

ing an induction pipe projecting above its bottom, substantially as described, to relieve the induction valve from the weight of the debris, as set forth.

Sixth, The combination in a sand pump of an air chamber, and conducting pipe with a sand chamber, when so arranged that the induction pipe of the air chamber forms the induction pipe of the sand chamber.

Seventh, The combination in a sand pump of an air chamber, a valve, a conducting pipe, a sand chamber and a discharge pipe.

46,757.—Rock Drill.—Thomas J. Lovegrove (assignor to himself and Henry Baldwin, Jr.), Philadelphia, Pa.: I claim, first, A rock drill, having its cutting edges sloped with the center to the circumference, and with more cutting edges on one side than on the other, so that the stroke of the drill will tend to force the drill to one side, and thus make a hole larger than the drill, substantially in the manner described.

Second, A rock drill, having a chamber or concavity in its face, surrounded by polygonal cutting edges, substantially in the manner described for the purpose set forth.

Third, A rock drill, having one cutting edge on one side, three or more cutting edges on the other, substantially in the manner described, for the purpose of cutting both radial and transverse lines, as set forth.

Fourth, A rock drill, having a chamber on its face surrounded by cutting edges, substantially as described, and a channel leading therefrom to the head of the drill, for the purpose of cleaning away the chip at every stroke of the drill, and thus leaving a clear surface to operate upon.

Fifth, The combination of a perforated drill with a flexible hose or discharge pipe, substantially as and for the purpose set forth.

Sixth, The combination of a perforated drill, a valve and a flexible hose, substantially in the manner and for the purpose described.

64,768.—Machine for Cutting Keyseats.—J. C. Morgan (assignor to Wm. A. Nixon and J. S. Everhard), Alliance, Ohio:

I claim, first, Chucking the piece of work, while the key-seat is being cut to a forced mandrel, which may be fixed or movable, substantially as set forth.

Second, Providing the mandrel with a slot, substantially as described, so as to allow the saw to pass through it.

Third, The set screws or guides, a, a', applied in combination with the socket, C, mandrel, D, and saw, E, substantially as and for the purpose set forth.

Fourth, The knuckle, J, and shoe, K, applied in combination with the slide, N, feed screw, F, and saw, E, substantially as and for the purpose described.

[This invention consists in a machine provided with a mandrel, which may be fixed or movable, and on which the piece in which the keyseat is to be cut, can be chucked. This mandrel is slotted, so as to allow the saw to pass through it, and the saw is adjusted at the requisite angle for cutting by a guide or set screws, which hold the lower part of the same in position. The feeding arrangement is composed of a screw with a dog hinged to a knuckle in such a manner that the saw is thrown forward when cutting and allowed to drop back when not cutting.]

46,759.—Piano-forte.—S. T. Parmelee (assignor to Parmelee Piano Company), New Haven, Conn.:

I claim, first, The entire isolation of both the metallic frame and sounding, in the manner and for the purpose substantially as specified.

Second, Combining and uniting the sounding board with the frame, substantially as and for the purpose specified.

46,760.—Cranberry Gatherer.—Geo. Shove (assignor to himself and Chas. Thacher), Yarmouth, Mass.:

I claim the arrangement and combination of the lifting comb, B, in the manner substantially as described, with the receiver, A, provided with teeth, as explained.

I also claim the combination of the partition, h, with the toothed receiver, A, and the lifting comb, B, arranged and so as to operate together, substantially as described.

I also claim the arrangement of the handle of the lifting comb at an inclination as described, with the comb, when such comb is disposed with a toothed receiver, substantially in manner as set forth, the purpose of such arrangement being to cause the comb while being raised upward, to be tilted backward so as to discharge the berries into the space in rear of the partition of the receiver.

46,761.—Heel Polishing Machine.—James M. Thompson, Stoneham, Mass., and Seth D. Tripp, Lynn, Mass., Assignors to Seth D. Tripp, Lynn, Mass.:

We claim, first, The rocking plate, L, in combination with the supports of the rotating disk, J, substantially as above described.

Second, We claim the adjustable arm, M, and spring, N, in combination with the frame, K, which holds the rocking plate, substantially as above described.

Third, We also claim operating the disk, J, and its supports, I, H, by means of the treadle, C, and spring, D, substantially as described.

Fourth, We also claim cooling the polishing wheels of machines for polishing heels of boots and shoes by the application of a blast of air to the same, substantially as and for the purpose above described.

Fifth, We also claim the combination in machines for polishing the heels of boots of a grinding and a polishing wheel upon the same shaft, substantially as above described.

[This invention consists in various improvements in the devices for holding the work up to the polishing wheels; in providing two or more polishing wheels which slide upon their shaft and so are brought opposite to the holding devices, and in a method of cooling the polishing wheel during their operation.]

46,762.—Repeating Cannon.—Timothy Tufts, Somerville, Mass., assignor to J. H. W. Page, Boston, Mass.:

I claim the combination composed of machinery for imparting to the magazine its intermittent rotary motion—machinery for stopping the magazine when a charge chamber may be brought in line and in communication with the barrel—machinery for releasing at the proper time the stopping mechanism of the magazine, in order to enable the rotation of the magazine to be effected—machinery for elevating the hammer—machinery for holding the hammer at cock—machinery for discharging the hammer, and finally, machinery for advancing the priming ribbon, and operated by the reciprocating movements of a hand lever or brake, arranged and applied with respect to the stock, substantially as specified.

