fire-place or fue leading therefrom), as made with or having means of fastening the cover of its oven bottom plate opening down to such plate, for the purpose set forth.

45,075.—Skate.—Washburn Race, Lockport, N. Y.:

I claim a cast-iron skate runner with chilled running edge or surface, as a new article of manufacture.

45,076.—Cheese Vat.—William Ralph, Utica, N. Y.:

I claim the false bottom partition or diaphragm, D, so constructed as to keep the water heated by the heater, E, from contact with the bottom of the inner vat, B, until it shall have been in contact with the sides, or the sides and ends thereof, and imparted a portion of its temperature to the same.

I also claim the hollow supports, g, used in combination with the outer vat, A, inner vat, B, or the false bottom or partition, D, substantially as and for the purpose described.

I further claim the use of one or more pipes, F, in combination with the valves or damper, n and F, for the purpose described.

45,077.—Fastening Buttons to Fabrics.—W. H. Reed, Philadelphia, Pa.:

I claim, first, The use for fastening buttons to fabrics of a rivet having a stem countersunk at the end, substantially as and for the purpose set forth.

Second, The rivet with its countersunk stem in combination with the annular ridge, d, of the button.

45,078.—Latch.—Jacob C. Robie, Binghamton, N. Y.:

I claim the mode of locking or bolting latch, by means of the slide and spring, connected with a bolt or pin which passes through the wood-work of the door and the shell or case of the door knob latch, into the latch, in such a manner that said latch cannot be drawn back or moved from its position by means of the knob, when the bolt or pin is pressed into it, as set forth.

45,079.—Priming Metallic Cartridges.—E. K. Root, Hartford, Conn.:

I claim a cartridge case formed with a centrally located test or projection, in combination with a fulminate disk, substantially as and for the purposes set forth.

5,080.—Combined Portable Sheep Rack, Shed and Fold.—S. L. Sage & O. T. Baker, Huntington, Ohio:

We claim, first, The sections, A, when constructed and arranged as described, and provided with feed-racks, in the manner and for the purpose specified.

Second, We claim the combination of the fence, I, with the sections, A, A, whether said sections are united as shown or placed end to end, as described.

45,081.—Manger.—Daniel Sager, Albany, N. Y.:

I claim, first, The rotating manger, provided with the journals, o, and rod, D, substantially as shown.

Second, The bracket, b, or its equivalent, when used in combination with the manger, as and for the purpose set forth.

45,082.—Friction Apparatus for Warp-dresser Beams.—Benjamin Saunders, Nashua, N. H.:

I claim the application of the friction weight, G, to the dresser beam by means of a vibratory arm, D, and in manner and so as to operate with such beam, substantially as hereinbefore described.

I also claim the application of the friction weight, G, to the vibratory arm, D, by means of a hinge connection or its equivalent, in order that the weight may be free to adjust itself to the periphery of the yarn on the dresser-beam.

I also claim the combination of the sliding journal, E, with the stationary bearing, F, and the vibratory arm, D, and weight, G, applied to the section or dresser-beam, substantially as described.

I also claim the combination of the adjusting screw, e, and nut, f, with the sliding journal, the vibratory arm and the friction weight applied to the section or dresser-beam, in manner as specified.

I also claim the combination of the retainer, h, and the groove, g,

with the milled nut, f, the screw, a, the sliding journal, the vibratory arm, and the friction weight applied to the section or dresser-beam, in manner and so as to operate therewith substantially as hereinbefore explained.

45,083.—Manufacture of Spiral Tubing.—Edward H. Savoral, Washington, D. C.:

I claim the manufacture of circular spiral or otherwise curved pipes, made of hard sheet metal, in the manner described within and for the purpose set forth.

45,084.—Forming Sockets on Terra Cotta Pipes.—Louis Scharff, Conshohocken, Pa.:

I claim forming sockets on terra cotta pipes by the aid of the block, B, and former, D, substantially in the manner and for the purpose described.

45,085.—Faucet.—Henry Schnoutz and Henry Bremen kamp, Cincinnati, Ohio:

We claim the hollow plug, C, divided by a horizontal partition, f, in two distinct compartments, d, e, and provided with two holes, a, b, to operate in combination with the shell, A, and double channeled shank, B, substantially in the manner and for the purpose herein shown and described.

