

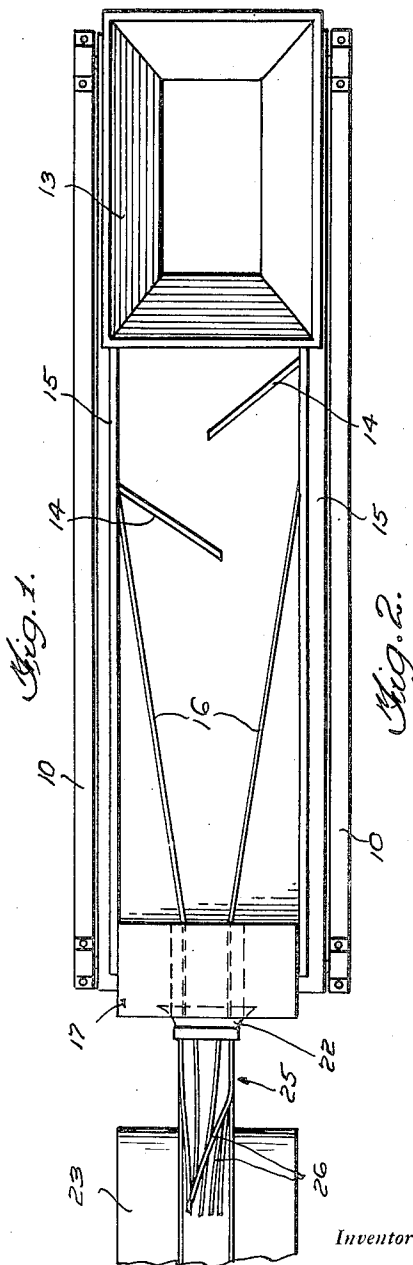
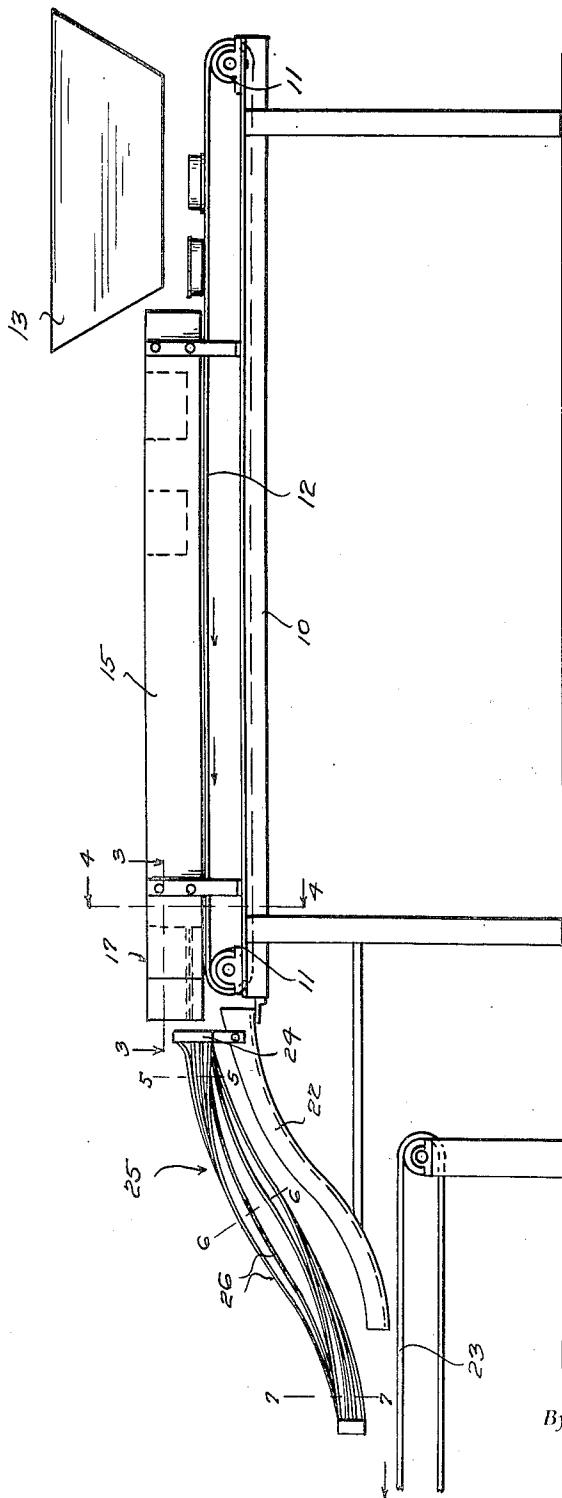
Nov. 14, 1950

