J. POSTMA.

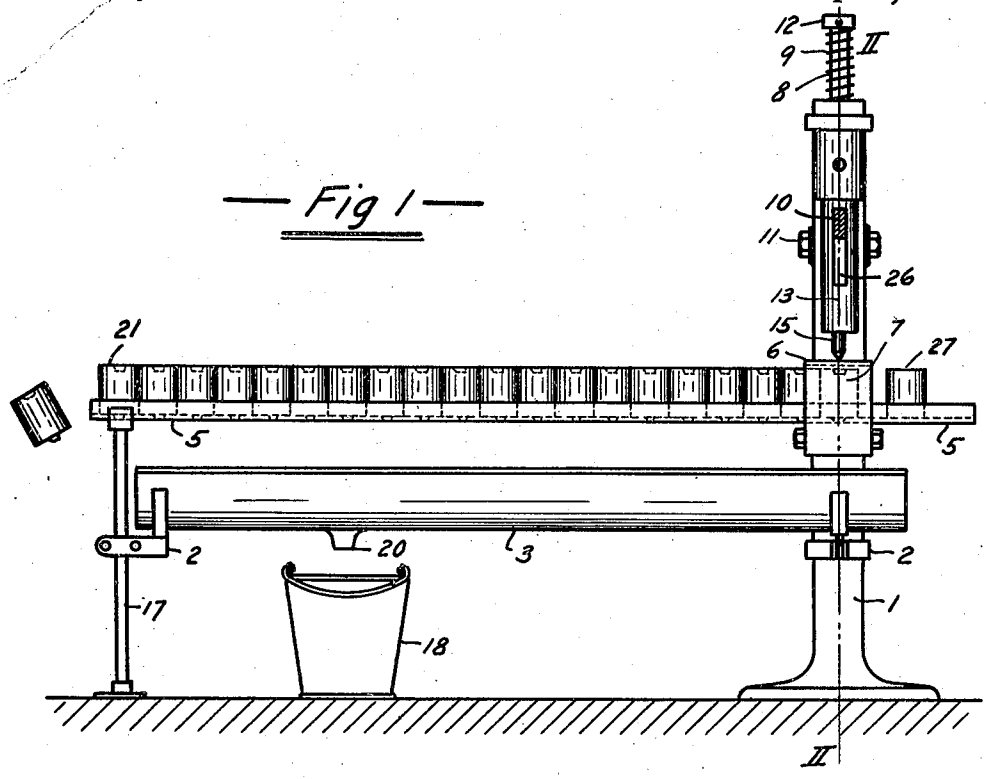
CAN PUNCH.

APPLICATION FILED DEC. 27, 1919.

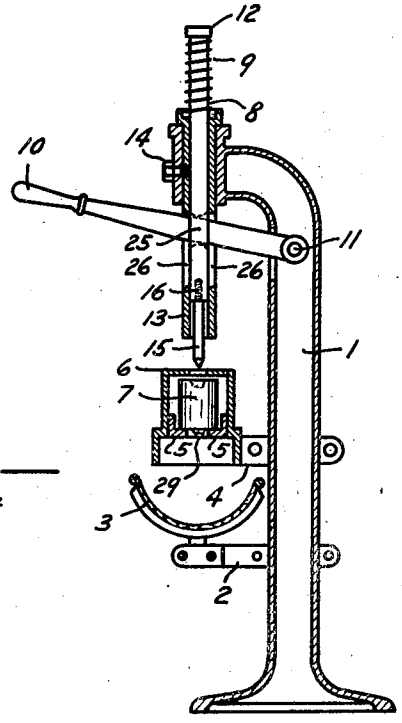
1,352,378.

Patented Sept. 7, 1920.

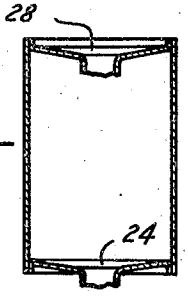
— Fig 1 —



— Fig 2 —



— Fig 3 —



INVENTOR

John Postma

BY Miller & Heuer

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN POSTMA, OF LOLETA, CALIFORNIA.

CAN-PUNCH.

1,352,378. Specification of Letters Patent. Patented Sept. 7, 1920.

Application filed December 27, 1919. Serial No. 347,818.

To all whom it may concern:

Be it known that I, JOHN POSTMA, a subject of Great Britain, and a resident of Loleta, Humboldt county, State of California, have invented new and useful Improvements in Can-Punches, of which the following is a specification.

My invention has for its object the punching of cans to secure complete drainage of their contents in the most efficient manner and with the least effort and in shortest space of time.

It has heretofore been customary in the punching of cans, especially those containing liquids, to drive or punch a hole into one end of the can, and then invert the can and drive or force a hole into the opposite end, one of these ends providing an outlet for the contents and the other an inlet for air as the contents are discharged.

