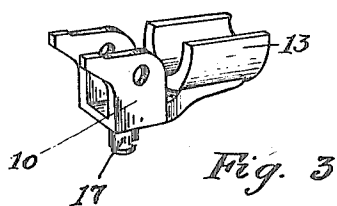
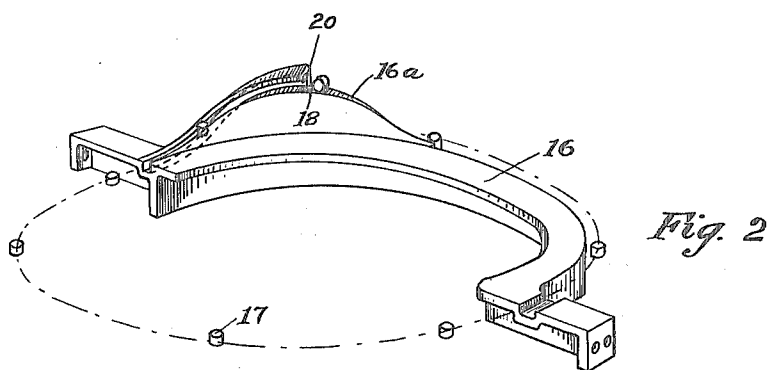
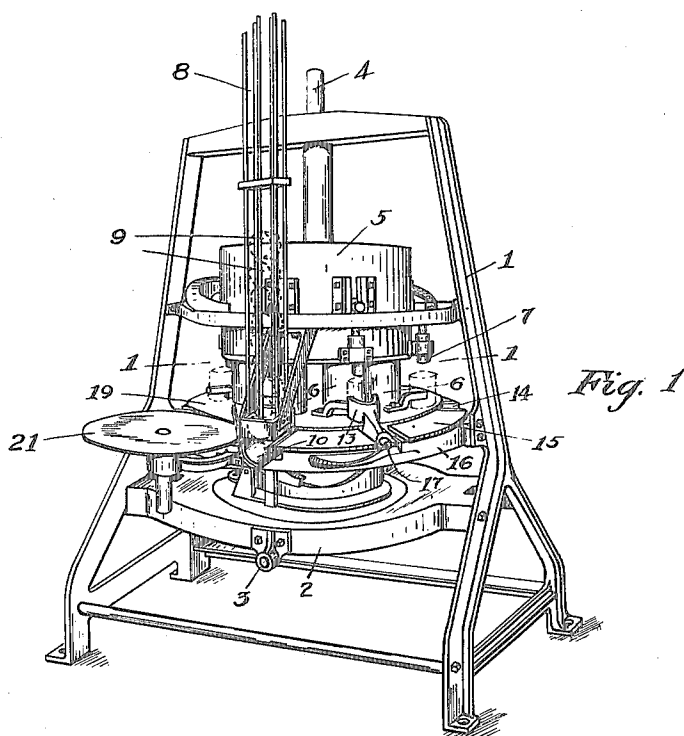


Jan. 23, 1923.

F. W. SMITH.
CAN HANDLING MACHINE.
FILED FEB. 24, 1920.

1,442,983.

2 SHEETS—SHEET 1.



Inventor.
Frank W. Smith
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2 SHEETS—SHEET 2.