[The object of this invention is to arrange a faucet in such a manner that by turning the plug a vent hole or channel is opened simultaneously with the discharge channel, and the liquid from an air-tight barrel can be drawn without disturbing the bung.]

45,086.—Apparatus for racking off Wines, Liquors, etc.—Daniel Sexton, San Gabriel, Cal.:

I claim racking off wines and other liquors by means of an air pump constructed on the principle of, or similar to, a bellows, and of wood and leather or other flexible material applied in the manner substantially as and for the purpose herein set forth.

[The object of this invention is to obtain a means of racking off wines and liquors, that is to say, drawing them from one cask into another, without exposing them to the air and without disturbing the sediment in the cask from which the wine or liquor is drawn.]

45,087.—Tree Protector.—Albert Seymour, Hartford, Conn.:

I claim, as a new improved article of manufacture, a tree protector, each section of which being made in one piece of cast metal, with a trough, a, shed, b, partitions, d, prongs, d', substantially as shown and described.

45,088.—Buckle.—Josiah Shepard, New Britain, Conn.:

I claim the case, A, in combination with the plate, C, provided with pins, d, d, at opposite sides, all arranged substantially as and for the purpose herein set forth.

45,089.—Drain.—George W. Smith, Springfield Township, N. J.:

I claim, as a new article of manufacture, the combination of the bottom slabs with the cleats, A, and the side slabs cut out so as to lock when set up, in the manner and for the purpose substantially as shown and described.

45,090.—Composition Oil for lubricating Paint, etc.—William H. Spooner, Bristol, R. I.:

I claim, first, The method herein described of preparing oil adapted for use as a lubricating, paint, wool, curriers, or other like oil, by combining with dissolved caoutchouc paraffine, oil, when said combination is effected in the proportions, and in the manner herein set forth.

Second, As a new article of manufacture I claim a composition oil, the same consisting of caoutchouc dissolved in hydro-carbon mixed with the oily distillates of coal, peat, tar, or petroleum, in the manner and the proportions set forth.

45,091.—Seat for Schools and Public Buildings.—David J. Stagg, New York City:

I claim a seat or settee for schools, public buildings, etc., having its seat-board, B, suspended between the uprights, A, A, by means of pins, b, which project horizontally from the uprights and pass through the seat-board, B, at the ends of the seat boards, and above them, said chairs or benches having semi-circular slots, c, in them to receive stop pins, d, which are in front of the pins, b, and also above the seat boards, substantially as herein set forth.

[This invention relates to a new and useful improvement in that class of seats or settees for schools, public buildings, etc., which have their seat-boards so arranged that they may, when not in use, be folded upward out of the way, so as to afford an ample passage way between the rows of seats.]

45,092.—Sleeping Car.—Joseph Sutter, New York City. Ante-dated Nov. 3, 1864:

I claim, first, Sustaining the backs in a horizontal position by means of the swinging link, f, applied in the manner and for the purposes specified.

Second, I claim the folding extension piece, g, applied to the back and employed between one back and the other when in a horizontal position, as set forth.

Third, I claim the spring head rest, l, or l', constructed and applied in the manner and for the purposes set forth.

Fourth, I claim the protecting bars, h, connected by the slotted bars, i, and slide bars, k, at the ends of the backs, forming the sides of the lounge or berth, for the purposes and as specified.

Fifth, I claim the folding extension leaves, g', turning up under the seats or reaching from one seat to the next, for the purposes and as specified.

45,093.—Skate.—R. Tillman, New York City:

I claim, first, The forked lug, c, projecting from the outer or rear end of the slide, F, and applied in combination with the neck, d, in the shank of the screw, G, in the manner and for the purpose set forth.

Second, The serrated laterally moving slides, e, e, in combination with the spring catch, h, and toe plate, H, constructed and operating substantially as and for the purpose described.

