

No. 884,008.

PATENTED APR. 7, 1908.

P. BOSTON.

DEVICE FOR FEEDING TINNING MACHINES.

APPLICATION FILED APR. 22, 1907.

3 SHEETS—SHEET 1.

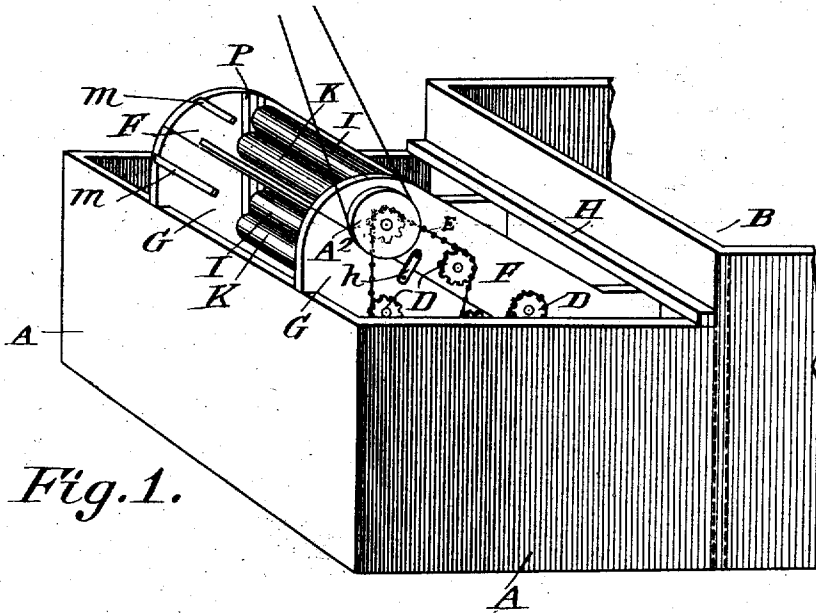


Fig. 1.

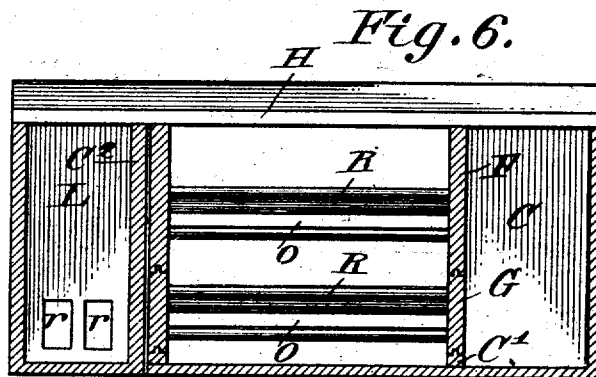


Fig. 6.

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3 SHEETS—SHEET 2.

Fig. 4.

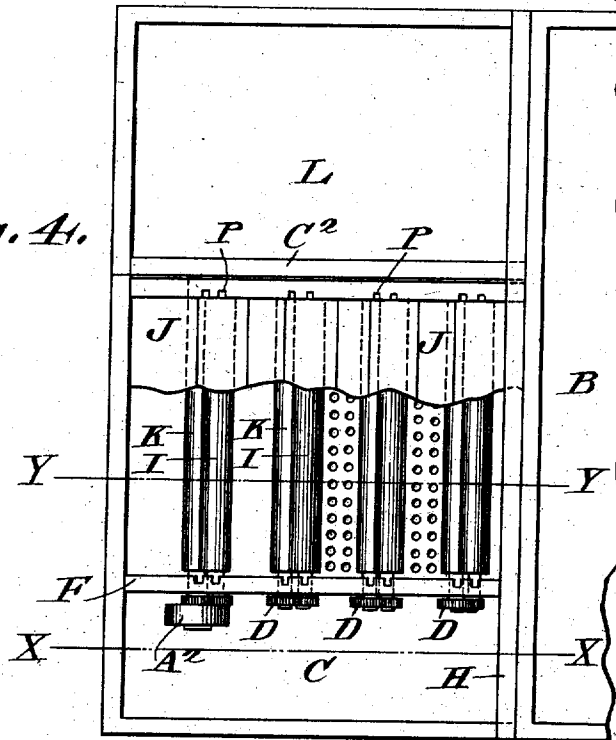
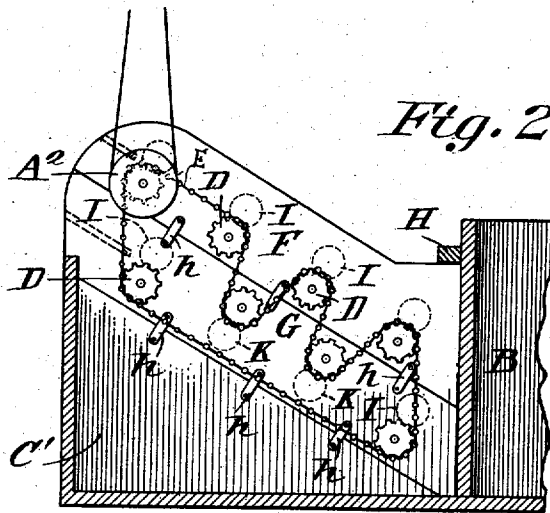


Fig. 2.