E. C. GALT
CAN SELECTOR

2,529,603

Filed Sept. 10, 1945

2 Sheets-Sheet 1



Ellis C. Galt

By *Oliver A. O'Brien*
and Harvey B. Jackson
Attorneys

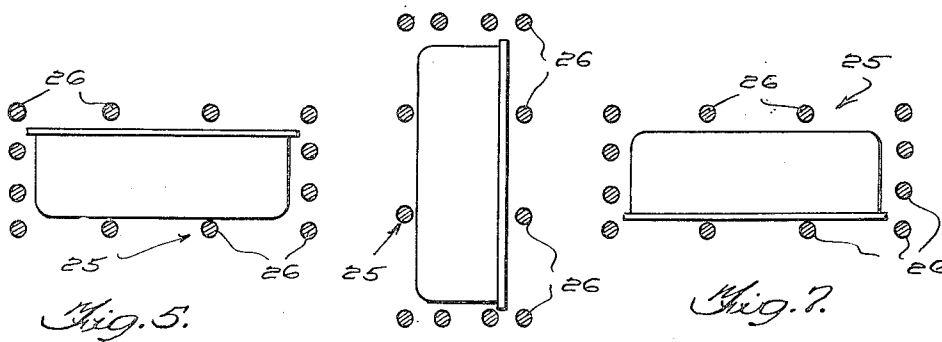
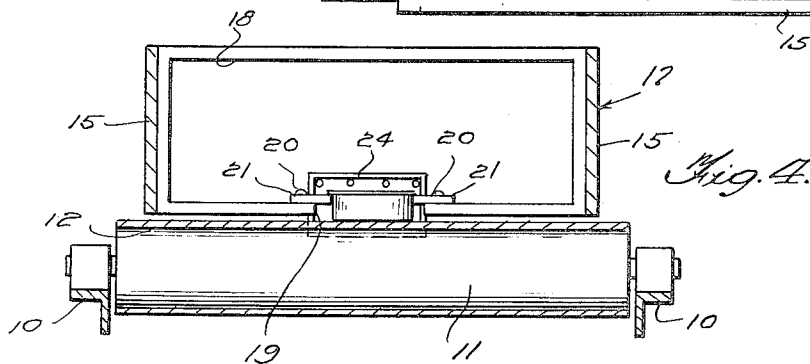
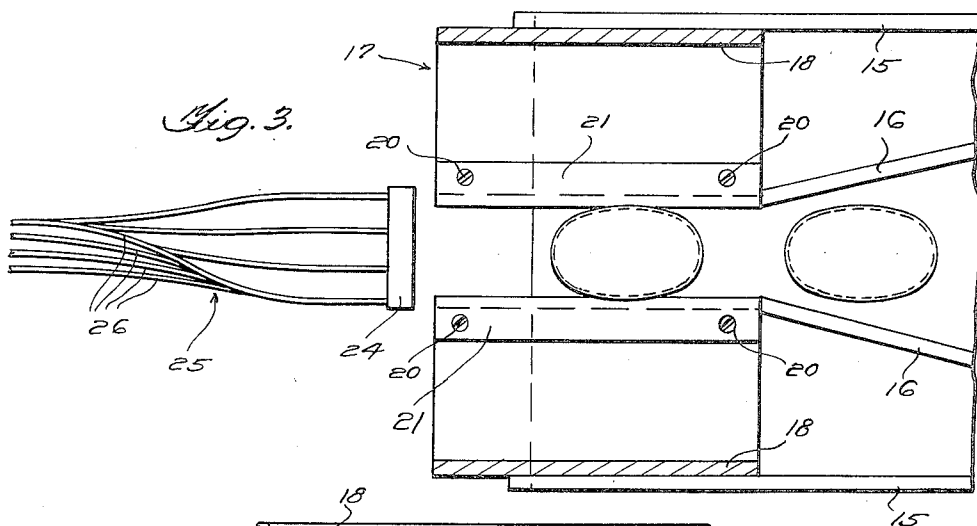
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Inventor

Ellis C. Galt

By *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

UNITED STATES PATENT OFFICE

2,529,603

CAN SELECTOR

Ellis C. Galt, Pacific Grove, Calif.