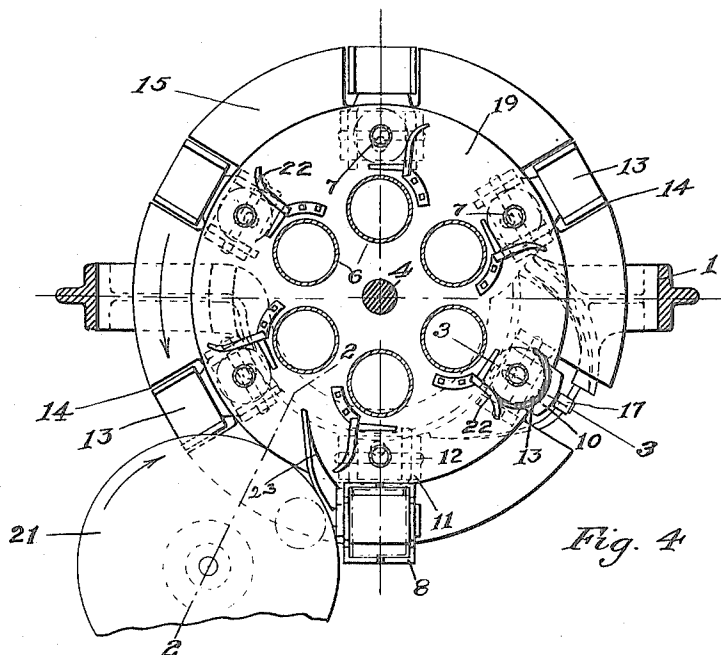


Fig. 4

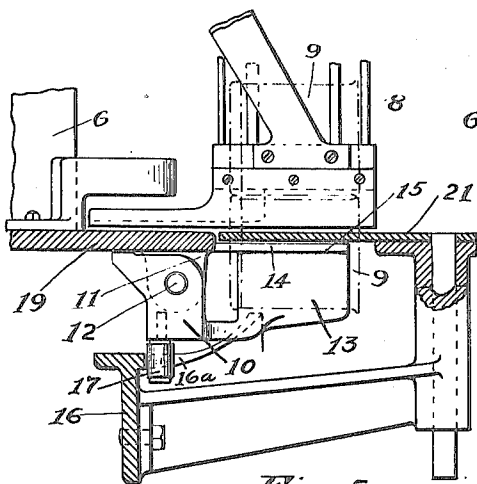


Fig. 5

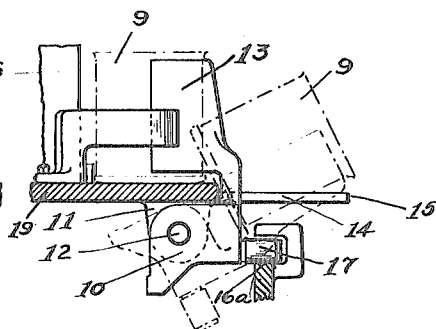


Fig. 6

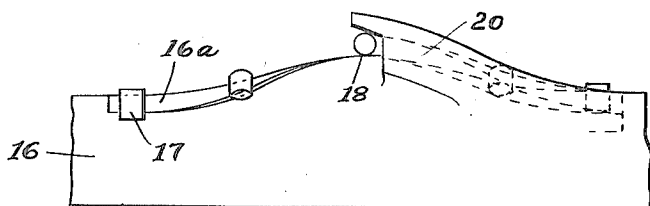


Fig. 7

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UNITED STATES PATENT OFFICE.

FRANK W. SMITH, OF PORTLAND, MAINE.

CAN-HANDLING MACHINE.

Application filed February 24, 1920. Serial No. 360,693.

To all whom it may concern:

Be it known that I, FRANK W. SMITH, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Can-Handling Machines, of which the following is a specification.

This invention relates to improvements in can handling machines and more particularly to means for taking cans from a feed chute in upset position and transferring them to filling position and during the transfer from the chute to filling position changing them from upset to upright position.

Hitherto, the so-called sanitary cans which are open at one end and have a narrow flange turned thereon, have been fed to the filling machine through a vertical spout curving gradually at its lower end to terminate in a horizontal portion adjacent to the table of the machine.

The cans were disposed in this spout on their sides with the bottom of the can coming in contact with the curved bottom of the spout.

The cans as they descended, were thus gradually turned from a position on their sides at the vertical portion of the spout to an upright position with the open end at the top at the point where they were delivered on the table of the filling machine.

While the cans were traversing the curved portion of the spout, a considerable weight caused by the vertical line of cans was brought on the upper edge of each can since the bottoms were somewhat separated and the entire pressure was taken by the open end of the cans as they occupied the curve of the spout.

As a result, the open ends of the cans were pressed together in the direction of the length of the spout so that the cans as they were delivered were no longer cylindrical in form but the open ends were rendered somewhat oblong by their passage around the curved portion of the spout.

The result was that the cans in passing through the filling machine were in a distorted condition and not suitable to properly receive the covers which were perfectly round.

