Feb. 3, 1953 A. A. YATES 2,627,345

CAN ORIENTING DEVICE

Filed March 7, 1950 2 SHEETS—SHEET 1

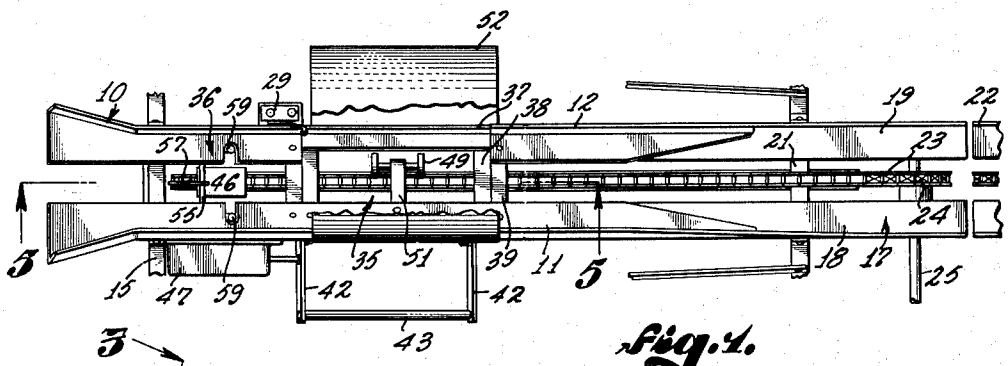


Fig. 1.

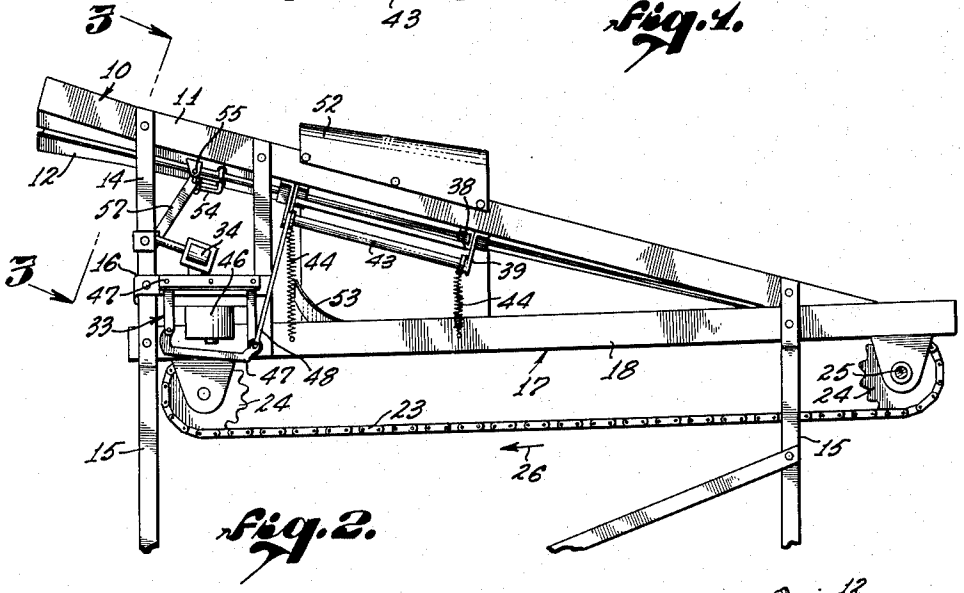


Fig. 2.

Fig. 3.

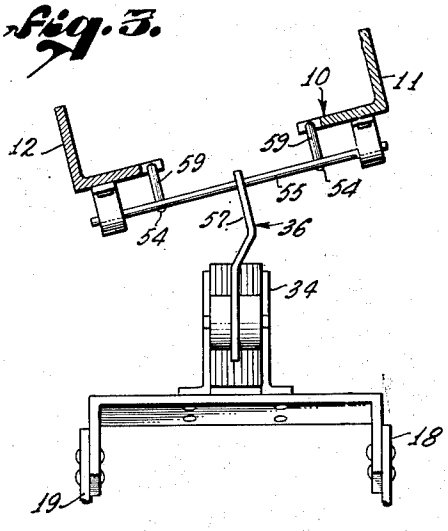
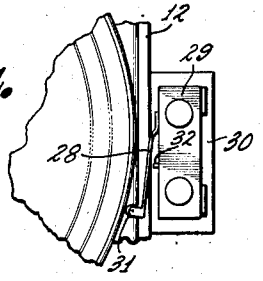


Fig. 4.



