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M. C. GORDON
PRODUCE CANNING MACHINE
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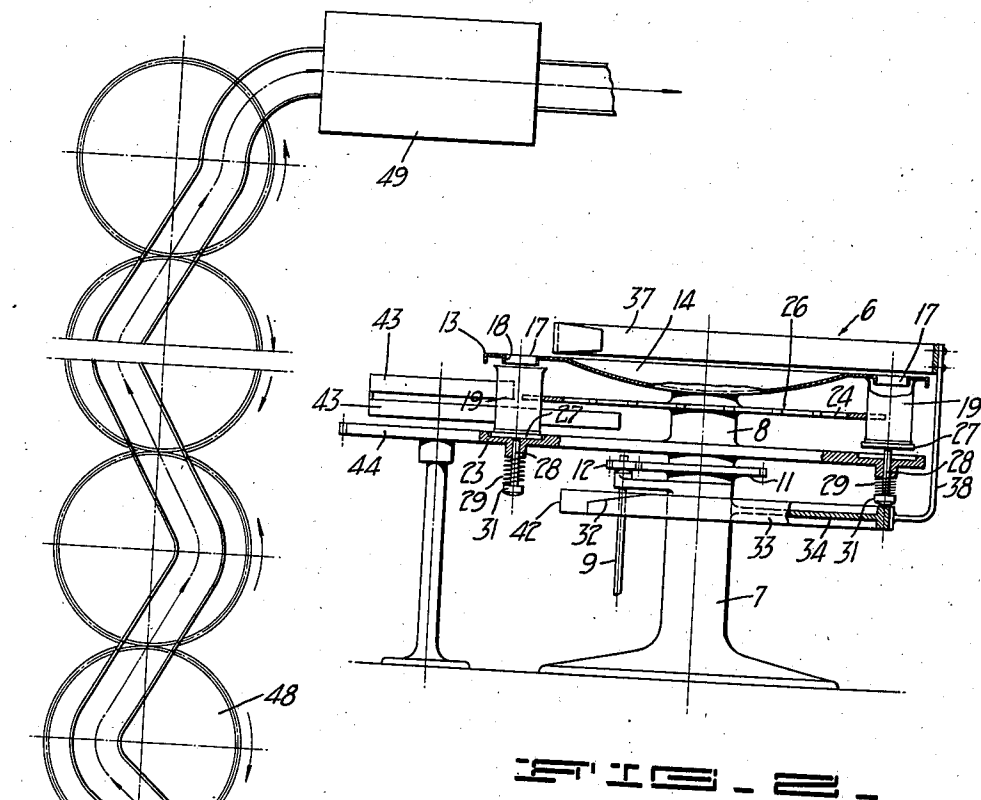


FIG. 2.

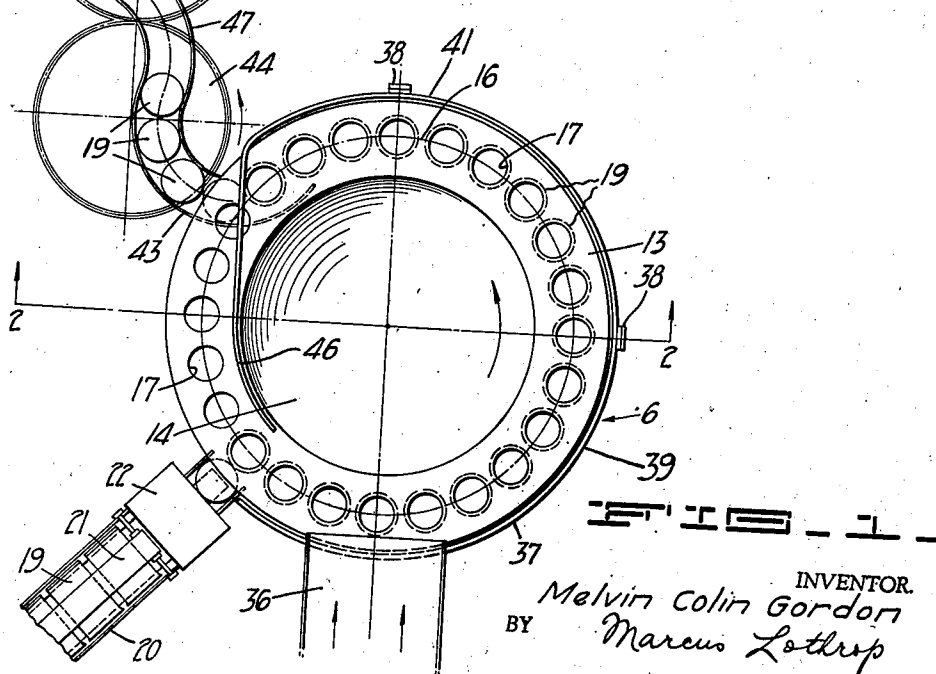


FIG. 1.

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PRODUCE CANNING MACHINE

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1 Claim. (Cl. 226—96)

My invention relates to means useful in and for facilitating the canning of produce, such as peaches for example, and is particularly concerned with means for facilitating the rapid introduction of the produce into the can prior to cooking of the produce and final closure of the can.

The produce canning machine of my invention can be used with many different products, but its typical use is well exemplified in connection with half peaches. Peaches for canning are customarily pitted and cut into halves. After the skin is removed, the halves are put into cans by hand, each worker having a small but periodically replenished supply of peach halves available. Each fruit half is picked up by hand and placed inside of the open can. When a selected number of halves have been arranged in the can, the can is passed on to the next operation.

It is an object of my invention to provide a produce canning machine which obviates a great deal of hand work in filling cans.

Another object of my invention is to provide a produce canning machine which produces a filled can of substantially the same arrangement as one filled by hand.

