

W. BARTHOLOMEW.
MACHINE FOR MAKING SCOOP WASHING CYLINDERS.
APPLICATION FILED JUNE 19, 1911.

1,038,714.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

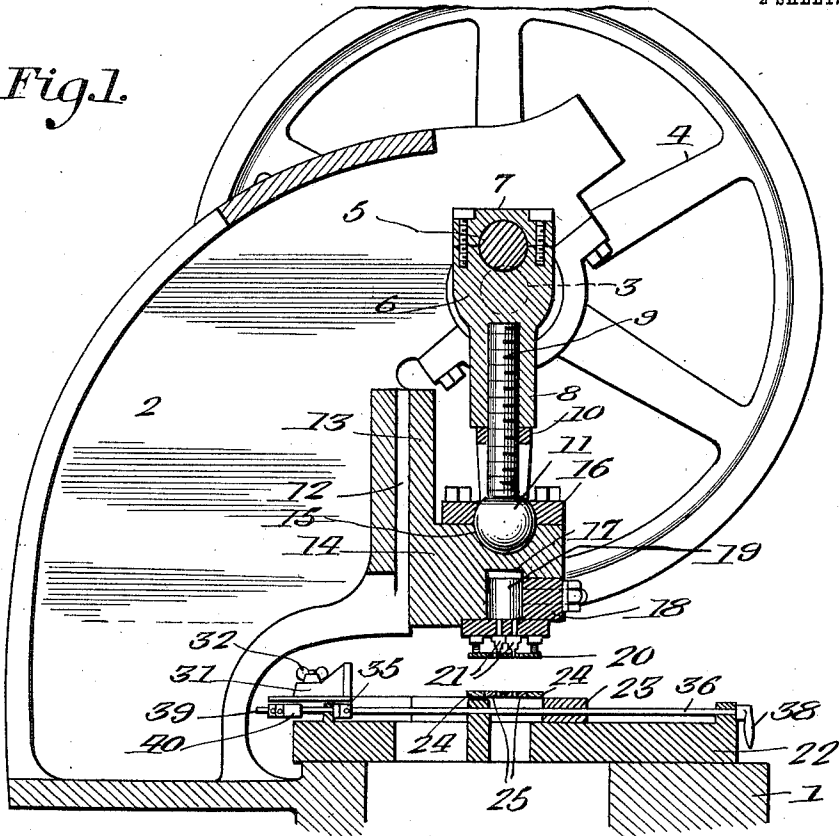
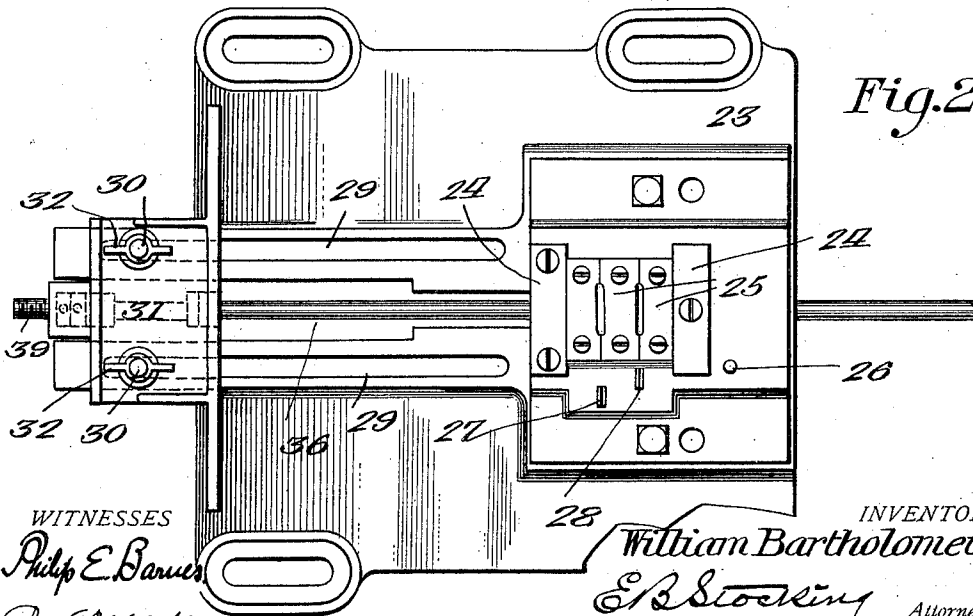


Fig. 2.