ALBERT A. YATES,
INVENTOR.

BY George V. Smyth.
ATTORNEY.

Feb. 3, 1953 A. A. YATES 2,627,345

CAN ORIENTING DEVICE

Filed March 7, 1950 2 SHEETS—SHEET 2

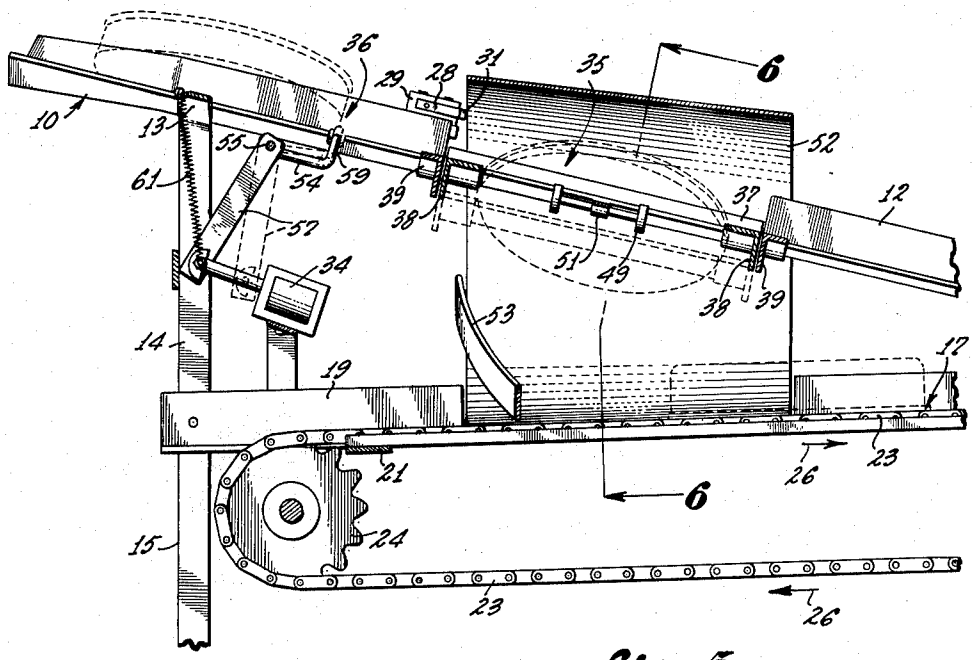
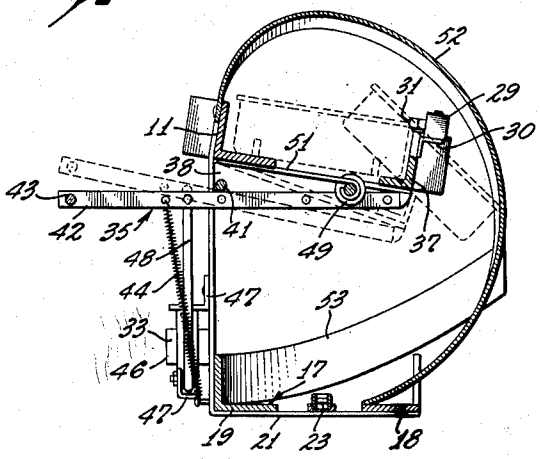


Fig. 5.

Fig. 6.



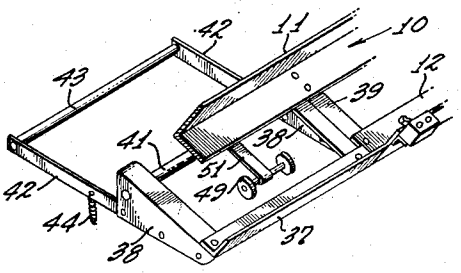
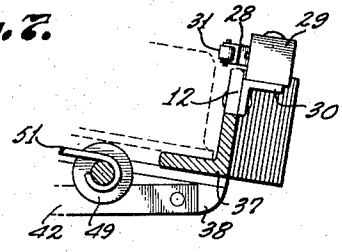


Fig. 8.

Fig. 7.



ALBERT A. YATES,
INVENTOR.

BY George J. Smyth

ATTORNEY.

Patented Feb. 3, 1953 2,627,345

UNITED STATES PATENT OFFICE

2,627,345

CAN ORIENTING DEVICE

Albert A. Yates, Redondo Beach, Calif.

