Jan. 1, 1963 R. ALCALDE 3,071,068

CAN STAMPING MACHINE

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Fig.1

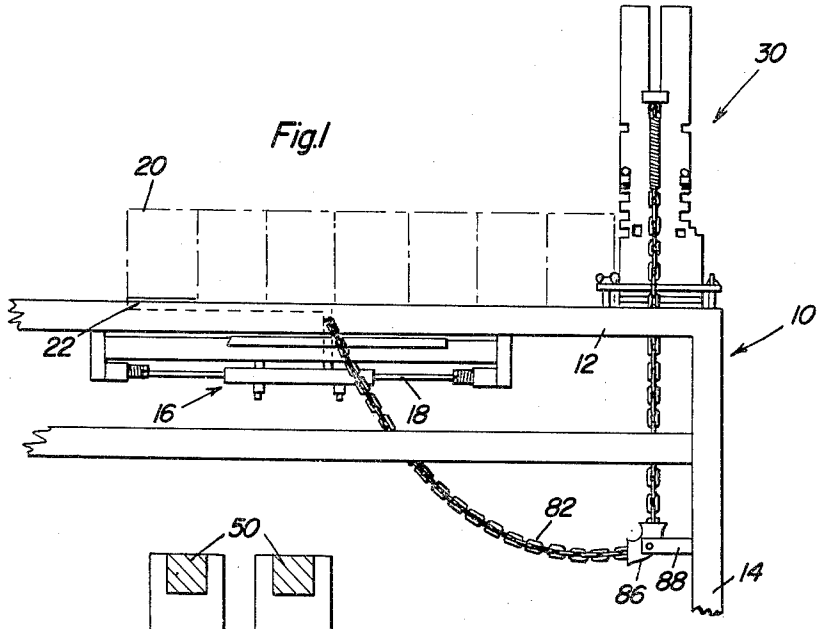


Fig.4

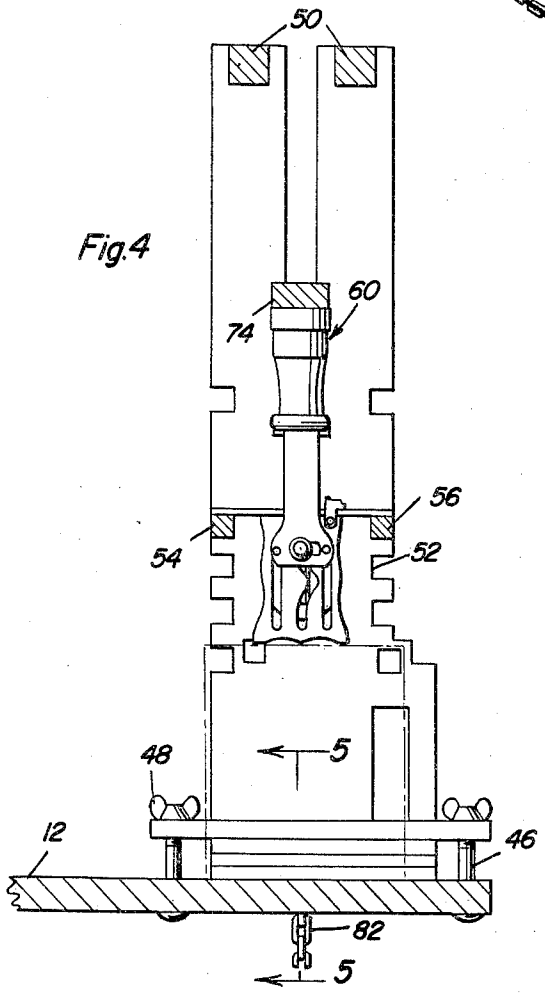
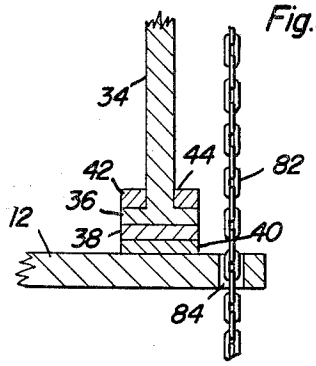


