

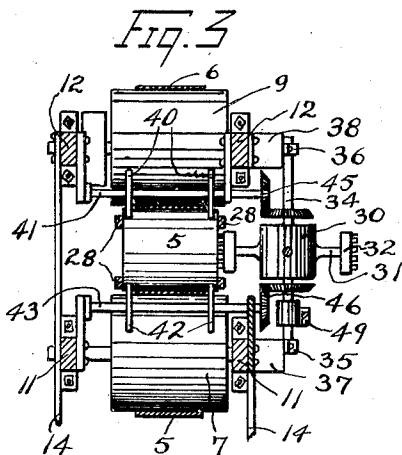
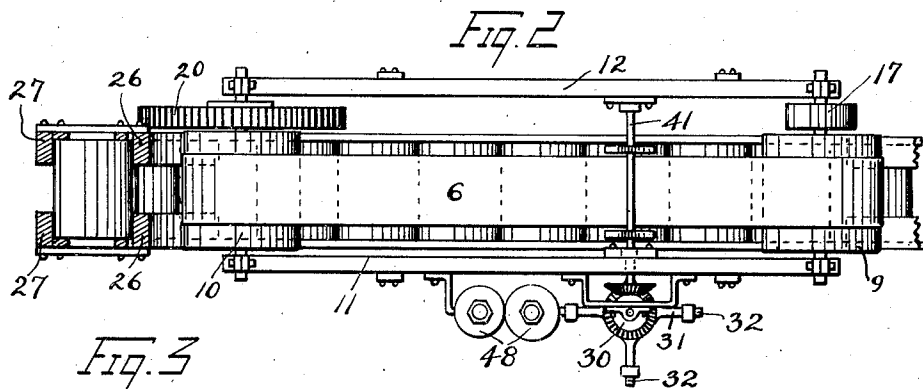
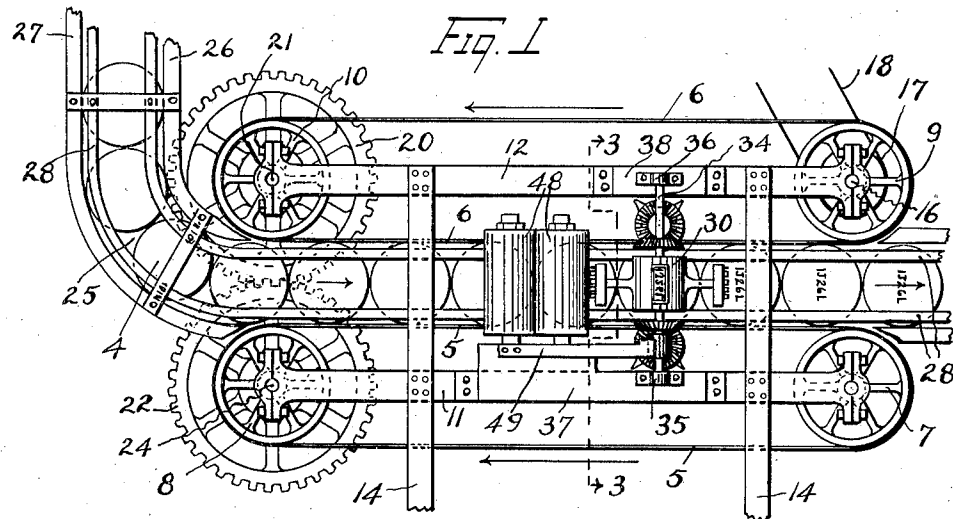
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W. E. MITTON

MACHINE FOR STAMPING CANS

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MACHINE FOR STAMPING CANS.

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To all whom it may concern:

Be it known that I, WILLIAM E. MITTON, a citizen of the United States, residing in New London, in the county of Waupaca, in the State of Wisconsin, have invented certain new and useful Improvements in Machines for Stamping Cans, of which the following is a specification.

The invention relates to an improvement in machines for stamping cans, and more particularly to an improvement in machines for stamping the ends or heads of cylindrical cans.

The object of the invention is to improve upon the construction and operation of machines of this character in order that the stamping or marking of the cans or other articles or objects upon which the machine operates may be performed faster and in a more efficient manner than is possible with stamping machines as heretofore constructed. To the accomplishment of this object the invention consists in the provision of means for causing the cans to travel forward without rotation so that the stamp or print may be accurately impressed at the same place on each succeeding can. The stamping device is so arranged as to be actuated by the moving cans and thus the speed of operation of the stamping device is controlled entirely by the rate at which the cans are caused to pass through the stamping machine. The invention is more fully described hereinafter and is particularly pointed out in the appended claims.