Application March 7, 1950, Serial No. 148,146

5 Claims. (Cl. 209—72)

1

This invention relates to can handling devices, and more particularly to such device for receiving cans of the type having a sealing bead extending around the one edge thereof in a random attitude and delivering the cans to a discharge station in the same or a preselected constant attitude.

In the canning of food stuffs, it is the common practice to handle the cans during the operation in which the food is cooked in large metal containers holding a large number of the cans. After the desired period of cooking, the containers are transported by some suitable conveying device to a rough sorting machine from which the cans are fed in an end-to-end relationship. The cans, although they are fed from this device in an end-to-end relationship, are not in a constant attitude or relative position, and some cans are consequently upside down relative to others.

The object of the present invention is to provide a device which will receive the cans arranged in end-to-end relationship, but in different relative positions, and deliver the same to a labeling machine in a preselected attitude and to so deliver the cans without hand labor of any kind.

The machine of the present invention is particularly adapted to handle cans of the type having a sealing bead extending around the one edge thereof formed at the time the closure member was sealed in position across the opening or mouth of the can body. These cans are oftentimes oval in shape and are generally many times longer than they are high. These cans today are used generally to pack meat and fish products and the labels are usually applied by branding the cans with a narrow strip of paper on which is printed the label. The machines for labeling these cans are formed with means for rotating the can during the actual label applying step and the means used to turn or rotate the cans generally comprises a flat plate of the same shape as the closure member, and which is received within the depression defined by the sealing bead. This plate forms a driving means for, as the plate is rotated, the peripheral edge thereof in engagement with the inwardly facing surface of the sealing bead turns or rotates the can engaged.

It will thus be seen that the cans must enter the labeling machine with the can supported by the sealing bead thereon. That is, the sealing bead must be facing downwardly as the cans are fed into the labeling machine. Although cans as they are delivered to the device of the present invention have been sorted to the extent that

2

they enter the device in an end-to-end relationship, they are haphazardly arranged in so far as the position of the sealing beads are concerned.

The device of the present invention includes track means for receiving the cans in the haphazard or random attitude, which track means are inclined laterally as well as longitudinally, so that the cans move downwardly of the track means by gravity in a tilted reationship. Arranged beneath this track means is a second track means which leads to the labeling machine. The second track means may also be inclined so that the cans received thereby will move by gravity along the same, although in the now preferred embodiment of the invention, positive driving means are associated with the second track and drive the cans thereon toward the labeling machine.

The upper track means includes a device for detecting cans moving therealong in a bead-up attitude and this means, when engaged by a bead in that attitude, render operative mechanism for removing the cans having its bead facing upwardly, and delivering the same to the lower track means in a bead-down attitude. The means for detecting cans moving along the upper track means in a bead-up attitude may consist of a finger so mounted that an upwardly facing sealing bead will engage the end thereof as the can moves downwardly along the track means. The finger, when engaged by the bead, makes operative a mechanism which downwardly displaces a gate-like element forming a part of the upper track means to form an opening at the lower side of the latter. At the time the gate-like element is moved downwardly, the can is partially supported thereby and the can, as it continues to move downwardly toward the upper track means, is moved through the opening in a pitching or tilting motion.

At the same time a can is moving through the opening, an upwardly directed force is applied to the underneath surface of the can which augments the tilting or pitching motion of the can as it moves through the opening. An arcuately arranged chute is so mounted that the can moves into the upper end thereof as it leaves the upper track means and is moved downwardly by gravity through the chute and onto the lower track means. As the chute arcuately extends between the upper and lower track means, the can is turned 180 degrees in its passage downwardly in the chute and delivered by the same to the lower track means in an inverted or bead-down

attitude. Once the can is delivered onto the lower track means, the driving means associated therewith carries the can onwardly for delivery to the labeling machine.

Cans delivered onto the upper track means in the desired attitude, that is, with the sealing beads facing downwardly, do not engage the detecting means and their passage along this track means does not result in the displacement of the gate-like element which, after its downward displacement, is immediately moved upwardly to its normal position in which it forms a part of the upper track means. The can, with its sealing bead facing downwardly, therefore moves over the gate-like element and continues its passage downwardly of the upper track means to a transfer terminal spaced just above the upper track means and from whence it drops by gravity onto the lower track means for movement therealong to the labeling machine.