Fig.5



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Fig.2

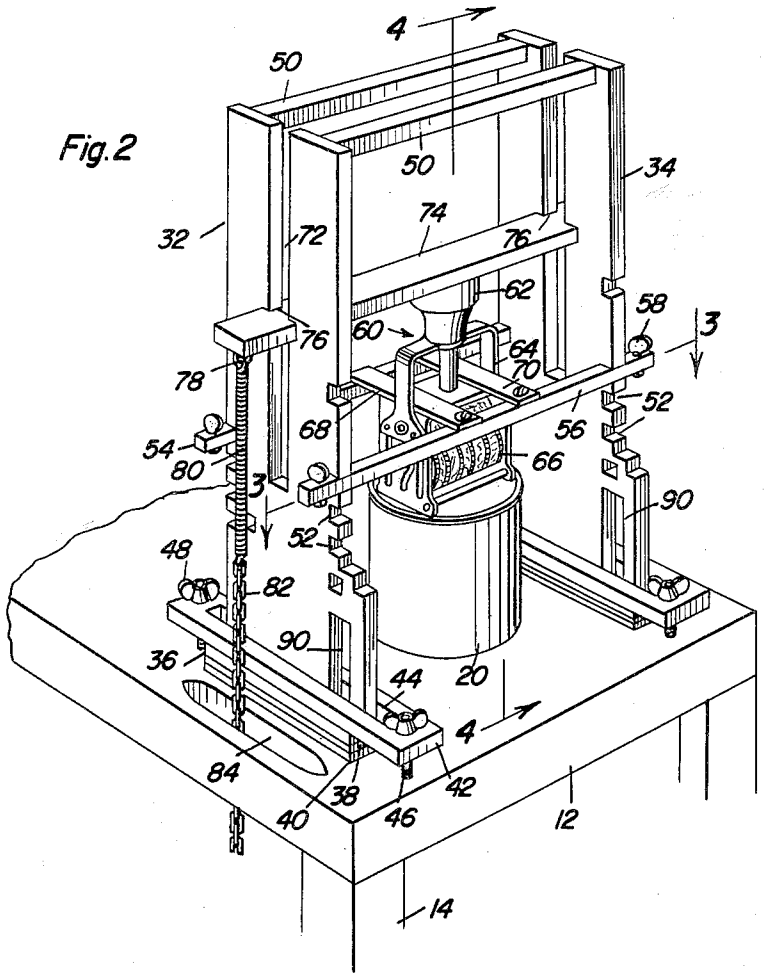
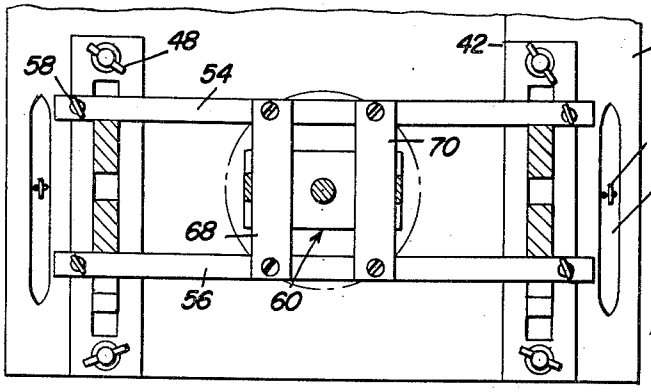


Fig.3



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CAN STAMPING MACHINE

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3 Claims. (Cl. 101—44)

This invention relates generally to stamping apparatus and more particularly to a can stamping machine specifically designed for utilization in combination with conventional can filling machines.

For the purpose of filling cans with liquid or semi-liquid, equipment has been developed which includes reciprocably movable pistons for drawing the liquid and ejecting the liquid and conveyor means for successively passing cans beneath the ejected liquid. Devices of this sort are well known in the prior art and reference is made to Patent No. 2,492,873, for a more detailed discussion of one type of can filling machine. Generally, the manufacturer of the machine combines the filling facilities with apparatus for capping or sealing the cans.

