

J. C. TALIAFERRO,
 DEVICE FOR FEEDING FILLED CANS TO CLOSING MACHINES.
 APPLICATION FILED JULY 3, 1913.

1,263,146.

Patented Apr. 16, 1918.
 2 SHEETS—SHEET 1.

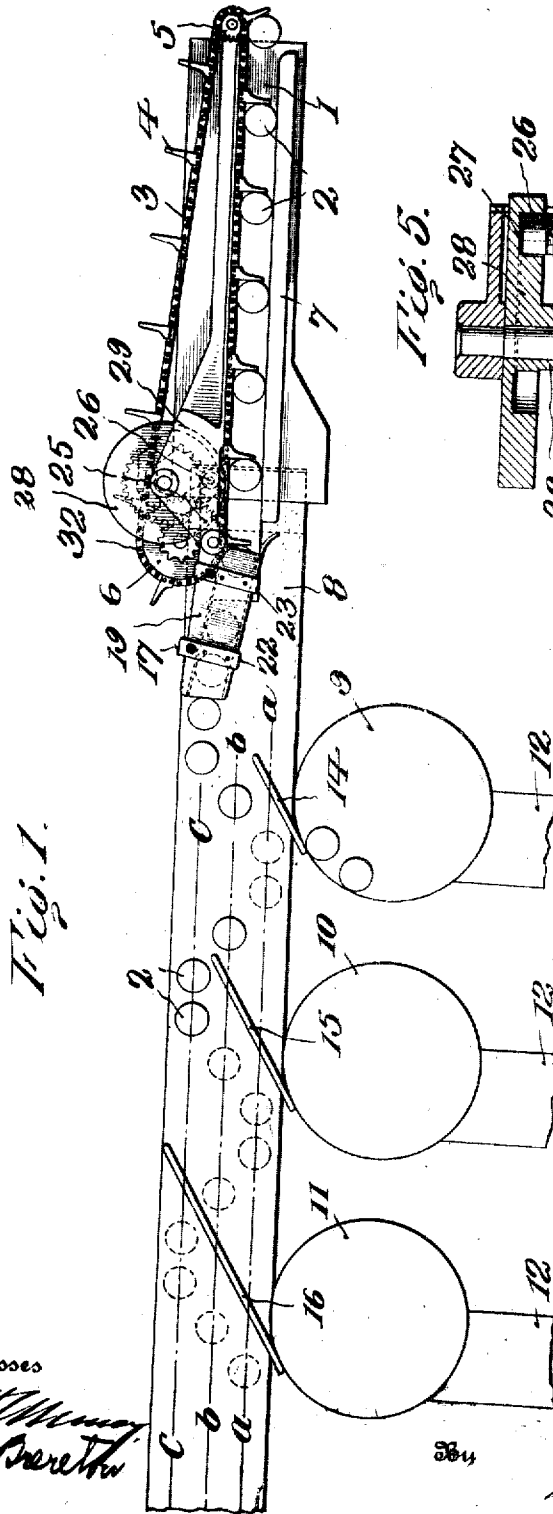


Fig. 1.

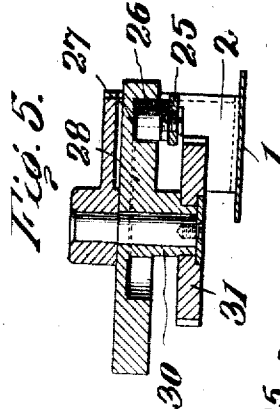


Fig. 5.

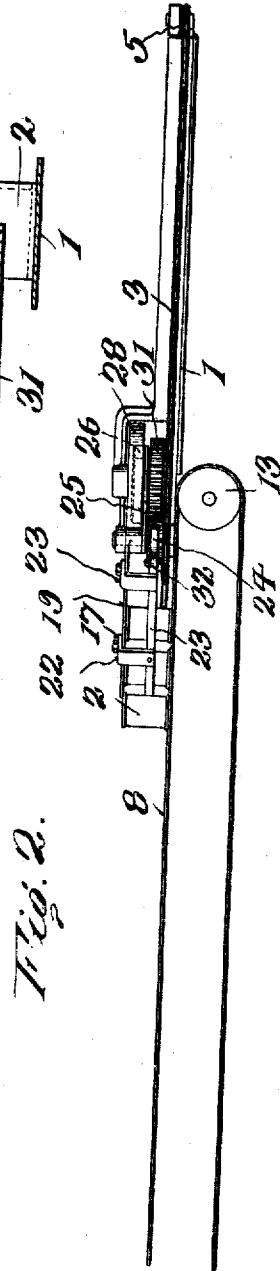


Fig. 2.