The cans delivered to the upper track means in the end-to-end relationship are, if not actually engaging each other, very closely spaced and means must be provided for arresting movement of the can following the can which is being moved off the upper track means until the latter has been removed and the gate-like element returned to its normal position. This arresting means in the now preferred embodiment of the present invention, although normally inoperative, is made operative at the same time the gate-like element is displaced downwardly by the engagement of the upwardly facing bead and the detecting or feeler means carried by the upper track. Thus, as the gate-like element moves downwardly to form the opening at the one side of the upper track through which the can to be inverted moves, the arresting means becomes operative to hold the next following can against movement until the gate-like element is again returned to its normal position in which it forms a part of the upper track means.

As the can to be inverted moves off the upper track and the gate-like element is returned to its normal position, the arresting means is again made inoperative and the next following can is free to move downwardly along the upper track. If this next following can is also inverted on the track, that is, the sealing bead thereon is upwardly facing, this can will also be removed from the upper track for inversion in its passage downwardly through the chute for delivery in a bead-down attitude on the lower track. On the other hand, if this can is moving along the upper track with its bead facing downwardly, it will move over the gate-like element and will be delivered from the upper track means onto the lower track means as previously explained.

Other features and advantages of the present invention will be apparent from the following description, particularly when taken in connection with the accompanying drawing in which:

Figure 1 is a top plan view of the device of the present invention with a portion of the chute broken away to more fully illustrate elements otherwise hidden thereby;

Figure 2 is an elevational view of the device of the present invention;

Figure 3 is a section taken along line 3—3 of Figure 2;

Figure 4 is a fragmentary view on an enlarged scale showing the detecting or feeler means engaged by the sealing bead of the can;

Figure 5 is a fragmentary elevational view on an enlarged scale partly in section and showing in broken lines the gate-like element in its can removing position;

Figure 6 is a section taken along line 6—6 of Figure 5;

Figure 7 is a fragmentary view on an enlarged scale, partly in elevation and partly in section, of the detecting or feeler means and showing in broken lines a can moving along the upper track in a bead-down attitude; and

Figure 8 is a fragmentary perspective view showing the gate-like element in its normal position.

The can handling or arranging device of the present invention, referring now to the accompanying drawing, and more particularly to Figure 1 therefore, comprises a downwardly and laterally inclined track 10 including, in the illustrated embodiment of the device, a pair of L-shaped rail elements 11 and 12 rigidly held apart in substantially parallel relationship by relatively short brace members 13. The rail element 12 is formed by two aligned segments spaced apart to form a gap therein while the rail element 11 is continuous and unbroken throughout its length. The rail elements forming the track 10 are rigidly supported in the desired attitude, with the rail element 11 substantially higher than the rail element 12, by suitable support members 14 which may comprise legs 15 and the spaced stanchions 16.

Arranged beneath the track 10 and substantially aligned therewith is a second track 17 which, like the track 10, includes a pair of L-shaped rail elements 18 and 19 spaced apart in substantially parallel relationship through a plurality of relatively short brace members 21, the opposite ends of which are rigidly connected to the elements 18 and 19. The track 17 is, as clearly shown, substantially horizontally disposed and this track at the right end, as viewed in Figure 1, terminates in a discharge station for delivering cans to the chute or conveyor platform 22 of the labeling machine.

Mounted between the rail elements 18 and 19 of the lower track 17 is an endless belt 23, one stretch of which extends between the rail elements 18 and 19. The upper surface of the stretch of the belt 23 arranged between the elements 19 is somewhat above the upper faces of the elements 18 and 19 to insure that the belt 23 will drivingly engage the undersurface of a can supported upon the track 17. The belt 23, as clearly shown in Figure 2, is passed around suitable sprockets 24, at least one of which is driven through the shaft 25 by a source of power not shown herein. This power source may consist of an electric motor, the shaft of which is connected to the shaft 25 through a suitable gear reduction train which drives the belt in the direction of the arrows 26 shown in Figures 2 and 5.

It should be noted here that the rightward end of track 10 is spaced just slightly above the track 17 so that a can moving downwardly over the track 10 will be transferred by gravity from the upper track 10 onto the lower track 17 as the same moves off the rightward end of the track 10.

As previously explained, the device of the present invention is particularly adapted to be used with labeling machines for applying a label in a strip form to a relatively flat oval can having a sealing bead extending around the upper edge thereof for sealingly holding a flat closure member in closing position at the open end of the can. These cans must be delivered to the labeling machine in a bead-down attitude, for the

labeling machine includes a plate which is received in the depression formed in the one face of the can by the sealing bead and which rotatably drives the can during the label applying operation.