WITNESSES
Philip E. Barnes
Geo. Wright

INVENTOR
William Bartholomew
E. B. Stocking Attorney

W. BARTHOLOMEW.
MACHINE FOR MAKING SCOOP WASHING CYLINDERS.
APPLICATION FILED JUNE 19, 1911.

1,038,714.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 2.

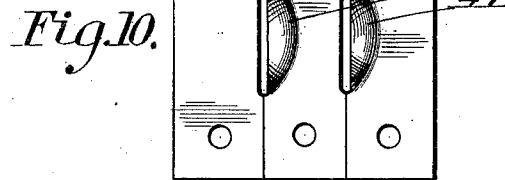
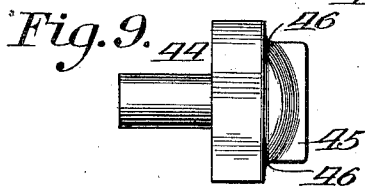
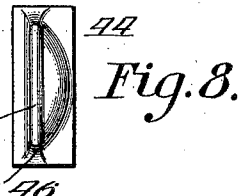
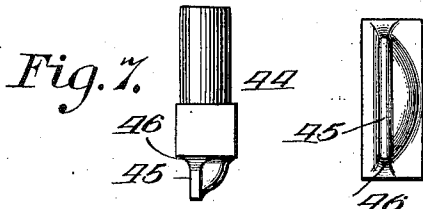
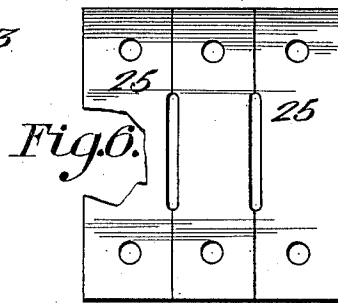
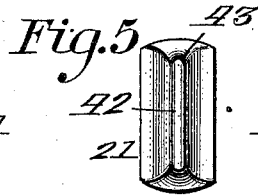
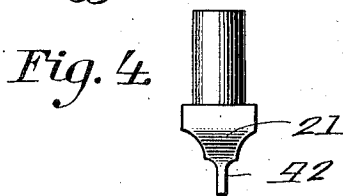
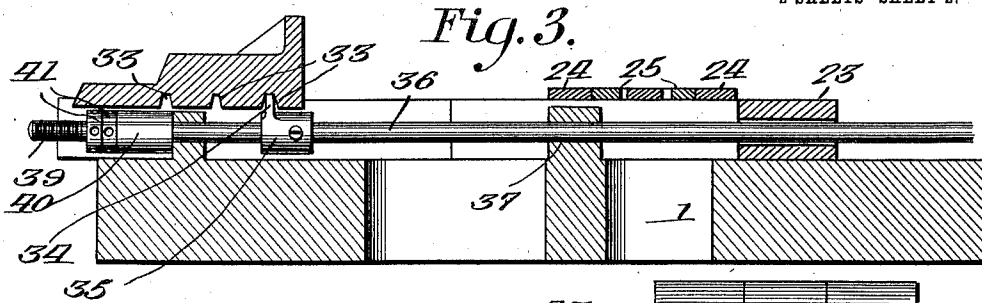


Fig. 11.

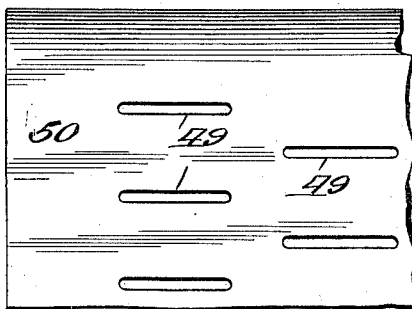
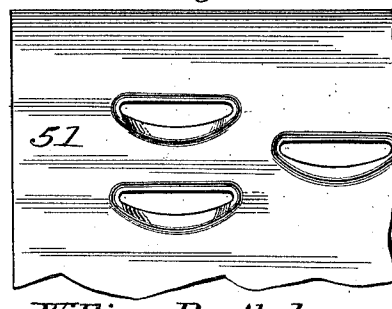


Fig. 12.



WITNESSES

Philip E. Barnes
John P. Wright

Fig. 13. William Bartholomew
INVENTOR

60 47 *E. R. Stocking*
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM BARTHOLOMEW, OF CHICAGO, ILLINOIS, ASSIGNOR TO TROY LAUNDRY MACHINERY COMPANY, LIMITED, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

MACHINE FOR MAKING SCOOP WASHING-CYLINDERS.