45,094.—Reaping and Mowing Machine.—John S. Truxel, Mt. Pleasant, Pa.:

I claim the main frame, A, and cutter bar frame, H, connected as shown, in combination with the pivoted seat support, C, and lever, E, all arranged to operate in the manner substantially as and for the purpose set forth.

I further claim the bar, F, provided with oblong slots, d, to receive the catch, G, and admit of the up and down self-adjusting movement of the cutter bar, as set forth.

45,095.—Fruit-gatherer.—Jacob Vail, Newfield, N. Y.:

I claim, first, The employment of the box, C, elevated in the manner described, and suspended from the beam, B, b, so as to be turned about the central pole or standard, A, in the manner and for the purpose explained.

Second, I claim the pulley, F, operated by the cord, G, and adapted to traverse the slot, b, to move the box, C, toward or away from the center of the tree, as and for the purpose set forth.

Third, In combination with the box, C, for gathering fruit, I claim the arrangement of the block and tackle, E E', windlass, D', crank, D, and pulley, e, substantially as described.

45,096.—Rotary Pump.—Andrew Walker, Claremont, N. H.:

I claim, first, The rotary piston, L, substantially as described and for the purpose set forth.

Second, The combination and arrangement of the rotary piston, L, the horizontal coats or pistons, c and d, the ball valves, E and F, the ball valve, K, the orifices, G and H, substantially upon the principle and in the manner herein set forth.

45,097.—Machine for Sawing, Boring, and Mortising.—Levi J. Wallich, Knoxville, Ill.:

I claim the arrangement of the screw and smooth-pointed augers, L L, chisels, M M, and lever, Q, and the arrangement of the ground auger, F, guides, f, f, and spring, V, for throwing same up or down, and the arrangement of the notched lever, J', bearing lever, J'', wood horse, J, and saw, G'', in combination with the gate, C, and frame, B, substantially in the manner and for the purposes herein specified.

45,098.—Board-holder in making Board Fence.—John Wallmer, Goshen, Ind.:

I claim the two strips, A A', and transverse piece or rest, B, in

combination with the screw bolt, D, and adjustable stop, d, all arranged substantially as and for the purpose herein set forth.

[This invention relates to a new and improved device for holding boards while nailing the same to the fence, so that the boards may all be secured to the posts at equal distances apart, and by one hand or man only.]

45,099.—Horse Rake.—C. W. Warner, Williston, Vt.:

I claim the method, substantially as described and represented, of operating the same by means of the combination of the foot-triggers, K K', bar, J, and rocking pawl, f, g, with the notched bars, h, on the rake head.

[This invention consists in attaching an ordinary revolving rake to an axle mounted on wheels and having thills attached to it, all being arranged in such a manner that the driver may ride on the machine and operate the rake with the greatest facility, and the latter at the same time be capable of being adjusted or turned over on the axle for the convenience of drawing or transporting the device from place to place.]

45,100.—Knob-latch.—Rodolphus L. Webb, West Meriden, Conn.:

I claim the combination of the latch, a, collar, c, spring, e, with the yoke and thimble, all constructed and arranged as described.

45,101.—Water Wheel.—Charles Weed and William C. Marr, Eldorado, Iowa:

We claim a water wheel provided with buckets, B, with a projecting center and recurved receding wings, as represented in the drawings, and operating in combination with the rings, f, and central rotary gear, i, in the manner and for the purpose substantially as herein shown and described.

45,102.—Siphon Water Wheel.—Thomas Welham Brownsville, Nebraska:

I claim keeping the water enclosed in a siphon, after it leaves the first wheel, and conducted through the siphon enclosing any number of wheels, at any required distances apart by which the water is used over a series of wheels from the same head, as herein described for the purposes set forth.

45,103.—Machine for making Sheet Metal Ware.—Morris Wells, Williamsburgh, N. Y.:

I claim the application of the secondary cylinder, M, in combination with the plates, I, J, female d, e, B, plunger, H, and main cylinder, E, constructed and operating substantially as and for the purpose set forth.

45,104.—Soldiers' Shoulder-brace for Knapsacks.—H. S. Weston, Akron, Ohio:

I claim the metallic shoulder-brace, in combination with the strap B, which is constructed and arranged substantially as and for the purpose described.