In the use of the device of the present invention, the same is positioned between the inlet end of the labeling machine and the discharge station of the device used to arrange the cans in an end-to-end relationship after the steam cooking operation. Such a device, not shown, is used in most canneries today to so arrange the cans as they tumble in a haphazard relationship from a hopper or other storage member in which they are usually stored after the cooking operation. Cans in an end-to-end relationship are moved onto the leftward end of the upper track 10 of the device of the present invention, and move downwardly therealong by gravity. If a can moved onto the leftward end of the track 10 of the device of the present invention is in a bead-down attitude, this can will move downward along the track 10 and will be transferred therefrom by gravity onto the lower track 17 to be carried by the belt 23 onward and into the labeling machine.

If a can is fed into the track 10 in a bead-up attitude, this can must be inverted before it is moved into the labeling machine and this inversion in the device of the present invention is brought about by means carried by the upper track 10 for detecting cans moving therealong in a bead-up attitude. In the illustrated embodiment of the present invention, this means comprises a small resilient finger 28 having one end fixed to the housing of a microswitch 29, normally biased to a circuit open position, and carried by a bracket 30 mounted to the upstanding flange of the L-shaped rail element 12. The free end of the arm 28 carries a roller 31 mounted for rotational movement about a substantially vertical axis. The arm 28 projects the roller 31 above the track 10 but in such a relative position that the roller will be engaged by only the sealing bead of a can moving along the track 10 in a bead-up attitude. This arrangement will be clearly understood from a comparison study of the showings of Figures 6 and 7.

As the upwardly facing bead of the can moving along the track 10 moves into engagement with the roller 31, the arm 28 is flexed toward the switch and will be moved into engagement with the switch actuator 32 as the medial portion of the can moves past the roller 31 to close the circuit controlled by the switch. The circuit controlled by the switch 29 includes a pair of electro-responsive devices 33 and 34 which, when energized, operate respectively a gate-like means 35 to open a portion of the track 10 to permit removal of the inverted can from the track 10 and the arresting means 36 for halting movement of the can immediately following the inverted can.

The gate-like means 35 comprises, referring now to Figure 6, an L-shaped rail element 37 interconnecting the ends of a pair of spaced angle bars 38 extending transversely of the track 10 and each pivotally mounted to spaced brackets 39 fixed to the undersurface of the track 10. The angle bars 38, in the illustrated embodiment of the present invention, are mounted by a pivot rod 41, the opposite ends of which are passed through aligned apertures formed in the brackets 39. An arm 42, fixed to the flange of each of the bars 38, extends outwardly of the track 10 and the free end of each arm is held against movement by a brace rod 43 interconnecting the free ends of the arms. A coiled spring 44 having one end fixed to each arm 42 and the other connected to the upstanding flange of the rail element 11 normally urges the arm 42 in a clockwise direction, as viewed in Figure 6. The springs thus tend to hold the angle bars 38 in engagement with the under surface of the rail element 11 in which position the L-shaped rail element 37 bridges the gap in the rail element 12 formed by the spaced apart segments thereof and, in such position, as clearly shown in Figure 1, is in substantial alignment with the two segments of the rail element 12.

To move the gate-like member downwardly to move the rail element 37 thereof out of its position bridging the gap in the rail element 12, the electro-responsive device 33 may take the form of an electro-magnet 46 mounted below the track 10 by a suitable bracket 47 supported in part by the adjacent stanchion 16. The electro-magnet includes the usual coil element surrounding a pole piece and a pivotally mounted arm 47 of magnetic material. Fixed to the free end of the arm 47 is a compression link 48, the opposite end of which is pivotally connected to one of the arms 42. It will be seen when the coil of the magnet is energized and the arm 47 is pulled thereto, the compression link 48 will be forced upwardly, as viewed in Figure 2, to rock the arms 42 about their pivotal mounting and thus force the gate-like member from the solid line position, as shown in Figure 6, to the broken line position there shown. As the coil of the electro-magnet is energized by the closing of the microswitch 29, brought about by the engagement between the sealing bead of a can moving along the track 10 in a bead-up attitude and the roller 31 carried by the flexible finger 28, the gate-like means will be moved downwardly just as the can in the bead-up attitude moves onto the rail element 37. As the track 10 is inclined laterally as well as longitudinally, the cans will be held by gravity against the upstanding flange member of the rail element 12 and consequently the upstanding flange of the rail element 37. Thus as the gate-like member drops downwardly upon energization of the electro-magnet, the can held by gravity against the flange of the rail element 37 will move sidewisely or laterally from the track 10 with a pitching or tilting movement.