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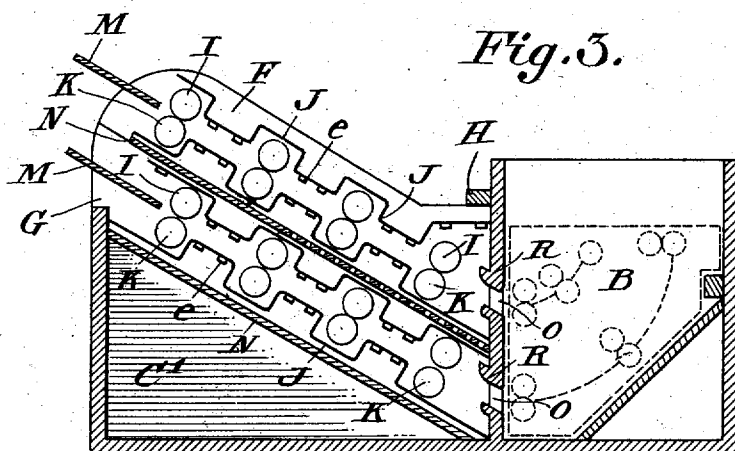
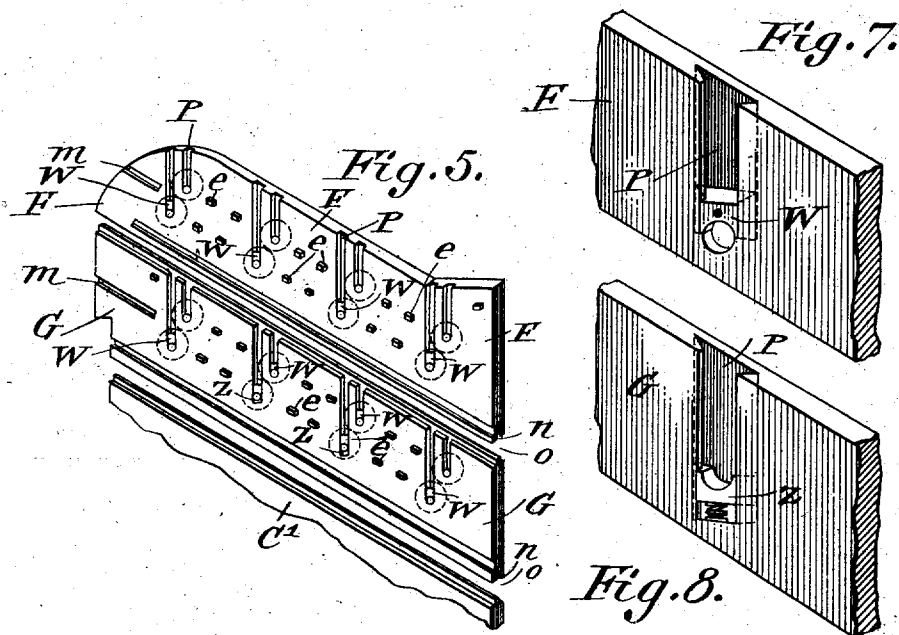
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3 SHEETS—SHEET 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

PAUL BOSTON, OF NEW CASTLE, PENNSYLVANIA.

DEVICE FOR FEEDING TINNING-MACHINES.

No. 884,008.

Specification of Letters Patent.

Patented April 7, 1908

Application filed April 22, 1907. Serial No. 369,651.

To all whom it may concern:

Be it known that I, PAUL BOSTON, a citizen of the United States, residing at New Castle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Feeding Tinning-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a device for feeding plates into tinning machines by means of rolls operated by a chain-belt on sprocket wheels by which the plates are carried into the tinning vat. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective exterior view of the device. Fig. 2 is a vertical cross-section view on the dotted line, X—X of Fig. 4. Fig. 3 is a vertical cross-section view on the dotted line Y—Y, of Fig. 4. Fig. 4 is a top view. Fig. 5 is a vertical perspective inside view of the cases in which the rolls are inclosed and operate. Fig. 6 is a vertical view of the division wall between the device and the tinning vat. Figs. 7 and 8 are enlarged perspective views of the dove-tailed slots in which the axles of the rolls revolve.

Similar letters refer to similar parts throughout the several views.