45,105.—Self-loading Fire-arm.—Robert Wilson, Macomb, Ill.:

I claim, first, Combining with a vertically-sliding chambered breech-block, D, and pivoted guard lever, E, a sliding feeder, J, or its equivalent, constructed and applied to said lever, and a chambered gun stocked in such a manner as to feed the cartridges therefrom and introduce them one at a time, into said breech-block, substantially as described.

Second, The use of spring hooks, d, d, or their equivalents, applied to the breech-block, D, and operating in conjunction with the guard lever, E, substantially as described.

Third, The sliding strap, J, when constructed with spring fingers, h, and applied to a lever guard, E, and the stock of a gun, substantially as described.

Fourth, The cartridge magazine, G, when it is provided with lateral followers, g', g', and spring fingers, f, f, or their equivalents, substantially as described.

Fifth, A removable cartridge case or holder, G, in combination with contrivances for impelling the cartridges laterally downwards and then forwards, substantially as and for the purpose described.

45,106.—Shoe for Car Brakes.—Joseph Wood, Red Bank, N. J.:

I claim, first, The sole, B, its lugs, c and c', and lug, d, in combination with the shoe, A, the latter and the sole being constructed and adapted to each other so as to be secured by a simple pin, i, substantially as specified.

Second, A groove or grooves, x, formed in the face of the sole, substantially in the manner and for the purpose set forth.

45,107.—Loom for weaving Hair Cloth.—Isaac Lindsley, North Providence, R. I. Patented in England Sept. 21, 1863:

I claim, first, So combining and arranging the selecting or serving instrument and the nipper, and the mass of web presented thereto, as described, that the end of the web that has been selected will be deflected and held aside from the mass directly across the path of the nipper, which is thus enabled to seize the web between the selecting instrument and the mass, substantially as described.

Second, I claim the employment of two projecting pegs, or their equivalent, in the jaws of the nipper, substantially as described to effect the purpose specified.

Third, I claim the mode of operation, substantially as specified, by which the nipper is first closed sufficiently to encompass and secure the hair or web, and at the commencement of its retreating movement the jaws are made to close gently upon the hair or web, with sufficient force to hold the same and draw it from the mass into the open shed, substantially as described.

Fourth, I claim the employment of two sets of fixed and movable pulleys, o o' p p', or their equivalent, in combination with the treadle levers, B' B', and a suitable strap or band connecting with the nipper staff, substantially as described for the purpose specified.

Fifth, I claim giving to the cam shaft or its equivalent that works the heddles or harness an intermittent rotation at each change of the shed by means of a ratchet and pawl, or other suitable devices, whose operation upon the cam shaft is made to depend upon the supply of web to the shed.

Sixth, I claim the arrangement of the cams, r1 r2 r3 r4, or their equivalent, which operate the salvage heddles or harness, substantially as and to effect the purpose specified.

Seventh, I claim combining a positive "take up" and a positive "let off" with the devices that actuate the same, so that when the web falls to be supplied to the shed, their operation will be arrested and web fed, when the web is daily supplied.

Eighth, I do not claim the use of a wave reed for giving a permanent waved firm to the web, but I do claim placing the web in the cloth by means of the curved reed or otherwise in such a position as will counteract the effect of the unequal shrinkage of the parts, substantially as described.

Ninth, I claim combining with the automatic "serving" mechanism a detent or stop, so arranged as to work in concert with the nipper and arrest the operation of the serving mechanism when in a position to be out of the way of the nipper as it advances to seize the web, and to release the serving mechanism after the nipper has retired, substantially as described.

Tenth, In combination with the mechanism which supplies the web to the nipper, or its equivalent, I claim the employment of a clipping or saring device, substantially in the manner and for the purpose described.

45,108.—Apparatus for applying Adhesive and Lubricating Material to the Spindles of Spinning Machines.—James Marshall, Stockport, Great Britain. Patented in England, Oct. 28, 1863:

I claim, first, The application of the friction created between the revolving spindles and a part or parts of the paste or oil receptacle, for the purpose of effecting the traverse of the same along the spindle carriage behind the spindles in mules.