1,038,714.

Specification of Letters Patent.

Patented Sept. 17, 1912.

Application filed June 19, 1911. Serial No. 633,967.

To all whom it may concern:

Be it known that I, WILLIAM BARTHOLOMEW, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Machines for Making Scoop Washing-Cylinders, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to certain new and useful improvements in machines for punching plates used in the manufacturing of scoop washing cylinders as disclosed in my application for patent filed September 12, 1910, Serial No. 581,528, the object being to provide machines by means of which a plate can be first slotted in a staggered manner and then embossed in order to form a plurality of crescent shaped buckets merging into intermediate rubbing ribs, the edges of the buckets being formed on curved lines.

Another object of the invention is to provide novel means for positioning the plate to be slotted for the initial slot together with gages for holding and adjusting the plate in its proper position as the same is moved under the slotting dies whereby a series of equally spaced staggered arranged slots will be formed.

30 A further object of the invention is to provide embossing dies which are provided with pilots for guiding the dies into the slots previously formed whereby the same will be forced into the shape of the embossing die as shown, which, in turn, forms crescent shaped buckets and intermediate convex rubbing ribs.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined in the appended claims.

In the drawings—Figure 1 is a vertical section through the upper portion of the machine; Fig. 2 is a top plan view; Fig. 3 is a detail enlarged vertical section showing the manner of adjusting the gage; Fig. 4 is an end view of one of the male slotting dies; Fig. 5 is a plan view of the same; Fig. 6 is a plan view of the female slotting dies; Fig. 7 is an end view of one of the male embossing dies; Fig. 8 is a plan view of the same; Fig. 9 is a side elevation of the embossing die; Fig. 10 is a top plan view of the female embossing die; Fig. 11 is a plan view of a portion of a plate after the

slots have been formed therein; Fig. 12 is a plan view of a portion of a plate after the same has been embossed to form buckets; and Fig. 13 is a detail section through the complete plate showing the shape of the buckets and rubbing ribs.

Like numerals of reference refer to like parts in the several figures of the drawings.

In the drawings, 1 indicates the base of the machine which may be of any size and shape desired having an upwardly projecting gooseneck 2 in which is mounted a drive shaft 3 provided with the usual fly wheel 4 and having a crank portion 5 on which is mounted a connection head 6 which is secured in position thereon by the usual cap plate 7 and is provided with an internally threaded neck 8 in which is threaded a pitman rod 9 which is locked in its adjusted position by a nut 10 and is provided at its lower end with a ball 11 for forming a universal connection with the plunger as will be later described.

The gooseneck 2 is provided with a vertical guideway 12 in which is slidably mounted a plunger 13 having an enlarged laterally projecting portion 14 formed with a semi-spherical socket 15 to receive the ball 11, said ball being locked in position by a cap plate 16 having an opening with walls conforming to the curvature of the ball in order to allow the same to move freely therein as the pitman is oscillated by the crank of the drive shaft. The projection 14 of the plunger 13 is provided with a socket 17 to receive the stem 19 of a die holder 18 which is locked therein by suitable cranking members. The die holder 18 carries a spring-pressed stripper 20 having openings to receive the dies 21 mounted within the die holder as clearly shown and the construction of these dies will be later described.

Mounted upon the base 1 is a top 22 provided with a detachable bed 23 having die clamping members 24 for securing the female dies 25 in position therein and said bed is provided with a positioning pin 26 for placing the plate to receive its initial slot and with detachable gages 27 and 28 for holding the plate to be punched and positioning the same in order to form the slots in a staggered manner. The top 22 is provided with parallel guideways 29 in which are mounted bolts 30 carried by and secured

in position upon a gage 31 by wing nuts 32, said gage being provided with a series of transverse recesses 33 forming sockets to receive a locking dog 34 carried by a sleeve 35 mounted upon an operating rod 36 which is mounted to reciprocate in bearings 37 and is provided with a handle 38 at its outer end for reciprocating and oscillating the same in order to engage the gage or disengage the same in order to adjust the gage. The other end of the rod 36 is threaded as shown at 39 and has a sleeve 40 mounted thereon and held in position by adjusting nuts 41 in order to allow the position of the sleeve to be changed. The sleeve is adapted to engage the rear bearing 37 in order to limit the outward movement of the rod 36 and by oscillating the rod so as to disengage the same from the gage and forcing the same inwardly, the dog will be thrown into the next socket 33 and then by drawing outwardly the gage will be advanced, its movement being limited by the sleeve 40, it, of course, being understood that this gage is especially constructed to operate upon plates of the standard size used in manufacturing washing cylinders.