I also claim the application of the stock to the axle, and the carriage by a compound joint (as described) in combination with the vertical and horizontal screws and their blocks, the whole being substantially as and for the purpose specified.

And in combination with the barrel, the stock and the magazine, and the boxes of its journals, I claim a mechanism substantially as described, for moving the said boxes, so as to maintain the periphery of the magazine in its proper relation to the breech of the barrel.

46,763.—Machines for Planing Buttons.—John G. Valentine (assignor to himself and R. H. Isbell), Naugatuck, Conn.:

I claim, first, The use of a series of cutters, F, F, in a rotary head, E, to operate in combination with a clamp, G, secured to a reciprocating slide, H, in the manner and for the purpose substantially as herein set forth.

Second, The springs, f, studs, g, and abutment, h, applied in combination with the movable jaw of the clamp and with the reciprocating slide, H, substantially as and for the purpose described.

[This invention relates to a machine for making square or polygonal buttons of bone, ivory, india-rubber, or other suitable materials, and said machine is composed of a revolving cutter head, carrying a series of cutters calculated to shape the face or back of the button and its edges, and operating in combination with a sliding clamp in which the button is fastened in such a manner that by passing said sliding clamp with the button through under the cutter head its face or back and two of its edges are brought to the proper shape, and a large number of buttons can be made with little trouble or loss of time.]

46,764.—Submerged Pump.—J. H. Williamson (assignor to himself and Levi Boemer), Branchville, N. J.:

I claim the tubular post or standard, A, with the two pump cylinders, B, B, permanently attached with valves, b, at their upper parts, in connection with the reciprocating yokes, C, D, provided with the tubular pistons, E, F, having valves, f, at their upper ends, all arranged to operate in the manner substantially as and for the purpose herein set forth.

[This invention relates to a new and improved double-acting pump, and it consists in a novel arrangement of parts, hereinafter shown and described, whereby a very simple and economical pump is obtained, and one which may be kept in repair or proper working order by any one of ordinary ability.]

RE-ISSUES.

1,898.—Machine for Making Paper and Paper Boards.—John F. Jones, Rochester, N. Y. Patented Oct. 13, 1863:

First, I claim forming paper or paper board of any thickness, in a continuous sheet, by adding to the web a succession of any number of layers of pulp, each succeeding layer being added and pressed to the preceding one in the aggregate or compound web, before leaving its felt, and the compound web being subjected to pressure, after each addition of a layer of pulp, substantially as and for the purposes herein specified.

Second, I also claim forming paper board of a continuous or indefinite length, by means of any required number of separate paper-making machines, arranged as a whole or as a combined machine, in such a manner that each separate machine successively deposits a layer or web of its own to form the aggregate layers of the board in the act of formation, or passing through the combined machine, substantially as herein set forth.

Third, The combination of a system of cylinder molds, as herein above specified, and a continuous series of drying cylinders and calendering rolls, in such a manner that the manufacture either of boards of any thickness or of several webs of paper may be carried on by a single continuous process, substantially as herein described.

Fourth, The arrangement of the several spouts, G, E, J, pipes, c, m and j, valve, l, and self-acting feed, e, d, in combination with each other and with the several vats, substantially as and for the purpose herein specified.

Fifth, The overall, composed of a vat, a cylinder mold, a concher and a scraper, combined and applied in connection with one or more paper-making machines, substantially as herein specified.

Sixth, The combination of press rolls, illustrated by M7 M7 M7, in Fig. 1, to obtain two pressures from three rolls, as herein described.

Seventh, The employment of calender rolls on the top of drying cylinders, substantially as herein described, to equalize the water in the board and make it of uniform dryness as it passes over the dryers, and partially effect the glazing and calendering process while the board is being dried.

Eighth, The cutting apparatus, X Z, operated by the means and in the manner herein set forth.

Ninth, The lay box, Z, constructed and operating in the manner and by the means herein described.

1,899.—Straw Cutter.—H. K. Parsons (assignee by mesne assignments of Jacob H. Mumma), Harrisburg, Pa. Patented Jan. 26, 1859. Re-issued Sept. 6, 1859. Again March 29, 1864:

First, I claim broadly a knife for use in straw cutters so constructed that its cutting edge shall be on a line with its outer surface, instead of its inner surface—said edge being formed by beveling or grinding the knife from its inner instead of its outer side, and this I claim whether the whole or a portion only of the body of said knife shall form the arc of a circle coincident with the axis around which it revolves in the operation of cutting.

Second, I claim a knife constructed as above described, and having two under beveled cutting edges—one at its front and the other at its rear edge.

Third, I claim so constructing a knife for straw cutters, whether single or double edged, that its cutting edge shall continue to revolve in the same circle when partially worn or ground away as when new, and thus avoid the necessity of adjusting either the knives, the cylinder, or the cutting box, as herein set forth.

Fourth, I claim the reversible feed gear, in combination with double-edged knives, when arranged to operate as herein set forth.

Fifth, I claim the combination of the rubber springs, e, with the feed rollers, H H', when arranged and operating as herein set forth.

Sixth, I claim operating the roller, I, by means of the tappets, g, as and for the purpose set forth.

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