Second, The receptacle or box containing adhesive substances or lubricants, and for applying the same to spindles, constructed and arranged substantially as described.

45,109.—Roller for Cotton Gins.—Wm. Wauklyn, the Albion Mills, Bury, England:

I claim a roller for cotton gins made of cast-iron or other metal, with its grooves cast, or cut in the solid face of the periphery of the roller, and when applied to the same to spindles, serrated, wrinkled or notched, as herein described and represented.

45,110.—Machine for tapping Nuts.—F. Watkins, London Works, Birmingham, England:

I claim, first, Grouping six or more revolving sliding spindles, around an upright driving shaft, the said shaft giving motion to the

spindles and taps which they carry in combination with the levers P, all constructed and arranged as described.

Second, in combination with the subject matter of the above I claim so proportioning the gearing between the driving shaft and the various spindles, that two or more spindles will be driven at different rates of speed, and with greater or less power, so as to adapt the machine for different classes of work.

[The object of this invention is to group a series of revolving sliding spindles around an upright driving shaft so that a number of operatives may work simultaneously at one and the same machine. The different spindles are geared up so that they rotate at different velocities according to the class of work to be performed by each of them, and they are perforated with longitudinal central channels through which oil, soap suds or other lubricating substance can be readily introduced.]

45,111.—Fire-place and Furnace.—Edward Brown Wilson, No. 10 Strand, Middlesex, England :

I claim a method herein described of construction and working of fire-places and furnaces in such manner that when fresh fuel is supplied as usual on the top of the fuel already ignited, the gases generated therefrom are made to pass downwards through the hot fuel, air being supplied at such points and in such quantities as may be suitable for complete combustion, substantially as set forth.

45,112.—Stopping Bottle.—Albert Albertson (assignor to J. N. McIntire), New York City :

I claim a stopper or closing device for bottles composed of a valve or cork, in combination with a spring rod, or its equivalent, the whole constructed to operate substantially as hereinbefore described.

45,113.—Armament of Ships of War.—Augusto Albini, Genoa, Italy, assignor to James Henderson :

I claim the construction and arrangement of the gun deck and bulwarks of a ship, in the manner herein described, so that the guns may be fired from the bow or the stern, or from both at the same time, in a direction parallel with the keel.

45,114.—Water Wheel.—H. K. Annis (assignor to Jason Kidder and Hiram C. Baker), Enfield, N. H. :

I claim the apron, E, E, in combination with the sectional wheel and issues, arranged to operate substantially as and for the purpose herein set forth.

I further claim the semi-annular chute, C, in combination with the water-passages, D, D, aprons, E, E, and sectional wheel, B, all constructed and arranged to operate in the manner substantially as and for the purpose specified.

[This invention relates to a new and improved water wheel of that class which are placed on a vertical shaft, and are commonly termed horizontal water wheels. The object of the invention is to obtain a wheel of the class specified which may be made to give out or yield power less than its maximum, proportionate to the amount of water which passes through it.]

45,115.—Loom for Weaving Palm-leaf, Straw, etc.—J. M. Baker, Providence, R. I., assignor to himself and Elliott P. Gleason, New York City :

I claim, first, the combination of the nipper, arranged substantially as described, with recess, 4, the opening, 2, and the swing finger, R, the whole being arranged and operating substantially as described for the purpose specified.

Second, The described arrangement and method of operating the cloth and warp beams, whereby the warp is made to progress regularly by the action of the sley in beating up the successive lengths of warp, substantially as described for the purpose specified.

Third, The use of the cam, 3, or the equivalent thereof, arranged with the strap, V, and warp beams, B, B', substantially as described for the purpose specified.

45,116.—Machine for making Rivets.—George B. Brayton, Providence, R. I., assignor to the Brayton Rivet Company :

First, I claim a machine, operating as described, so as to form a rivet by forcing the shank into the head, substantially as described.

Second, I claim the combination in one machine of the following elements, first, a mechanism for feeding the wire or rod to a cutter dividing it into shanks, and a mechanism for feeding the heads into the machine, as herein described; second, a pair of nippers or grippers seizing the shank and conveying it successively to the head blank and hammer and the header, as herein described; third, a plunger or hammer actuated to insert the shank into the head blank, and a header to force the shank home into the head against the heading die; fourth, a means for stripping the header of the finished rivet.