To augment the action of gravity on the can, means are preferably provided for applying an upwardly directed force against the under surface of the can as it begins its movement off the track 10. In the now preferred embodiment of the present invention, this means comprises a pair of roller elements 49 mounted just below the track 10 and disposed between the spaced angle bars 38. These rollers are mounted in position by a suitable mounting bracket 51 fixed to the underneath surface of the rail member 11. As the rollers are mounted between the angle bars 38 and just beneath the same in the normal position of the bars, movement of the gate member downwardly will result in relative movement of the rollers upwardly between the angle bars 38 to thus apply an upwardly directed force against the can moving laterally downward off the track 10.

The can, as it moves off the track 10 is received by a chute 52 comprising, in the illustrated form of the invention, a metallic sheet having one edge fixed to the upstanding flange of the rail element 11 and extending upwardly and across the track 10 and then arcuately downward with its lower edge fixed to the upper surface of the rail element 19 of the lower track 17. It should

be clearly seen that movement of the can discharged laterally from the track 10 downwardly in the chute 52 will result in an inversion of that can as it reaches the lower end of the chute. As the lower end of the chute leads onto the lower track, it will be understood that the can discharged from the upper track is delivered onto the lower track in a position inverted from its position on the upper track 10.

To facilitate movement of the can onto the lower track, the chute 52 may be formed with a wall member which forces the can traveling down the chute into the lower track in the direction of movement of the stretch of the endless belt 23 moving between the rail elements of the lower track. To simplify construction of the chute 52, the means used to guide the can onto the lower track may consist of a separate guide element 53 in the form of an arcuately extending strap having at least one end fixed relative to the lower track.

It should be understood that once the can is inverted by its passage downwardly in the chute 52 and delivered onto the track, it will be carried forwardly toward the labeling machine in the desired bead-down attitude.

Although the springs 44 will return the gate member to its upper position as soon as the coil of the electro-magnet 43 is de-energized, which occurs as soon as the can in the bead-up attitude has moved downwardly of the track 10 to a position in which the finger 29 no longer holds the switch actuator in the circuit closing position, there is a possibility that the can immediately following may move over the gate member before the same is returned to its upper position. It will be appreciated that because of hysteresis there will be some delay in the gate member returning to its upper position under the urging of the springs 42 and, to guard against any inadvertent discharge of a can moving along the track 10 in a bead-down position, means are provided herein for arresting movement of the next following can as long as the coil of the electro-magnet is energized.

This means, in the illustrated embodiment of the invention, comprises a pair of arms 54 laterally extending from a rod 55 mounted for rotation beneath the track 10. Any means desired may be used to mount the rod 55 although, in the illustrated form of the invention, the rod is mounted by journaling the opposite ends thereof in small bearing members carried by the under surfaces of the rail elements 11 and 12. A link 57, having one end rigidly connected to the rod 55, is pivotally connected at its opposite end to the core member of an electro-responsive device 34 which, as herein shown, comprises a solenoid. It will be remembered that the solenoid is connected into the circuit controlled by the switch 29 and consequently the coil thereof is energized simultaneously with energization of the coil of the electro-magnet. Energization of the solenoid, referring now to Figure 5, results in movement of the core inwardly thereof to swing the link 57 in a counterclockwise direction, as viewed in Figure 5, to thus urge the rod 55 and consequently the arms 54 in the same direction. Each arm 54 carries at the free end thereof a laterally extending finger 59 which, although normally carried below the track 10, is moved by the counterclockwise movement of each arm 54 into a position projecting above the rail elements 11 and 12 of track 10. The rod 55 is so arranged on the track 10 that the fingers 59 are spaced from the roller 31 a distance substantially equal to half the length of the can handled by the device. As the arm 28 is not flexed or moved into engagement with the switch actuator 33 to close the switch 29 until the widest or medial portion of the can in the bead-up attitude is engaging the roller 31, it will be seen that the fingers 59 are not projected above the track 10 until the trailing edge of the can has just cleared the opening in the rail elements 11 and 12. Even if the switch should be energized before the trailing edge of the energizing can has cleared the opening, upward movement of the fingers merely applies an upwardly directed force against the under surface of the trailing edge portion of the can and will assist in removing the can from the track 10.