In the accompanying drawings illustrating the preferred form of the invention, Fig. 1 is a side elevation of so much of the improved can stamping machine as is necessary to illustrate the invention; Fig. 2 is a top plan of the parts shown in the Fig. 1; and Fig. 3 is a section taken along the line 3—3 of Fig. 1, looking in the direction of the arrows.

The improved stamping machine comprises a conveyor for carrying forward in succession the series of articles or objects to be stamped, means for actuating the conveyor, means for stamping or printing the objects, means for supplying fresh ink, paint or the like to the stamping means and means engaged and moved by the traveling objects for actuating the stamping device, so that it is brought into contact with each object successively. In the form of the invention

illustrated in the drawings the improved machine is shown as operating upon a series of cylindrical cans. It will be understood that the invention is not to be restricted to this purpose, but that it may be employed in operating upon objects of various shapes, cylindrical cans being chosen to show the principle of the invention.

The cylindrical cans 4 are carried forward to receive the print, stamp or other impression by means of a conveyor consisting of a lower belt 5 upon which the cans rest and an upper belt 6 which presses against the upper sides of the cans. The lower conveyor belt 5 is supported at its ends by the pulleys 7 and 8; the upper conveyor belt 6 is supported on the pulleys 9 and 10. The pulleys 7 and 8 are journaled in the opposite ends of the longitudinal bars 11 and the pulleys 9 and 10 are journaled in the opposite ends of the longitudinal bars 12. The longitudinal bars 11 and 12 are supported from the uprights 14 which rise from the base of the machine (not shown in the drawings). The cans are carried forward without rotation in order that they may be accurately and clearly stamped. For this purpose the upper or can contacting surface of the lower conveyor belt 5 and the lower or can contacting surface of the upper conveyor belt 6 travel in the same direction (indicated by the small arrows on the cans), and at the same rate of speed. The power for driving the conveyor belts may be derived from any convenient source; and as shown, the shaft 16 upon which the pulley is mounted is provided with a driving pulley 17 about which passes the belt 18. Power is transmitted to the lower conveyor belt by means of the upper gear 20 mounted on the shaft 21 upon which the pulley 10 is mounted. The gear 20 meshes with a gear 22 of equal size mounted on the shaft 24 upon which the pulley 8 is mounted.

The cans are fed into position to be engaged by and carried forward by the conveyor belts from a chute or hopper designated generally at 25, which consists of the front and rear guides 26 and 27 and the side guide rails 28. The guides 26 and 27 curve laterally at their lower ends to guide the descending cans into position to be caught and carried forward by the conveyor belts. The side guides 28 align the cans and keep them in proper position to be stamped. For

this purpose the guides 28 are carried forward from the lower end of the chute and extend to the discharge end of the machine, shown at the right of Figs. 1 and 2.

5 The stamping device for stamping, printing or otherwise impressing the cans consists of a hub 30 having a plurality of oppositely and radially disposed arms 31 carrying on their outer ends the stamps 32
10 which are adapted to be brought into contact successively with the heads or ends of the cans as they pass by the stamping device. In the form of the invention shown in the drawings the stamping device is arranged to stamp only one end of the cans.
15 This end may be termed the head of the cans. It will be understood that the stamping device is equally well adapted for stamping the cylindrical sides of the cans; and
20 that by simply duplicating the parts both ends, that is, both the head and bottom of the cans may be stamped simultaneously.

The hub 30 is mounted on a vertically arranged shaft 34 journaled in the lower
25 bearing 35 and in the upper bearing 36. The bearing 35 is mounted on a bracket 37 secured to one of the bars 11, and the bearing 36 is mounted on a bracket 38 secured to one of the bars 12. The arrangement is
30 such that one of the stamps 32 is brought into contact with the head of the can opposite the hub 30. As the stamped can is carried forward by the conveyors the stamp which has just been in operation is moved
35 out of operative position and the next succeeding stamp is brought into contact with the next succeeding can. The parts for effecting this mode of operation comprise a pair of upper star wheels 40 mounted on the
40 horizontal shaft 41 and a pair of lower star wheels 42 mounted on the horizontal shaft 43. The shafts 41 and 43 are journaled in brackets secured to the bars 11 and 12, as clearly shown in Fig. 3. The star wheels
45 are so located as to be engaged and turned by the sides of the cylindrical cans. There are as many arms on each wheel as there are arms on the stamping device. In the illustrated embodiment of the invention, the
50 stamping device is provided with four arms and stamps and consequently the star wheels are provided with four arms, so that as each can passes the star wheels they and the hub 30 are turned through a quarter revolution.
55 The rotation of the star wheels is communicated to the hub 30 by means of the miter gears 45 and 46. The stamps 32 may be provided with ink or other marking substance from a pair of inking rolls 48 supported from the bar 49 secured to the bracket 37.
60