Witnesses
W. H. Mason
W. P. Mason

Inventor
John C. Taliaferro
Sturtevant Mason
 Attorneys

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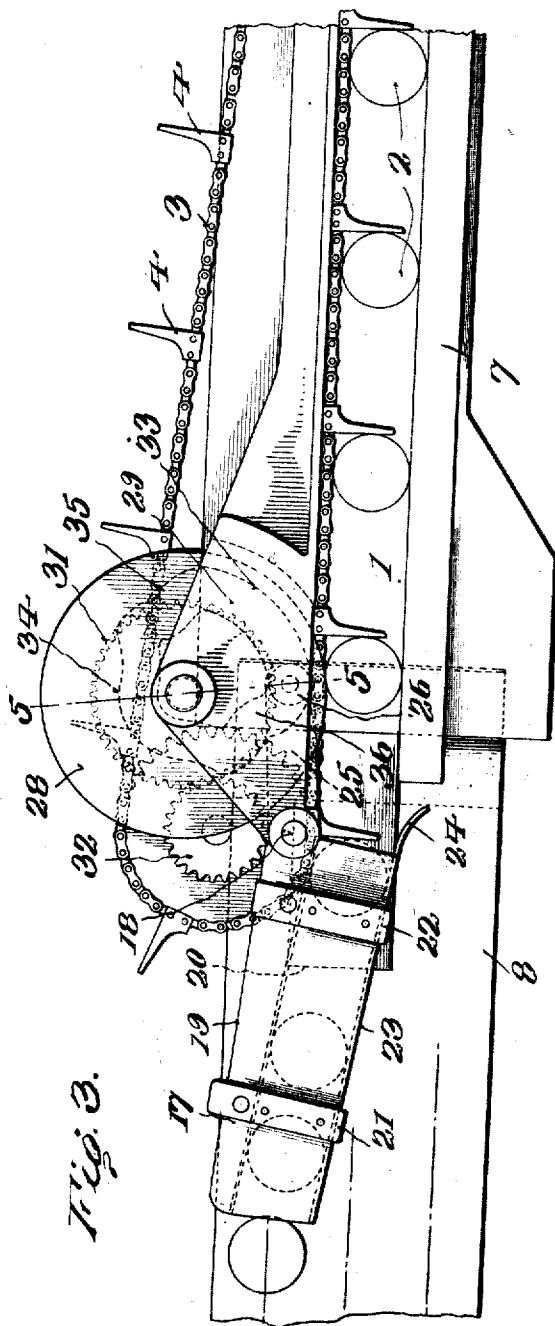


Fig. 3.

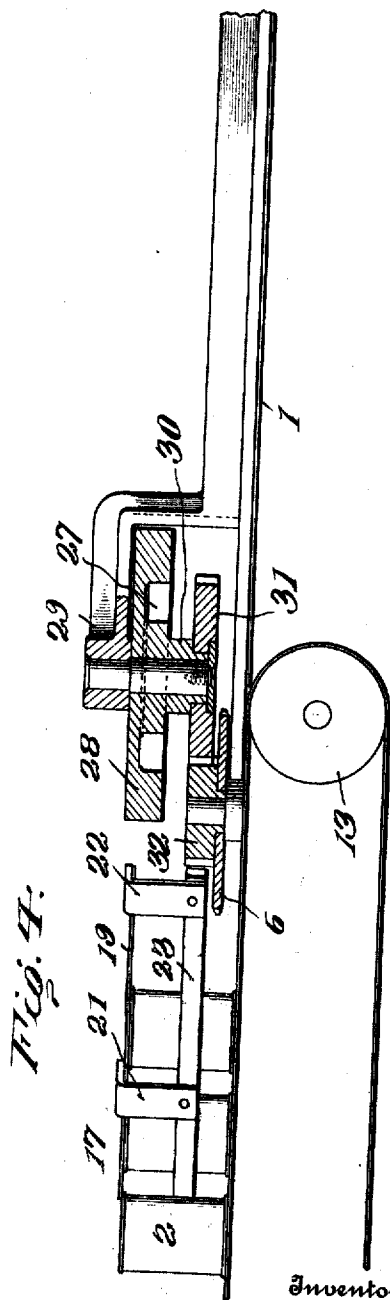


Fig. 4.

Witnesses
H. H. Munnay
Grace P. Breerton

Inventor
John C. Taliaferro
 384
Stewart Massey
 Attorney

UNITED STATES PATENT OFFICE.