The box A is the outer metal frame of the device, solidly connected with the tinning vat B; the whole being cast in one piece. The dry-box C is formed by the wall of A, and the triangular partition wall C¹, and the sides of the roll-cases F and G. This dry-box C is constructed so as to exclude from the gearing all fluxing fluid, smelted tin, oil, or other fluid substances. The sprocket-wheels D D are attached to the axles of the rolls I and K, as shown in Fig. 2, and on which the chain-belt E operates. The rolls I and K are situated transversely in the roll cases F and G, the upper rolls I resting down upon K K. These roll-cases are entirely separate; the case F resting on the top of G, and braced in place by the cross-bar H. The bottom of the case G is solid while that of case F, (N) is perforated, the two cases being intended to serve as a flux box. The in-

terior of these roll-cases are provided with aprons J J, extending transversely between each pair of rolls, and supported in place by the blocks L L on the interior sides of the cases; these aprons are intended to act as guides for the plates as they pass from one set of rolls to another until they are carried through the slots O O to rolls in the tinning vat B. The lower edge of the right sides of the roll-cases are grooved, n n of Fig. 5, and the upper edge of C¹, and the roll-case G have tongues, e e so that the edges respectively, when placed contiguous fit closely. These roll-cases are further secured by the clamps h h. These clamps are only necessary on the sides of the roll-cases adjacent to the dry-box C, the opposite sides being protected by the partition C². The partition C², and the framework A A, form the smelting box L, from which the smelted tin can freely flow into the tinning vat B, through the openings r r. The front, or upper ends of the roll-cases are furnished with feeding tables M M, the sides of which rest in the grooves m m. The axles of the rolls I I, and K K rest, and revolve in the vertical dove-tailed grooves P P. Only those axles extend through the sides of the roll cases that have sprocket wheels. These sprocket wheeled axles are secured in the grooves P P by wedges w w dropped into the grooves and held in place by a screw passing through the wedge and impinging on the inner side of the groove. The lower ends of these wedges are concave so as to fit over the axle. The two center axles of the roll in the roll-case G, have underneath them, inserted in the grooves P P, a spiral spring and block z, to hold the rolls in contact with their corresponding upper rolls.

Extending the length of the openings O O, are guides R R. These guides are convex on their under sides, and are intended to direct the plates as they come from the rolls through the openings O O, into the tinning rolls in the tinning vat.

The power to operate the device is supplied by means of a belt from a power shaft passing upon the wheel A².

In setting the device, the box A is inclosed to the upper edge or rim by the walls of the heating furnace underneath, the bottom of the tin vat, smelting pot and fluxing pot being exposed to the flame in the furnace. In operation, the operator places the plates to be tinned on the tables M M, alternately, using the inner sides of the roll-cases as a

base for directing the plates squarely into the rolls, then shoving them forward on the tables until gripped by the first, or upper pair of rolls in each of the roll-cases and
 5 thence through each succeeding pair, and the openings O O into the tinning vat and the tinning rolls.

I make no claim specifically for the tin vat B and the tinning rolls therein; the openings
 10 O O into the tinning vat; the smelting pot L, nor for the sprocket wheels D D and chain E, used for operating the device; but

What I do claim, as distinctively new, is:

The cast metal box A in combination with
 15 the roll-cases F and G centrally located therein, and the dry box C; the said roll-case F being immediately over, and attached to roll-case G by the clamps h h, the tongue and groove n and o, and braced by the cross-bar
 20 projection H on the exterior wall of the tinning vat B; the bottom of F being perforated and that of G solid throughout, forming a suitable fluxing box; each of said roll-cases so situated having a feeding table M M at the
 25 upper and outer ends thereof adjusted and supported in grooves in the opposite sides thereof to facilitate the feeding of plates to be tinned, and each being provided with four sets of rolls placed transversely within them,
 30 the axles of said rolls resting in the dove-tailed vertical grooves P P, in the side walls of said cases, said axles in roll-case F and the

front and rear axles in roll-case G being held in said grooves by wedges w w, the axles of the two center rolls K K in the roll-case G
 35 supported from beneath by the blocks and spiral springs z z inserted in the base of said grooves; said rolls being operated, by means of sprocket wheels on the ends of the axles of rolls I I of roll-case F and of the two end rolls
 40 of roll-case G K K which are propelled by the chain E located in the dry box C, and protected thereby from smelted tin, fluxing fluid, or other foreign obstructing substances; the space between each set of rolls in said roll-
 45 cases being narrowed or contracted by the aprons j j extending from side to side of the cases and supported in place by the blocks l l on the inner sides thereof, the intervening spaces between said aprons forming guides
 50 for directing the plates from one set of rolls to the next, and preventing their curling in the roll-cases; the said several parts, in combination, forming a device for the rapid and continuous feeding of plate, by mechanical
 55 means into machines for tinning the same as substantially set forth.

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

PAUL BOSTON.

Witnesses:

THOMAS W. FELS,
 HOMER C. DRAKE.