Another object of my invention is to provide a produce canning machine which does not injure or deleteriously affect the produce.

The foregoing and other objects are attained in the embodiment of the invention illustrated in the drawing, in which—

Fig. 1 is a diagrammatic or schematic plan of a produce canning machine constructed in accordance with my invention and incorporated in a canning arrangement;

Fig. 2 is a cross-section the plane of which is indicated by the line 2—2 of Fig. 1.

In the preferred form of the invention which has been successfully utilized in conjunction with the packing of peach halves, I provide a produce canning machine 6 at a suitable location in the work space. The machine includes a suitable pedestal 7 which is stationary but at its top is provided with a rotatable head 8 driven, for example, by a shaft 9 through suitable gearing 11 and 12. The rotatable head terminates in a circular table 13, preferably fabricated of a sheet of stainless or acid-proof material formed to provide a centrally depressed basin 14. Surrounding the central basin 14 is a ring 16 of apertures 17 each of which is preferably bounded by a rounded, downturned lip 18 of appropriate size just to fit within the interior of a can 19 to be filled.

As the table 13 revolves, cans 19 are successively fed thereto from a feeding line 20 extending from any suitable source to the table 13 and along which the cans are rolled in a horizontal position by a suitably driven can contacting fabric belt 21. The cans are turned by the customary spiral frame 22 and are received in upright position under the table and upon a circular plate 23 in registry with the apertures 17, being so aligned by concavities 24 suitably spaced around the periphery of an aligning member 26 rotating with the head portion 8. The cans 19 do not rest directly upon the plate 23 in their alignment with the apertures 17, but rather each can rests upon the enlarged top 27 of a plunger 28 which is in alignment with an adjacent one of the apertures 17 and ordinarily is urged into smooth surface continuity with the plate 23 by a spring 29.

Thus, as a can 19 is discharged by the conveyor 21 it is received on a top 27 in vertical registry with an aperture 17 on the revolving table 12 and is held in such registry by an aligning concavity 24. As the plate 23 rotates with the table 13, a head 31 on the plunger 28 engages an incline 32 on a ring cam 33 held by radial arms 34 on the stationary pedestal 7. As the can 19 revolves with the table, the top 27 is raised gradually, the can during this time being held in alignment by the concavity 24, until such time as the top of the can 19 fits around the depressed lip 18. The can is thus held for a large part of its rotation with the table in substantial abutment with and in continuity with the rim of the aperture 17.

In order to fill the cans so held, I provide a produce conveyor 36, which preferably comprises a belt conveyor arranged to discharge onto the table 13 in the immediate vicinity of certain of the apertures 17, so that peach halves, for example, discharging from the conveyor 36 fall by gravity directly through the apertures 17 into the cans 19 held therebelow. The cans are thus almost immediately filled with peach halves by gravity discharge, but the supply of peach halves is preferably such that there are some which travel over the ring of apertures 17 and accumulate in the basin 14. The produce—in this instance, peach halves—is confined generally to the table, however, by a guard band 37 which extends about the circumference of the table 13, being supported by suitable arms 38 extending from the arms 34.

As the cans advance during the revolution of the table 13 past the conveyor 36, they pass by an operating station, generally designated 39,

whereat is located an operator who, by visual inspection, determines the amount of produce in the individual cans and, if there is a surplusage, pushes the protruding produce into the central basin 14, or, if there is a shortage, scrapes or pulls extra peach halves from the basin 14 into the partially filled can. Preferably, as the cans advance farther, an operator at a second operating station, generally designated 41, inspects the filled can, in the case of peaches making sure that the top half is turned with its concavity downward since such is the preferable pack, and either turning the uppermost peach half in such direction or, if necessary, placing a peach half from the basin 14 into the top of the filled can with the concavity downward.

After the filled cans pass the operating station 41 they are lowered out of contact with the upper plate 13 since the follower 31 rides off the final end 42 of the cam 33, so that, under the influence of the spring 29, the can 19 lowers, with its bottom flush with the top of the plate 23. The filled can 19 is then free to leave the machine, which it is forced to do under the guidance of a pair of straps 43 which engage the can and divert it onto the initial disc 44 of a disc conveyor.

Since the filled cans leave the disc 23 and are removed from registry with the apertures 17 at a point adjacent to the disc conveyor 44, I provide means for diverting produce from certain of the apertures 17 which have no cans in registry therewith, and for that reason, and also in order to prevent any cans leaving the machine in over-filled condition, I provide a deflecting means 46 in the shape of an extension of the guard band 37 which extends inwardly substantially tangent to the circular basin 14, so that any produce

which tends to revolve on the top of the table 13 is swept inwardly toward the basin 14 and is prevented from advancing over any apertures 17 which have no cans beneath them.

Filled cans which are received on the disc conveyor 44 are propelled in a sinuous path defined by extensions of the straps 43 and by companion straps 47, over successive discs 48 and the like, until they are finally discharged into an instrumentality, such as a syruper 49, for further operation upon the filled cans. Preferably, the linear extent of the disc conveyor comprised of the discs 44, 48 and the like is considerable, so that the produce will have ample time to be settled in the cans before syrup is added thereto, and also in order that in the event there should be some stoppage in the subsequent operation 49, for example, the produce canning machine 6 can be maintained in operation, or so that in the event the produce canning machine 6 is interrupted, the syruper 49, for example, can continue to operate for a protracted period.

I claim:

A produce canning machine comprising a circular rotatable table having a depressed basin in the center thereof and a ring of apertures surrounding said basin, means including a conveyor extending to the edge of said table for discharging produce near the edge of said table some to pass through and some to pass over adjacent ones of said apertures and into said basin, and means including a stationary barrier extending from the edge of said table to the margin of said basin for deflecting said produce from others of said apertures into said basin away from said ring of apertures.

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