The object of my invention is to deliver the cans from a delivery spout in which they are positioned on their sides and to

place them on the table without any distortion of the end and without any abrupt or jarring motion.

In a general way, my invention consists in receiving the cans from the lower end of the delivery spout on their sides in a can-receiving cup or holder located adjacent to the edge of the table with means by which the cup or holder may be tilted upward to deliver the can over the edge and onto the flat surface of the table in an upright position whereby the bottom of the can will slide easily over the edge of the table as a fulcrum without any jarring action and with the open top undistorted and circular in form.

I have shown my invention applied as an improvement in the can filling portion of the machine shown in Patent No. 473,885, issued to Gaius L. Merrill, April 26, 1892, but it is not intended to limit it to use in connection with this machine.

In the drawings herewith accompanying and forming a part of this application, Fig. 1 is a perspective view of a machine with my improvements applied thereto; Fig. 2 is an enlarged detail view of the can carrier guiding cam; Fig. 3 is an enlarged perspective detail view of the can carrier; Fig. 4 is a horizontal sectional view of Fig. 1 taken on line 1—1; Fig. 5 is a vertical sectional view taken on line 2—2, Fig. 4; Fig. 6 is a detail vertical sectional view taken on line 3—3, Fig. 4; and Fig. 7 is a detail elevation of a portion of the guiding cam looking from the inside outwardly.

The same reference characters indicate like parts in the several figures.

In said drawings 1 is the main frame including a horizontal bracket 2. In said bracket is a drive shaft 3 to which is geared by mechanism not shown a vertical upright shaft 4. Carried by shaft 4 is a chamber 5 to contain the articles to be canned and measuring chambers 6 spaced apart at suitable distances to which are connected filling pipes 7. These parts are adapted to be rotated simultaneously by shaft 4. These are, or may be, substantially as shown and operated in said patent and alone form no part of my invention. Fixedly secured to the main frame is a can chute 8 into which the cans 9 to be filled are adapted to be placed in upset position, one above the other, and from which they fall by gravity, one by one, out of said chute. Adapted to rotate in uni-

son with the can filling pipes is a can supporting table 19 having an outer depressed portion 15 in which are a series of openings 14.

5 Means are provided whereby the cans are received into a tilting holder as they come from the lower end of the spout still on their sides and are tilted upward and deposited in an upright position on the can
10 supporting table.

The can carriers 10 are pivotally secured to brackets 11 secured to the underside of the table by pivots 12. It is noted that the recesses are in the outer portion of the
15 table and are spaced apart to correspond with the filling pipes. The can carriers are provided with cups 13 at one end and with cam rolls 17. Fixedly attached to the frame below the table is a cam frame 16 having a
20 cam roll surface 16^A in the path of the cam rolls on the can carriers. Now as the table and can carriers rotate the cam rolls ride up on the cam until they reach the top as at 18, at which point the carrier at that point
25 has been turned on its pivot until its cup projects upwardly through this opening and assumes a vertical position, as shown in Fig. 1 and now deposits a can on the raised portion 19 of said table, the can being guided
30 into position by contact with the raised edge

of the table and with a stop guide 22. As the apparatus continues to revolve the cam roll 17 passes into a descending closed path 20, thus causing the can carrier cup to be turned back to horizontal or can receiving
35 position below the can chute.

It is noted that the measuring chambers, feed pipes and can carriers may be in series and that a can is being filled from its first position under its filling pipe until it reaches
40 a point where it is swept from the table by an inclined arm 23 on to a rotatable take-off table 21. It will be seen that in this way a series of cans may be in process of filling simultaneously. The can carrier cup
45 13 may be of any suitable size and may be removably attached to the carrier, so that cups of different sizes may be used at will.

I claim:—

In a can feeding machine, the combination of a rotating table, a series of cups pivoted around the periphery thereof, a can spout adapted to drop cans into said cups as they pass below the lower end of said
50 spout and mechanism for turning said cups upwardly and laterally to deliver the cans in an upright position on said table.
55

In testimony whereof I affix my signature.

FRANK W. SMITH.