As the fingers 59 are spaced apart transversely of the track 10 a distance less than the width of the can, they will arrest further movement of the next following can during the ejecting cycle of the device during which the can in the bead-up attitude is transferred from the upper track to the lower track. Once, however, the can energizing the switch has moved downwardly and into the chute 52 and the switch actuator 32 returned to its normal open circuit position, resulting in de-energization of the coil of the solenoid, the link 57 is swung in a clockwise direction by a spring 61 having one end anchored to the rail element 11 of track 10 and its opposite end fixed to the lower end of the link 57. This movement of the link 57 will, as should now be clear, result in downward movement of the fingers 59 to their normal position below the track 10 to permit the can held thereby to resume its movement downwardly of the track 10. Should this can be in a bead-up attitude, the cycle of operation of the device just described will, of course, again repeat and this can ejected from the track 10 and inverted in its passage downwardly in the chute 52. On the other hand should this can be moving downwardly of the track in a bead-down attitude, the can will pass over the gate member and downwardly of the track 10 to the terminal portion spaced just above the lower track for transfer thereto by gravity.

Although the device of the present invention has been described herein as particularly adapted to handle oval cans, it should be understood that, by slight modification, cans of other shapes can be sorted by the device of the present invention. For instance, if the bracket 30 mounting the micro switch 29 was fixed to the upstanding flange of the rail element 12 for vertical movement and means were provided for holding the bracket in a desired position of adjustment, cans of varying thicknesses could be readily accommodated. This should be obvious for actually the bracket is mounted in such a position relative to the rail element that the roller 31 of the finger 28 is spaced above the rail element 12 a distance substantially equal to the thickness of the can. If relatively thick cans were to be handled by the device, the bracket 30 could be moved vertically into a higher position on the flange of the rail element to accommodate thicker cans. Other possible modifications of the present invention necessary to accommodate cans of sizes and shapes other than the cans herein illustrated should be obvious to anyone skilled in the art to which this invention pertains.

It should be seen now that the device of the present invention is adapted to receive cans of

the type having a sealing bead extending around the upper edge thereof after the cans have been partially sorted and arranged in an end-to-end relationship and deliver the cans in a preselected constant relative position or attitude to a labeling machine without the necessity of any hand labor.

Although the now preferred embodiment of the present invention has been shown and described herein, it is to be understood that the invention is not to be limited thereto, for it is susceptible to changes in form and detail within the scope of the appended claims.

I claim:

1. A device for arranging cans of the type having a sealing bead extending around the one edge thereof for delivery to a discharge station thereon in a preselected constant attitude; a track adapted to receive said cans in a random attitude in an end-to-end relationship for movement therealong; a second track arranged below said first track and leading to said discharge station; said upper track being formed with an opening at the one side thereof intermediate the ends thereof; a gate; means for pivotally mounting said gate for movement into and out of a position closing said opening; means normally urging said gate upwardly into a position closing said opening; normally inoperative means for moving said gate downwardly of said upper track; means carried by said upper track adjacent the opening therein adapted to be engaged and actuated by the bead of each can moving along said upper track in an attitude other than said preselected attitude for rendering operative said gate moving means, whereby the can moving along said track in said inverted attitude moves onto said gate means as the same is moved downwardly to clear said opening; means fixed relative to said upper track for applying an upwardly directed force to the undersurface of said can as said gate moves downwardly to discharge said can laterally from said upper track; an arcuately extending chute for receiving cans discharged through said opening, said chute inverting said cans as they pass downwardly therein; and guide means carried at the lower end of said chute for delivering the cans passed downwardly in said chute onto said lower track for movement therealong in the preselected attitude.

2. A device for arranging cans of the type having a sealing bead extending around the one edge thereof for delivery to a discharge station thereon in a preselected constant attitude; a track adapted to receive said cans in a random attitude in an end-to-end relationship for movement therealong; a second track arranged below said first track and leading to said discharge station; said upper track being formed with an opening intermediate the ends thereof; a gate; means for pivotally mounting said gate for movement into and out of a position closing said opening; means normally holding said gate in a position closing said opening; normally inoperative means for moving said gate out of said position to clear said opening; means carried by said upper track adjacent the opening therein adapted to be engaged and actuated by the bead of each can moving along said upper track in an attitude other than said preselected attitude for rendering operative said gate moving means, whereby the can moving along said track in said inverted attitude moves onto said gate means as the same is moved to clear said opening downwardly; means for applying an upwardly directed force to the undersurface of said can as said gate is moved to clear said opening to discharge said can through said opening laterally from said upper track; an arcuately extending chute for receiving cans discharged through said opening, said chute inverting said cans as they pass downwardly therein; guide means carried at the lower end of said chute for delivering the cans passed downwardly in said chute onto said lower track for movement therealong in the preselected attitude; and means, normally inoperative, and rendered operative by actuation of said bead engaging means for arresting movement of the can immediately following the can moving along said upper track in the inverted attitude as long as said gate moving means is operative.