The slotting dies 21 are provided with elongated cutting portions 42 having rounded end portions 43 conforming in shape to the female dies 25 which, as shown, are formed in three sections, the abutting edges being cut away opposite each other to form a complete die when assembled; and in use I preferably employ a pair of these dies in order to form two slots at once, but it is of course understood that any reasonable number of dies may be employed without departing from the spirit of the invention.

The embossing dies 44 are formed of any desired configuration to give the buckets the desired shape and are herein shown formed with a central pilot 45 having rounding ends conforming in shape to the slotting die. On one side, the edges are curved outwardly as shown at 46 and upon the opposite side a crescent shaped boss is formed having a convex face which is adapted to register with the crescent shaped socket 47 formed in the female dies 48 and to press the edge portion of the plate into the concaved female die. Just before the die reaches the end of its stroke, the curved portion of the same acts upon the opposite edge and ends of the opening of the slot and forms a flange. The female dies, as shown, are formed in sections similar to the dies used for slotting and like the slotting dies are provided with elongated openings to receive the pilot 45 in order to position the male die within the female die. In use, a pair of these embossing dies are employed which will punch and emboss the previously slotted plate outwardly to form buckets having outwardly flanged and rounded edges, the embossing

dies at the same time forming convex rubbing ribs 60 between the successive openings.

In the operation of my invention, a plate of the desired shape is placed upon the bed and held by the positioning pin so that when the dies are brought into engagement with the same, parallel slots 49 will be formed in the plate 50. The positioning pin 26 is then removed and the spacing gage 27 forced into one of the slots already punched and the operation repeated across the length of the plate, the gage 27 being so set that the distance between the slots is absolutely retained. The sheet is then turned so that the other end will be the start of the next row in order to obtain the alternate slotting. The gage 27 is removed and the gage 28 employed and the operation repeated, it of course being understood that two double rows are formed. In order to punch the third double row, the sheet is placed in the initial position and the back gage 31 is moved forward by turning the handle and drawing the rod outwardly until the sleeve 40 engages the stop. The wing nuts 32 are then tightened so as to lock the same in their adjusted position and the punching continued across the plate. This operation is repeated until the desired number of staggered arranged rows of slots has been formed. Any suitable power for driving the drive shaft may be employed in order to reciprocate the plunger so as to force the dies through the plate. The plate is now in condition to be embossed and by removing the slotting dies and inserting the embossing dies, the plate is acted upon in a similar manner to the slotting process which will form staggered arranged rows of crescent shaped buckets having intermediate convex rubbing ribs, the buckets of one series being disposed opposite the buckets of the other series, the embossing dies forming flanges around the opposite edges of the openings, as clearly shown by the plate 51 in Fig. 12.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is—

1. A machine for forming buckets in plates, comprising a bed having die clamping means, detachable gages mounted on said bed, an adjustable gage for advancing the plate to be operated upon, and a reciprocating plunger carrying a die holder.

2. A machine for forming buckets in plates comprising a stationary die clamping means and a movable die clamping means, coöperating male and female dies mounted in said clamping means, a stripper coöperating with the male dies, and means for positioning and adjusting a plate in respect to said dies.

3. A machine for forming buckets in plates comprising a bed having die clamp-

ing means, a plunger provided with die clamping means, means for initially positioning a plate upon said bed, and a back gage for advancing the plate as the same is acted upon by the dies.

4. A machine for forming buckets in plates comprising a bed, a plunger, cooperating dies carried respectively by said bed and plunger, detachable gages carried by the bed, a slidably mounted back gage, means for imparting a step-like movement to said back gage, and means for locking the same in its adjusted position.

5. A machine for forming buckets in plates having cooperating dies, means for positioning the plate in respect to the dies, detachable gages for holding said plate in

different positions in respect to the dies, and a back gage for advancing the plate.

6. A machine for forming buckets in plates having a slidably mounted back gage provided with a series of transverse recesses, an operating rod carrying a dog cooperating with said recesses, means mounted upon said rod for limiting the movement of said dog, and means for locking said back gage in its adjusted position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM BARTHOLOMEW.

Witnesses:

J. HOERMANN,
WM. KROGMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."