Presently, cans are each stamped with identifying numerals or letters. The stamping is often done manually but is sometimes effected by machine. It is the contemplation and primary object of this invention to provide novel equipment for sealed cans which includes stamping apparatus operatively connected to the reciprocably movable piston of the can filling equipment. Inasmuch as the frequency of the piston movement must necessarily be associated with the quantity of cans moved along a conveyor, it is possible to actuate the can stamping apparatus so as to stamp each can subsequent to filling and capping.

It is a further object of this invention to provide novel can stamping apparatus for utilization in conjunction with can filling equipment which is relatively simple in construction and accordingly, inexpensive to manufacture and maintain.

It is a still further object of this invention to provide novel can stamping equipment which includes adjustable means for allowing different size cans to be stamped and for providing for the utilization of various size stamp devices.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is an elevational side view of the invention showing a representative view of the can filling equipment and can stamping apparatus associated therewith;

FIGURE 2 is an enlarged perspective view of the can stamping apparatus;

FIGURE 3 is a horizontal sectional view taken substantially along the plane 3—3 of FIGURE 2;

FIGURE 4 is a vertical sectional view taken substantially along the plane 4—4 of FIGURE 2; and

FIGURE 5 is an enlarged fragmentary sectional view taken substantially on the plane 5—5 of FIGURE 4.

With continuing reference to the drawings, numeral 10 generally represents the can filling apparatus including a table 12 supported on ground engaging legs 14. Dependingly supported from the table top 12 is the filling apparatus generally designated by numeral 16. A reciprocably movable assembly 18 is designed including pistons which draw in liquid and dispense liquid into cans 20 through a nozzle (not shown) preferably disposed above the cans. Forming part of the assembly 18 is an element 22 which moves the cans 20 along the top of the table 12. As illustrated in FIGURE 1, each can is successively contacted by the element 22 and moved forwardly so as to push the prior can further along the top of table 12. A downwardly sloping track may be utilized to facilitate and accelerate the can movement. It is to be appreciated that although utilization of the invention is principally contemplated in the paint industry, the teachings are equally applicable to can filling apparatus of any design for any purpose. Moreover, the particular can filling apparatus utilized in conjunction with the can stamping apparatus more particularly described below, is not significant and the showing in FIGURE 1 is only supposed to illustrate a representative view.

The can stamping apparatus is generally designated by the numeral 30 and includes a pair of spaced upstanding members 32 and 34. Each of the members 32 and 34 is identical and adapted to be disposed on opposite sides of the portion of the top of the table 12 through which the cans 20 are to be conveyed. Inasmuch as the upstanding members 32 and 34 are identical, it will be appreciated that reference made to one will apply to the other. Each of the upstanding members 32, 34 is T-shaped at the lower portion thereof (FIGURE 5) defining a horizontal portion 36. Shims 38 and 40 are disposed on the top of the table 12 beneath the horizontal portion 36 of upstanding members 32, 34. A collar 42 has a slot 44 defined therein. The collar 42 rests on the horizontal portion 36 with the upstanding member 34 extending through the slot 44. Bolts 46 extend through the top of table 12 and through the slot 44 defined in the collar 42. Wing nuts 48 are received on the bolts 46 and bear against the collar 42 on either side of the slot 44. By tightening the wing nuts 48 on the bolts 46 the upstanding members 32, 34 may be securely disposed perpendicularly to the top of table 12. Brace members 50 space and secure the upstanding members 32 and 34 as illustrated best in FIGURE 2.

A series of vertically spaced aligned grooves 52 is formed in each of the vertical edges of each of the upstanding members 32 and 34. Supported by and extending between the spaced members 32 and 34 are a pair of cross support members 54 and 56 received in the grooves 52. Bolts 58 or other means, as for example, cotter pins, are secured in the ends of each of the cross support members 54 and 56 for preventing transverse slidable movement of the cross support members. A conventional stamping device 60 has an operator 62 movable relative to the device frame 64 for carrying the stamping surface 66 into engagement with the can 20. The samping device 60 has a pair of supporting bands 68 and 70 secured thereto, as by welding. The bands 68 and 70 extend between and are secured to the cross support members 54 and 56 as illustrated in FIGURE 2.