Third, I claim the employment of a pair of grippers which receive the shanks, one at a time, and whose motion is such as to present them first to the plunger or hammer for insertion of the shank into the head, then conveying them to the header and then release them, substantially as set forth.

Fourth, I claim the combination of the cutter severing the wire or rod as it is fed into the machine, with a gripping lever mounted upon the cutter stock, so that the two being actuated by suitable cams move together in their transitory movement though acting as grippers, substantially as before described.

Fifth, I claim the combination of feed rollers feeding the wire or rod during the intervals of action of the plunger and header, as described, with a cutter and gripping lever for action together, substantially as and for the purposes set forth.

Sixth, I claim the combination of a hopper for supplying the machine with rivet head blanks, with a carrier so arranged as to seize one head blank at a time, presenting it to the plunger in position for the insertion of the shank, as set forth.

Seventh, I claim the means herein described for regulating the stroke of the plunger within the header, according to the length of the shank and to compensate for wear, substantially as set forth.

Eighth, in combination with the hammer for setting the shank into the head of the rivet, I claim a means for adjusting the same according to the length of the shank, and to compensate for wear, substantially as set forth.

45,117.—Saw Gummer.—L. A. Dole (assignor to himself and Albert R. Silver), Salem, Ohio :

I claim the employment of metallic clamps, B, C, constructed to receive and hold the grindstone, and also to constitute a thin central plate for receiving the saw arbor and the collars thereon, substantially as described.

45,118.—Thill Attachment or Coupling.—C. W. Gage (assignor to himself and James Northrup), Homer, N. Y. :

I claim the combination of the jaws, b and d, constructed as described with the clip, C, for the purposes set forth.

45,119.—Clothes Pins.—Jeremiah Greenwood (assignor to himself and Wm. E. Arnold), Fitchburg, Mass. :

I claim the jaw, a, with its notch or recess, c, in combination with the wedge, e, operated by the rod, d, substantially as set forth.

45,120.—Grain Separator.—C. B. Hutchings (assignor to Maria Hutchings), Rochester, N. Y. :

I claim, first, in combination with the suction due, B, the sliding divider, J, whereby without affecting the indowing current the grain coming in contact with the current of air, is separated or graded so that the pump well filled grain, by reason of greater density, passes through the current, while the burken or poorer portion, with the refuse, is directed from its course by the current and turned into the receptacle, M, preparatory to screening and cleaning.

Second, The horizontal suction due, B, in combination with the double-headed fan, F, when the grain to be operated upon by the suction current is fed through it vertically or nearly so.

Third, The valve, d, in combination with two or more inducting pipes, B and C, and double-headed fan, F, when said fan is inclosed in a vacuum chamber, G.

Fourth, The employment of the wind board, K, for the purpose of concentrating and directing the current preparatory to its acting upon the falling grain, as set forth.

45,121.—Pin-fastening for Medals, Breast-pins, &c.—G. O. Monroe, New York City, assignor to the Army and Navy Button Co., Waterbury, Conn. :

I claim forming the pins of breast-pins, medals, &c., of a headed pin passed through a hole or socket, in the manner and for the purposes specified.

I also claim forming the clasp or catch of a tongue pressed up from the plate, b, in the manner set forth.

45,122.—Washing Machine.—Herman Rice (assignor to himself and Moritz Fleischman), Youngstown, Ohio. Ante-dated Oct. 30, 1864 :

First, I claim the combination of the hinged cover or lid, A, section A', and tub, A, with the interior box, B, adapted to be turned back with the section, A', for admitting of the insertion of clothes between the rubbers, C, and J, as set forth.

Second, I claim the combination, with the above parts I claim the guides, D, D, constructed and employed substantially as and for the purpose explained.

45,123.—Breach-loading Fire-arm.—Joseph Rider, Newark, Ohio, assignor to himself and E. Remington & Sons, Ilion, N. Y. :

I claim locking the hammer while the arm is being loaded or the bore is exposed for the insertion of the cartridge, substantially as and for the purpose set forth.