3. A device for arranging cans of the type having a sealing bead extending around the one edge thereof for delivery to a discharge station thereon in a preselected constant attitude; a track adapted to receive said cans in a random attitude in an end-to-end relationship for movement therealong; a second track arranged below said first track and leading to said discharge station; said upper track being formed with an opening at the one side thereof intermediate the ends thereof; a gate; means for pivotally mounting said gate for movement into and out of a position closing said opening; means normally holding said gate in a position closing said opening; normally inoperative means for moving said gate out of said position to clear said opening; means carried by said upper track adjacent the opening therein adapted to be engaged and actuated by the bead of each can moving along said upper track in an attitude other than said preselected attitude for rendering operative said gate moving means, whereby the can moving along said track in said inverted attitude moves onto said gate means as the same is moved to clear said opening; means for applying an upwardly directed force to the undersurface of said can as said gate is moved to clear said opening to discharge said can through said opening laterally from said upper track; an arcuately extending chute for receiving cans discharged through said opening, said chute inverting said cans as they pass downwardly therein; and guide means carried at the lower end of said chute for delivering the cans passed downwardly in said chute onto said lower track for movement therealong in the preselected attitude.

4. A device for arranging cans of the type having a sealing bead extending around the upper edge thereof for delivery to a discharge station thereon in a preselected constant attitude, comprising: a track leading to said discharge station; an inclined track arranged above said first named track for receiving cans in a random end-to-end relationship, said upper track being inclined laterally so that one edge thereof is lower than the other; gate means forming a part of said upper track; means for pivotally mounting said gate means for movement about an axis substantially coincident with the higher edge of said second track; means normally urging said gate means into a normal position in which the same is substantially coincident with said upper track and operative to hold cans moving thereover against lateral movement off the lower edge thereof; means, including means engaged and actuated by the sealing bead

of each can moving along said upper track in a bead-up attitude, for pivotally moving said gate means downwardly, whereby said can is laterally discharged from said upper track; chute means for receiving said discharged can, said chute means arcuately extending downwardly and into registry with said lower track, whereby said can discharged thereinto is inverted in its passage downwardly therein and delivered to said lower track in a bead-down attitude, the can moving along said upper track in a rim-down attitude being delivered thereby in that attitude onto said lower track for movement therealong to said discharge station; and arresting means made operative by actuation of said bead engaging means for holding the can following the can moving along said upper track in a bead-up attitude against movement as long as the gate moving means is operative.

5. A device for arranging cans of the type having a sealing bead extending around the one edge thereof for delivery to a discharge station thereon in a preselected constant attitude, comprising: a track leading to said discharge station; an inclined track arranged above said first named track for receiving cans in a random end-to-end relationship and terminating in a transfer station superimposed relative to said lower track whereby cans moving into said transfer station are delivered to said lower track, said upper track being inclined laterally so that one edge thereof is lower than the other; gate means forming a part of said upper track; means for pivotally mounting said gate means for movement about an axis substantially coincident with the higher edge of said second track; means normally urging said gate means into a normal position in which the same is substantially coincident

with said upper track and operative to hold cans moving thereover against lateral movement off the lower edge thereof; means, including means actuated by the sealing beads of all cans moving along said upper track in a bead-up attitude, for pivotally moving said gate means downwardly, whereby said cans are laterally discharged from said upper track; chute means arranged laterally of said upper track for receiving said discharged cans, said chute means arcuately extending downwardly and into registry with said lower track, whereby said cans are inverted in their passage downwardly therein and delivered to said lower track in a bead-down attitude; said urging means returning said gate means to said normal position upon discharge of the can into said chute whereby the can following and moving along said upper track in a bead-down attitude moves over said gate means and along said upper track to said transfer station for delivery onto said lower track in the bead-down attitude for movement therealong to said discharge station.

ALBERT A. YATES.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,118,972	Torres	Dec. 1, 1914
1,886,896	Nelson	Nov. 8, 1932
2,270,428	Flint	Jan. 20, 1942
2,333,940	Kuehlman	Nov. 9, 1943
2,368,796	Ardell	Feb. 6, 1945
2,505,398	Harris	Apr. 25, 1950
2,529,603	Galt	Nov. 14, 1950