JOHN C. TALIAFERRO, OF BALTIMORE, MARYLAND, ASSIGNOR TO CONTINENTAL CAN COMPANY, INCORPORATED, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

DEVICE FOR FEEDING FILLED CANS TO CLOSING-MACHINES.

1,263,146.

Specification of Letters Patent.

Patented Apr. 16, 1918.

Application filed July 3, 1913. Serial No. 777,271.

To all whom it may concern:

Be it known that I, JOHN C. TALIAFERRO, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Devices for Feeding Filled Cans to Closing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

In the filling of open top cans, and more particularly small cans, where a filling machine will receive, fill and deliver the cans at a speed greater than the capacity of the closing machine, it is desirable to provide a plurality of closing machines for each filling machine.

An object of the present invention is to provide devices whereby the filled cans delivered by a filling machine may be received and selectively fed in equal numbers to separate closing machines.

A further object of the invention is to provide devices of the above character which are so constructed and operated that the filled cans are selected or directed to the different closing machines without retarding their forward travel.

These and other objects will in part be obvious, and will in part be hereinafter more fully disclosed.

In the drawings, which show by way of illustration, one embodiment of the invention,—

Figure 1 is a plan view showing more or less diagrammatically my improved devices for feeding the filled cans to a plurality of closing machines;

Fig. 2 is a side elevation of the same;

Fig. 3 is an enlarged plan view of the distributing devices which place the cans on the conveyer for the closing machines;

Fig. 4 is a view partly in side elevation and partly in longitudinal section of the same;

Fig. 5 is a section on the line 5—5 of Fig. 3.

The invention consists generally in a conveyer which is common to the separate closing machines, so that the single conveyer will present the filled cans received from the conveyer of the filling machines to the closing machines. The closing machines are disposed along the side of the conveyer.

Devices are provided for selectively feeding the filled cans to the separate closing machines in equal numbers, and without retarding the forward travel of the cans.

In the present embodiment of the invention, said devices consist in swinging or movable guides which receive the filled cans from the conveyer for the filling machines and deliver the same on to the conveyer which feeds the filled cans to the closing machines. These movable guides are so timed that the cans are placed in a zigzag line on the conveyer for the closing machines, and the cans in these zigzag lines are so placed as to be in spaced lines extending longitudinally of the conveyer belt, so that selecting devices may cooperate with each longitudinal line of filled cans and thereby direct the longitudinal lines of filled cans to separate closing machines.

Referring more in detail to the drawings, 1 is the support for the filling machine, along which the filled cans 2 are caused to travel by an endless conveyer 3 having spaced fingers 4 thereon. This endless conveyer runs over a suitable sprocket wheel 5 at one end and a suitable sprocket wheel 6 at the other end of the support 1, and is driven in the usual way. A guide rail 7 is placed on the support 1 and guides the cans in their travel.

At the delivering end of the support 1 of the filling machine, I have placed an endless conveyer 8, which preferably extends in the same general direction as the conveyer for the filling machine, and this conveyer 8 runs along the side of the receiving plates 9, 10 and 11 of three closing machines. Each closing machine is preferably provided with a receiving table and drum 12.

The conveyer 8 is preferably in the form of a belt and runs over suitable pulleys, one of which is indicated at 13 in Fig. 2. This conveyer belt may rest on the table so that the weight of the filled cans will be supported by the table. The conveyer belt 8 is preferably of considerable width, so that the filled cans may be placed in spaced longitudinal lines thereon.

As shown in Fig. 1 of the drawing, there are three spaced longitudinal lines of filled cans, indicated by the broken lines *a—*a**, *b—*b** and *c—*c**. Cooperating with the filling

machine 9 is a selecting or deflecting guide 14, which extends over the conveyer belt 8 to a distance slightly beyond the line $a-a$, which indicates the centers of the cans placed in this longitudinal line. This guide 14, however, does not extend far enough to engage or contact with the cans placed in the lines $b-b$. The closing machine 10 is provided with a deflecting or selecting guide 15, which extends beyond the line $b-b$, so as to engage filled cans located in the line $b-b$, which indicates the centers of the cans. This guide bar, however, does not extend so as to engage or contact with the cans placed in the lines $c-c$.

A third guide bar 16 cooperates with the filling machine 11, and this bar extends entirely across the conveyer belt. It will be readily understood that the number of closing machines may be increased by increasing the width of the conveyer belt, and increasing the throw of the devices for placing the cans, to be hereinafter described, so as to form additional longitudinal lines of filled cans, and the guides for selecting or directing the filled cans from the conveyer will be properly disposed relative to the conveyer belt, as has been described in connection with the guides 14, 15 and 16.