Vertically extending slots 72 are defined in each of the upstanding members 32 and 34. A stamping actuator 74 is provided with opposed recesses 76 which receive the upstanding members therein so as to enable the actuator 74 to slide relative to the upstanding members 32 and 34. The actuator 74 is in alignment with the operator 62 and accordingly if the actuator 74 is drawn downwardly, the operator 62 of the stamping device 60 will be depressed to carry the stamping surface 66 into engagement with the can 20. Eyes 78 are secured to the underside of the actuator 74 and a coil spring 80 is supported from the eye 78. A flexible chain 82 is terminally attached to the spring 80 and extends through an opening 84 defined in the table 12. An elbow pipe 86 is supported by a bracket 88 beneath the top of the table 12 and the chain 82 is passed therethrough and terminally secured to the element 22 of the reciprocably movable assembly 18.

It is though that the construction and operation of the device shall now be well understood. Inasmuch as the element 22 of the assembly 18 reciprocates as the can

20 is filled by the mechanism 16, the chain 82 is pulled through the elbow pipe 86 so as to draw the actuator 74 into engagement with the operator 62 to engage the stamping surface 66 with the can 20. Since the element 22 must necessarily move reciprocably with a frequency depending upon the cans 20 being filled, the actuator 74 will be drawn into engagement with the operator 62 a like number of times so as to stamp each can 20 singly and successively.

The various grooves are provided for the purpose of allowing the passage of different size cans 20 between the upstanding members 32 and 34 and beneath the stamping device 60. The shims 38 and 40 are utilized for the purpose of adapting the stamping device 30 for utilization with different types of stamping devices 60. In order to facilitate the adjustment of the can stamping apparatus 30, it is suggested that openings 90 be defined in the upstanding members 32 and 34 for providing handles enabling the apparatus to be moved forwardly and rearwardly relative to the table 12.

From the foregoing, it should be appreciated that a novel can stamping apparatus has been disclosed for utilization in combination with conventional can filling equipment. Can filling equipment generally utilizes reciprocably movable elements as pistons or rods to which is connected a chain which, in turn, is connected to a spring, for relieving chain tension, to the stamping actuator. Accordingly, as the empty cans are conveyed past the can filling equipment for filling and capping, they will be successively stamped with identifying numerals or letters.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with a can filling machine including a can conveyor actuated by a reciprocably movable can-moving piston, can stamping apparatus comprising a frame including a pair of spaced upstanding members, said can conveyor extending between said spaced upstanding members, said spaced upstanding members including a series of vertically spaced aligned grooves, cross support members adjustably supported by and extending between said spaced members and received within said aligned grooves, a stamping device carried by said cross support members above said conveyor, a stamp actuator movably supported by and between said upstanding members and in alignment with said stamping device, and means operatively connected to said stamp actuator and piston and responsive to movement of said piston in one direction for moving said stamp actuator to actuate said stamping device, said last-named means including a flexible fixed length member connected to said piston, and a spring secured at a first end to said fixed length member and at a second end to said actuator.

2. In combination with a conveyor actuated by a reciprocably movable piston, stamping apparatus comprising a frame including a pair of spaced upstanding members, said conveyor extending between the spaced upstanding members, said spaced upstanding members including a series of vertically spaced aligned grooves, cross support members adjustably supported by and extending between said spaced members and received within said aligned grooves, a stamping device carried by said cross support members above said conveyor, and means operatively connected to said stamping device and piston and responsive to movement of said piston in one direction for actuating said stamping device.

3. The combination of claim 2 wherein said means include a stamp actuator movably supported by and between the upstanding members and in alignment with said stamping device, and a flexible fixed length member connected to the actuator and the piston.

References Cited in the file of this patent

UNITED STATES PATENTS

1,714,143	Schramm	May 21, 1929
1,881,578	Hinds	Oct. 11, 1932
2,547,602	Schmitt	Apr. 3, 1951
2,598,991	Gollwitzer	June 3, 1952
2,692,463	Wilcox et al.	Oct. 26, 1954
2,860,572	Prohaska	Nov. 18, 1958
2,936,702	Columbus et al.	May 17, 1960

FOREIGN PATENTS

334,735	Great Britain	Sept. 11, 1930