The forcing of the hole as by a tool or instrument from the outside when pressed against the end of the can occasions, first a depression or bending inward with the punched opening at the bottom of the concavity formed by said punching. When a can punched in this manner is inverted and the contents are permitted to discharge by gravity, the opening through which they discharge projects upward, thus providing a space within the can below the edges of said opening within which space a portion of the contents remain, the cans are therefore not completely drained. By my invention I prefer to force a single punch through both covers of the can and during the same operation, thus punching one of the covers from the outside and the second cover, that through which the contents are to be discharged, is punched from the inside outwardly, so that the concavity formed in the cover in the last mentioned step is outwardly convex, the said concavity presenting a concave surface to the contents, and therefore causing their drainage toward the hole so punched from the inside outwardly, as in the case of a funnel, and complete drainage is therefore effected.

I also provide traveling ways in which the cans, after the punching above mentioned, are caused to travel, and from which ways they drain into a suitable trough or basin, and that while other cans are being advanced into position and being punched.

By referring to the accompanying drawings my invention will be made clear:

Figure 1 is a front view of my machine showing a series of cans in the position of being punched and drained.

Fig. 2 is a cross section of the line II—II of Fig. 1, showing a can in the position under the punch and just after the punching operation has been completed.

Fig. 3 shows a can punched in accordance with my invention, the contents being fully discharged therefrom.

Throughout the figures similar numerals refer to identical parts.

The frame or standard of the machine is indicated by the numeral 1, on which is mounted one of the trough supports 2, 2 and which supports the trough or drainage hopper 3, located so as to receive the discharged contents from the punched cans.

Numeral 4 is a supporting arm or bracket for the can ways 5, 5, on which the cans are to be punched, and after punching and during their drainage period, are caused to advance.

An inclosing housing within which the cans are located during the punching operation is shown at 6, and is for the purpose of preventing the can from rising with the punch after the punch has penetrated the top and bottom of the can.

A can in position under the punch, and on which the punching operation has just been completed, is indicated at 7, and the main punch shaft is indicated at 8. The latter is normally held by the spring 9 in the position shown in the figures, which spring compensates for the weight of the punch and its associated movable parts.

An operating lever is indicated at 10, pivoted at 11, and a set ring for the spring is shown at 12, which I have shown pinned to the punch shaft, but which may be made adjustable if desired.

I prefer to arrange the punch shaft within the bushing 13, which is held in place by the set screw 14, and on the lower end of the punch shaft I have shown the punch 15, which may be made of any convenient size and may be fitted to the punch shaft, as by the screw thread 16, so that any sized punch may be fitted as required to suit the character of the can contents, or the metal of which the can is made.

The can ways 5, 5 are preferably extended and provided with a further support 17, so as to give a sufficient trackage in the ways 5, 5, to allow the necessary time interval for the can punched at 7 to completely drain before its arrival at the final position 21.

At 18 I have shown a pail in which the canned contents are ultimately discharged as from the hopper 3 through the outlet 20.

The shaft 8 I prefer to provide with a slot as shown at 25 through which the lever 10 may be passed. The bushing 13 is slotted as at 26, 26, so that the lever 10 may freely swing within said slots during the period of vertical travel of the shaft 8.

The operation is as follows:

The cans are passed from the position 27 to the position shown at 7, the lever 10 is then depressed, the punch 15 penetrating the top 28 of the can 7 and passing on downward and penetrating the bottom of the said can, as at 24, thus causing a concavity in the top and in the bottom, as shown in Fig. 3.

Immediately upon the withdrawal of the punch 15 the contents of the can will begin to discharge into the trough 3 and the said draining will continue during the time that the can travels along the ways 5, 5, and before its arrival at the position 21 it will have fully discharged its contents.

The cans are to be pushed from the position 27 within the housing 6 for punching and such movement forces simultaneously the other cans in the ways 5, 5, one step farther along for each added can.

Between the can ways 5, 5, is the open slot 29 through which the openings of the bottoms of all the cans are exposed with their downward flaring outlets so that the contents are discharged fully therefrom and into the hopper or trough 3.

Although my punch may be used for other canned goods it is particularly adapted to milks, soups and other liquids, or semi-liquid material.

I claim:

1. A can punching machine comprising a punch adapted to penetrate the top of the can and continue through the can and its contents and to punch a hole also in the bottom of said can in combination with a base member and traveling means thereon adapted to move cans successively under and away from said punch and a member adapted to restrain the can from upward movement as the punch is withdrawn from the can, and means for operating said punch.

2. A can punch as set forth in claim 1 and having a trough under the cans adapted to collect the contents thereof as drained from the cans.

In testimony whereof I have hereunto set my hand at Loleta, Humboldt county, California, this 22nd day of December 1919.

JOHN POSTMA.