Application September 10, 1945, Serial No. 615,305

1 Claim. (Cl. 198—33)

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This invention relates to a can selector and turn-over device for use particularly in the seafood packing industry.

In the packing of seafood such as sardines, herring and similar products, it is common to employ an elliptical can formed as a flat shallow dish to which a cover is secured by soldering or crimping. The packages ordinarily employed therefor are provided only on one side with the flanges formed by the cover-securing means and the bottom of the can at the junction of the side walls is usually rounded to some extent. After the cans have been filled and the contents properly cooked and sealed therein, it is customary to feed the cans to a labeling machine for the attachment of proper identification labels by which the contents of the can may be known. In a large number of packing plants the labeling machines are so constructed that the cans must be fed to them bottom side up, i. e., with the sealing beads or flanges downwardly. Heretofore it has been common practice to employ hand labor to insure that the cans are turned into proper position before they reach the labeling machine with the result that a vast number of man hours were consumed in merely seeing that the cans were in proper position for labeling.

The primary object of this invention is to arrange the cans in proper position automatically as they approach the labeling machine and to thereby effect a large saving in labor.

Another object is to select cans which are in the wrong position for labeling as they move in a heterogeneous arrangement along a conveyor belt and turn these cans over and deposit them on a second conveyor belt in proper position for labeling, while at the same time those cans which are in initially proper position for labeling will pass through the selector and be deposited on the second conveyor belt to be advanced toward the labeling machine.

The above and other objects may be attained by employing this invention which embodies among its features a conveyor belt upon which the cans may be deposited in a heterogeneous arrangement, means associated with the conveyor belt to insure that the cans are first spread into a uniform layer of a thickness equal to a single layer of cans, means associated with the conveyor belt for intercepting those cans which are in improper position for labeling while passing the cans which are in proper position for labeling, and means associated with the intercepting means for turning those cans which are in improper position and delivering them to a

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second conveyor belt which leads to the labeling machine.

In the drawings:

Figure 1 is a side view of a can selector and turning device embodying the features of this invention,

Figure 2 is a top plan view of Figure 1,

Figure 3 is an enlarged detail sectional view taken substantially on the line 3—3 of Figure 1,

Figure 4 is a vertical sectional view taken substantially on the line 4—4 of Figure 1,

Figure 5 is a sectional view taken substantially on the line 5—5 of Figure 1,

Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 1, and

Figure 7 is a sectional view taken substantially on the line 7—7 of Figure 1.

Referring to the drawings in detail a table 10 carries at opposite ends suitable rolls 11 over which an endless conveyor belt 12 is trained. One or the other of the rolls 11 is driven in any suitable manner to cause the conveyor belt to move at the desired speed in the direction of the arrows in Figure 1. Mounted above the conveyor belt adjacent its receiving end is a suitable hopper 13 into which the cans to be labelled are dumped directly from the cooking basket ordinarily employed by canneries of the type to which this invention relates. Inasmuch as the cans are dumped promiscuously into the hopper 13 it will be evident that as they leave the hopper on the conveyor belt, they will be in a heterogeneous arrangement, i. e. certain of the cans may be resting on top of others and still others while resting on the conveyor belt may be standing on edge. In order to insure the delivery of the cans at the delivery end of the conveyor in a single layer with all of the cans lying flat, I provide wipers 14 extending angularly from opposite side walls 15 arranged at opposite sides of the conveyor 12 so that cans which may be standing on edge will be knocked down into a flat position and any cans which may be resting on top of others will be wiped off and deposited on the conveyor belt. Extending from a point substantially midway between the ends of the conveyor are convergent guides 16 which as shown in Figure 1 converge toward the delivery end of the conveyor to form a funnel-like passage of a width substantially equal to the length of the transverse axis of the cans which are being handled.