As a means for placing the filled cans on the conveyer belt in the longitudinal lines above described, I have provided a swinging guide 17. This swinging guide is pivoted at 18 to the frame of the filling machine, and consists of a plate 19 which has a side guiding member or rail 20. The plate is also provided with downwardly projecting arms 21 and 22, carrying a guiding rail 23. This guiding rail 23 is spaced from the side guiding member 20, so as to form a guiding channel for the filled cans. It will be noted that this guiding device engages the sides of the cans only which pass underneath the top plate 19. The receiving end of the guiding rail 23 is curved, as at 24, to facilitate the entering of the cans into the guiding device.

The guiding device, as above noted, is pivoted at 18 to the supporting frame of the filling machine, and the plate 19 carries an arm 25 (see Fig. 2), which arm has a roller 26 mounted in its outer end, and this roller engages a cam groove 27 formed in a disk 28 pivoted to a bracket 29, carried by the frame of the filling machine.

The disk 28 is provided with a downwardly extending hub 30, which carries a gear wheel 31. This gear wheel 31 meshes with a gear wheel 32 carried by the sprocket wheel 6.

The cam groove 27 is formed with a concentric portion 33 and a second concentric portion 34, and these two concentric portions are joined by two eccentric portions 35 and 36. This cam groove will, therefore,

swing the guiding member 17 about its pivotal support 18, and give to the same a dwell at each end of the stroke.

The filled cans 2, 2, are delivered from the filling machine in a single line, and are carried by the fingers 4 from the endless conveyer 3 into the guiding member 17. If the guiding member is positioned as shown in Fig. 3, the direction of travel of the filled cans will be slightly changed, so that the cans as they are carried on to the conveyer 8 will be placed in the line $c-c$ indicated in Fig. 1. If this guide 17 is swung so the delivery end thereof is located at the line $b-b$, then the filled cans will be placed in the longitudinal line $b-b$. Then again, if the guide is swung so the delivery end thereof is at the line $a-a$, the cans will be placed in the line $a-a$. The filled cans are carried by the fingers into the guide, and will be forced through the same on to the conveyer 8. The end of the supporting table of the filling machines extends over the conveyer 8.

The timing of the swinging of the guide 17 is preferably such that two cans will be delivered on to the conveyer belt while the guide is dwelling at each end of its stroke, and one can will be conveyed on to the conveyer belt between each end of the stroke of the guide. The eccentric groove 35 which controls the guide, is so formed as to give a slight retarding movement to the guide as the can is delivered therefrom in the center line of the conveyer. This shifting of the filled cans transversely of the conveyer occurs without in any way retarding the forward travel of the can, and inasmuch as the can is traveling forward, the side sliding of the can on the conveyer belt to change the point of delivery from the guide, will not spill the contents thereof. One of the essential things in an apparatus of the type described, is to position the cans so they may be conveyed to the closing machines without spilling the contents. It is well understood that when a can is traveling forward, the direction of travel may be changed without spilling the contents, whereas if the can is suddenly stopped in its travel, then the contents will be spilled.

By my improved device, I am able to place the cans on the conveyer belt without in any way retarding their forward travel. It will be noted also that the means for placing the cans is positively actuated by devices which are entirely independent of the cans, and, therefore, there is no jarring of the cans by the same being brought into contact with shifting mechanism, so the cans of themselves will shift the mechanism for placing the same.

Furthermore, by my improved mechanism, I am able to properly place the filled cans in zigzag lines on the conveyer belt, so that said filled cans may be fed to each

closing machine, regardless of the number of closing machines with which the device is designed to cooperate.

While I have referred to a conveyer, it will be understood that I do not limit myself to a conveyer belt or any other particular type of conveyer.

It is obvious that minor changes in the details of construction and arrangement of parts may be made, without departing from the spirit of the invention as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a plurality of closing machines, of an apparatus for delivering filled cans to the closing machines, said apparatus including a conveyer for receiving the filled cans, means for feeding the cans in a single line to the conveyer, a pivoted guide for engaging and directing

the cans so as to position the cans on the conveyer in separate longitudinal lines without retarding the forward travel of the cans, means for positively swinging said guide and giving a dwell thereto at each end of its stroke, and devices for directing the cans in different lines to separate closing machines.

2. The combination with a plurality of closing machines, of an apparatus for delivering filled cans to said closing machine including a conveyer common to all of the machines, means for feeding the cans to a conveyer in a single line of feed, positively actuated means for receiving the cans and placing the same on the conveyer in spaced lines extending longitudinally of the conveyer, and devices for directing the filled cans in the different lines to the separate closing machines.

In testimony whereof, I affix my signature.

JOHN C. TALIAFERRO.