I also claim an auxiliary locking mechanism consisting of the recess, 1, in the breach plate, and the projection, 2, on the hammer, as and for the purpose described.

45,124.—Railroad Car Journal.—W. G. Smith (assignor to himself, John F. Barney, and Jacob A. Wilder), Chicago, Ill. :

I claim, first, The journal, I, when disconnected from the shaft of the wheel, substantially as and for the purposes set forth.

Second, Constructing a journal disconnected from the shaft varying in size, that is, having two or more different diameters, substantially as herein described.

Third, The combination and arrangement of the journal, I, the friction wheels, R and L, and the hollow hub, C, when constructed and operating substantially as specified.

Fourth, The combination and arrangement of the journal, I, the journal, D, the bent metallic strips, A, when constructed, arranged and operating substantially as herein delineated and set forth.

Fifth, The combination and arrangement of the journal, I, the washer, P, and the hollow hub, C, when arranged substantially as herein described.

45,125.—Grain Screen and Sieve.—H. B. Thomas (assignor to himself and S. S. Merrill), Chicago, Ill. :

I claim in the construction of sieves or screens, the employment of the bent metallic strips, A, when constructed, arranged and operating as and for the purposes herein shown and described.

45,126.—Breach-loading Fire-arms.—Edward S. Wright (assignor to himself and George Brown), New York City. Ante-dated Nov. 19, 1864 :

First, I claim the hammer, H, and center, h, arranged to confine and release the movable piece, C, and to operate in combination with C, as at the striking pin, I, substantially as described.

Second, I claim the within-described arrangement of the main spring, I, rear J, J, rear spring, K, and screw, L, for the purposes specified.

45,127.—Marine Propeller.—Richard Covington, Washington, D. C. :

First, I claim giving an oscillating motion to expanding and contracting paddle arms by means substantially as described.

Second, Reversing the action of expanding and contracting propellers by means of a rod and pendulum, F, acted upon by a fixed fork, H, or the equivalents thereof, substantially as described.

Third, The levers, D, D', with an oscillating frame, C, moving about a fixed center, d, substantially as described.

Fourth, The fixed guide, c, and stops, c', c', in combination with a pivoted frame, C, and devices for oscillating this frame, substantially as described.

Fifth, The paddle, J, J, J, substantially as and for the purpose described.

Sixth, The employment of expanding and contracting levers, D, D', D' D' and E, E', arranged on each side of and supported by a fixed or an oscillating frame, C, or the equivalent thereof, substantially as described.

Seventh, The arms, D, D', pivoted at different points on the paddle arm, E, substantially as and for the purposes set forth.

RE-ISSUES.

1,819.—Apparatus for Combining Hydro-carbon Vapor with Air.—Oliver P. Drake, Boston, Mass. Patented Aug. 30, 1853 :

I claim the vaporizing chamber and rotary blowing apparatus combined in the manner and for the purpose substantially as set forth.

I also claim the combination of the vaporizing chamber and rotary blowing apparatus under the general arrangement described with a weight, or its equivalent, acting with a uniform force, so that the pressure at the burner is uniform whether a greater or less quantity of the mixed air and vapor is burnt.

I also claim the combination of the vaporizing chamber with the mechanical agitator, or the purpose of agitating the liquid during the mixture of the vapor with air, substantially as set forth.

I also claim the combination of the heater and gas burner with the water vessel and vaporizing chamber, substantially as specified, so that by means of the said heater and gas burner and the pipes connecting them with the water vessel and the chamber, the whole or part of the mixture of air and benzole vapor produced by the apparatus may not only be used in any convenient place for the purpose of illumination, but also for heating the water of the vessel, substantially as set forth.

I also claim the combination of the closed vaporizing chambers, the rotary vaporizer or disseminator, placed therein, and the rotary meter wheel and its closed case, or an air-forcing apparatus so made as to force the air into the hollow shaft of the vaporizer and through or against saturated portions of the disseminator and into the vaporizing chamber or regenerator so as to vaporize the benzole or hydrocarbon and mix it with air, substantially as above specified.