Mounted above the conveyor adjacent its delivery end is a can selector designated generally 17 which comprises a substantially box-like structure 18 which is open at both ends and is

provided in its underside with a longitudinal slot 19 of a width sufficient to allow the cans to pass therethrough with their longitudinal axes in substantial alignment with the longitudinal axis of the slot 19. Adjustably secured as at 20 adjacent opposite sides of the slot 19 are selector guides 21 which project inwardly toward one another and are adjusted with relation to one another so that the body portion of a can will pass therethrough as illustrated in Figure 3.

These blades must be close enough together to prevent the sealing flange of the can from entering between them. The entire selector is so positioned vertically with relation to the upper surface of the conveyor belt 12 that the sealing flanges of the can will overhang the inner edges of the blades and support the can in such suspended position for delivery into the turn-over chute, to be more fully hereinafter described. As illustrated in Figure 3, the selector 17 and the blade 21 extend slightly beyond the end of the conveyor 12 to prevent these cans from being deposited in the receiving chute in which cans which are in proper position for labeling are deposited as they leave the end of the conveyor 12.

The receiving chute and the turn-over chute are best illustrated in Figure 1, the receiving chute being designated 22 and being so positioned with relation to the delivery end of the conveyor that cans which pass through the selector will be deposited in the chute 22 and delivered from the lower end thereof onto the conveyor belt 23 which leads to the labeling machine. Supported on a suitable bracket 24 adjacent the upper end of the receiving chute 22 is the upper end of a turn-over chute designated generally 25, the lower end of which is supported in any suitable manner above the belt 23 but close enough thereto to insure that cans delivered by the turn-over chute will be dropped into proper position on the belt to be advanced toward and received by the labeling machine.

The turn-over chute above referred to is composed of a plurality of bars 26 which are arranged as illustrated in Figures 5 through 7 inclusive in the form of a transversely rectangular guide which as shown in Figures 1, 2 and 5 through 7 inclusive is twisted about its longitudinal axes in that cans received therein will be turned over before they are delivered from the end of the turn-over chute.

In operation, the cans containing the cooked product are sealed in the ordinary manner and delivered in the cooking basket to the hopper 13 where they are dumped promiscuously therein and received on the belt 12. As the belt moves toward its delivery end, the cans will be carried forwardly thereon in a heterogeneous arrangement and upon encountering the wipers 14 they will be leveled off into a single layer of flatly disposed cans on the belt 12. As they approach the delivery end of the conveyor, they encounter the convergent guides 16 which guide the cans in such a manner that their longitudinal axes

substantially align with the longitudinal axis of the conveyor belt 12. Those cans which are in proper position for labeling pass through the selector 17 and are delivered to the delivery chute 22 from the lower end of which they are deposited on the conveyor belt 23 leading to the labeling machine. When a can is inverted and not in proper position for labeling, it moves into the selector 17 in such a manner that the bead or flange formed at the junction of the body of the can and the cover engages the blades 21 so that the can cannot enter the chute 22. Due to the speed of operation of the device the momentum imparted to the cans is sufficient to cause them to ride along the blade 22 to be discharged from the delivery end of the selector 17 into the turn-over chute 25. As they pass downwardly through the chute 25, the can are inverted through the generally twisted arrangement of the chute 25 and by the time they reach the delivery end thereof, ready for deposit on the conveyor 23, they are in proper position to enter the labeling machine.

It will thus be seen that the cans deposited on the conveyor belt 23 will all be in proper position to enter the labelling machine and that they will automatically have been arranged in proper position without requiring any hand labor whatsoever.

What I claim:

An apparatus for orienting a group of cans each of which has adjacent one end a peripheral laterally extending bead comprising a table, a conveyor mounted on said table, means for delivering cans to said conveyor adjacent one end of said table, side members carried by said table above said conveyor, wiper plates carried by said side members for leveling said cans, bars secured to said side members and converging towards the other end of said table for guiding said cans into a single file, a selector box secured between said side members spaced above said conveyor and in advance of the converging ends of said bars, said box having open ends, a longitudinal slot in the base of said box of sufficient width to allow passage of a can, guide blades secured to the upper surface of the base of said box extending partially into said slot at the opposite longitudinal sides thereof adapted to engage the bead of a can, and chute means in advance of said box for receiving and inverting a can delivered from said guide blades.

ELLIS C. GALT.

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