The axis of the vertical shaft 34 upon which the hub of the stamping device is mounted is in the vertical plane which passes through the axes of the shafts upon

which the star wheels are mounted. Consequently when the axis of a can is in alignment with the axes of the shafts upon which the star wheels are mounted, and one of the two pairs of oppositely disposed stamp
70 bearing arms 31 are alined with the axis of the can, one of the stamps will be in contact with the center of the head of the can. Incidentally it will be observed that when the axis of a can lies between the axes of the
75 shafts of the star wheels the arms of the star wheels then in contact with the top and bottom sides of the can form equal angles with the plane passing through the axes. Thus as the cans are carried forward, the
80 stamps are successively brought into contact with the center of the head of the cans. By reason of the arrangement of the star wheels and the stamping device it is seen that regardless of the rate of speed at which
85 the cans are conveyed through the stamping machine, the head of each can is accurately and properly stamped. If it is desired to stamp the head of the can otherwise the parts will be shifted accordingly.
90

Having thus described the invention, what I claim as new is:—

1. A stamping machine for stamping a series of cylindrical objects comprising, a
95 plurality of conveyor belts moving synchronously in the same direction for carrying forward the series of cylindrical objects which are positioned transversely across and between the belts, means for actuating the conveyor belts, and a stamping device
100 consisting of a rotatable member mounted to turn on a vertical axis and having a plurality of radially extending arms, and star wheels operatively connected with the rotatable member and positioned in the line
105 of the traveling objects to be engaged and moved thereby to turn the rotatable member to bring one of the arms in contact with the object engaging the star wheels.

2. A stamping machine for stamping a
110 series of cylindrical objects comprising, two horizontally disposed conveyor belts moved synchronously in the same direction for carrying between them the series of objects placed transversely across the belts, means
115 for driving the belts, and a rotatable stamping member mounted to turn on a vertical axis, and carrying a plurality of vertically disposed stamps, horizontally disposed shafts located adjacent the line of cans and transversely thereof, the said shafts being connected with the rotatable member by miter
120 gears, a pair of star wheels mounted on each horizontal shaft and arranged to straddle the belts contacting the side surfaces of the cans, the arms of the star wheels projecting into the path of travel of the cans to be turned thereby to actuate the rotatable member to bring a stamp in contact with the
125 end of the object engaging the star wheels.
130

3. A stamping machine for stamping the ends of a series of cylindrical cans comprising, a conveyor consisting of an upper and a lower belt traveling in the same direction and at the same rate of speed for carrying without rotation the cans placed transversely between them, means for driving the belts, a stamping device consisting of a hub mounted on a vertically arranged shaft, said hub having a plurality of radially extending arms, each of which carries a stamp on its outer end, two horizontal shafts one of which is positioned above the cans and the other of which is positioned below the cans, star wheels mounted on the upper shaft for engagement with the upper sides of the cans, star wheels mounted on the lower shaft for engagement with the lower sides of the cans, each star wheel having the same number of arms as there are stamps, and gear connections between the shafts on which the star wheels are mounted and the shaft on which the stamping device is mounted, the arrangement being such that when the cans move into engagement with the star wheels and turn them the stamps are brought into contact with the center of the heads of the cans successively.

4. A stamping machine for stamping a series of cylindrical objects comprising a pair of spaced conveyor belts moving synchronously in the same direction for carrying forward the series of cylindrical objects which are positioned transversely across and between the belts, means for actuating the conveyor belts, a stamping device having a plurality of stamps adapted to be successively brought into contact with the heads of the objects as they pass the stamping device and means moved by the traveling objects for actuating the stamping device to bring one of the stamps into contact with the object then passing the stamping device.

5. A can stamping machine having in combination, a pair of conveyor belts traveling in the same direction and at the same rate of speed adapted to carry forward a series of cans, means for actuating the conveyor belts, a plurality of star wheels positioned beside the line of travel of the cans and adapted to be turned as each can engages and passes them, and a rotatably mounted stamping means connected with the star wheels and arranged to contact with the cans.

WILLIAM E. MITTON.