And in combination with the rotating meter wheel and its case, and the hot water vessel, I claim the coiled induction air pipe, as made to pass through the water in the vessel and thereby receive heat therefrom so as to warm the air as it passes through the pipe and to supply oxygen to the volatilized vapors, and for the purpose of facilitating the evaporation of the same.

And in combination with the induction air pipe, I claim the chamber and its regulator slide and orifice applied for the purpose of supplying cold air to the warm air or to the meter wheel, in order to diminish or regulate the temperature of the air passing into the said wheel and forced into the vaporizing chamber.

I also claim the peculiar mode of making the rotary disseminator or vaporizer, viz, of two perforated heads or disks, a hollow perforated shaft, and strands of lamp-wicking or other absorbent material stretched from one head to the other, as specified.

1,820.—Barometer Inkstand.—Thomas S. Hudson, East Cambridge, Mass. Patented May 4, 1861 :

I claim the improved barometric inkstand, as made of the glass cistern, arm and neck, and the metallic case and collar, constructed, arranged and combined together substantially as set forth.

I also claim the combination and arrangement of the semi-dome or tunnel, C, or the same and a cover, D, with the ink cistern and its neck, and so as to operate therewith substantially as specified.

1,821.—Machine for making Knitting-needles.—Thomas Sands, Gilford, N. H. Patented June 23, 1863. Ante-dated June 10, 1863 :

I claim the burr or equivalent cutter for slabbing that part of the wire which is to form the barb or beak of the needle, in combination with the eye, which is to form the eye of the needle, and the means by the eye which has been formed, substantially as described, that the flattening of the wire by the burr, or equivalent cutter, may be in proper relation to the eye.

I also claim the combination, substantially as described, of the means for forming the eye, the means for slabbing that part of the wire which is to form the barb or beak of the needle, and the means for cutting off the wire, substantially as described.

I also claim the combination, substantially as described, of the means for straightening the wire, the means for forming the eye and holding the wire by the eye, the means for slabbing, and the means for cutting off the wire, substantially as and for the purpose specified.

I also claim the combination, substantially as described, of the bed or block on which the wire is supported, during the operation of slabbing, the burr or equivalent cutter for slabbing the wire, the means described, or the equivalent thereof, for causing the burr cutter to act upon the wire in the direction of its length, and a cam or equivalent pattern to determine the motions of the burr or equivalent cutter, towards and from the wire, to determine the form of slabbing.

1,822.—Fire-proof Filling for Safes.—Wm. H. Butler, Alfred A. Valentine, and Sarah A. Holmes, New

York City, administrators of the Estate of Richard G. Holmes, deceased, assignees of Richard G. Holmes, deceased, and Wm. H. Butler. Patented March 27, 1855 :

First, We claim a safe filling composed of broken or pulverized alum or equivalent crystalline material in a cold and dry state mingled with earthy matter, substantially in the proportions and for the purpose herein set forth.

Second, We claim the use of alum or equivalent crystalline material containing acid, in the filling of safes in combination with marble dust or an equivalent dry alkali, as a neutralizer or hardener, substantially as and for the purpose herein set forth.

Third, We claim, in connection with the above, as a new and useful improvement in fillings of safes or other fire-proof structures interpersing in the said filling a frame-work of solid substance, arranged substantially in the manner and for the purpose described.

DESIGNS.

1,998.—Ink-bottle.—Frederick Bailey, New York City.

1,998 to 2,003.—Carpet Patterns.—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass. Five Patents.

[In the list of claims published for the week ending Oct. 22d, Mr. George Penfield's planing machine for working tackle blocks, chair seats, etc., was erroneously styled "a pearling machine."

Also, in list of claims for week ending Nov. 1st, Mr. John G. Baker (44,915, turning lathes), it was printed "of New York City." It should have been—Philadelphia, Pa.]

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CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished. Upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter.

Messrs. MUNN & Co. :—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents, while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability, and uncompromising fidelity in performing your professional engagements. Very respectfully, your obedient servant,
J. HOLT.

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows :
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WM. D. BISHOP.

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