

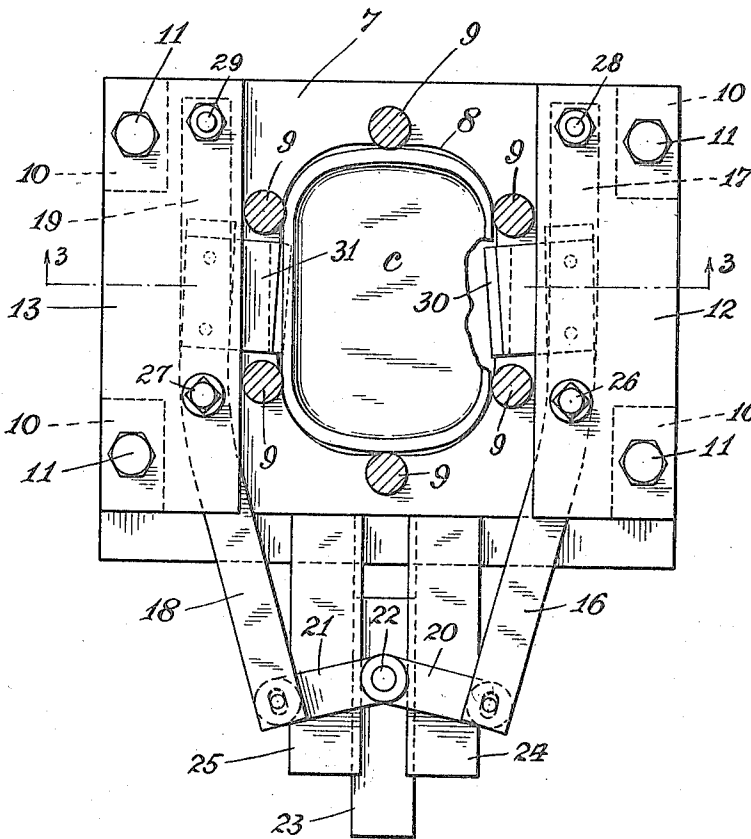
J. BRENZINGER.
CAN COVER FEEDING DEVICE.
APPLICATION FILED JUNE 25, 1917.

1,270,923.

Patented July 2, 1918.

2 SHEETS—SHEET 1.

Fig. 1.



INVENTOR

Julius Brenzinger

BY

McDonough

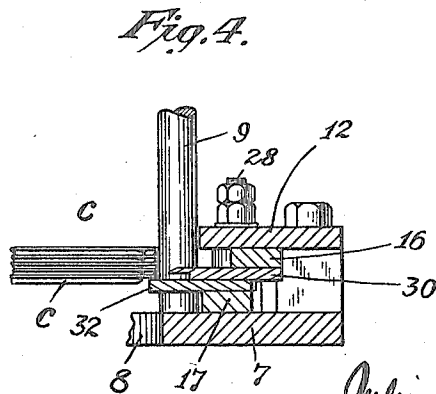
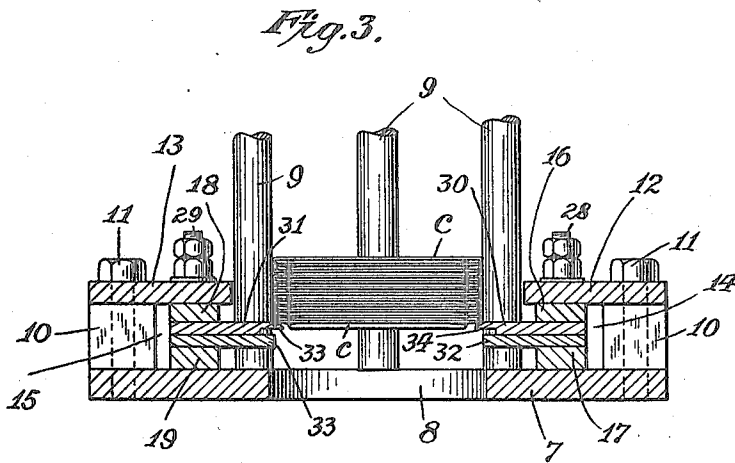
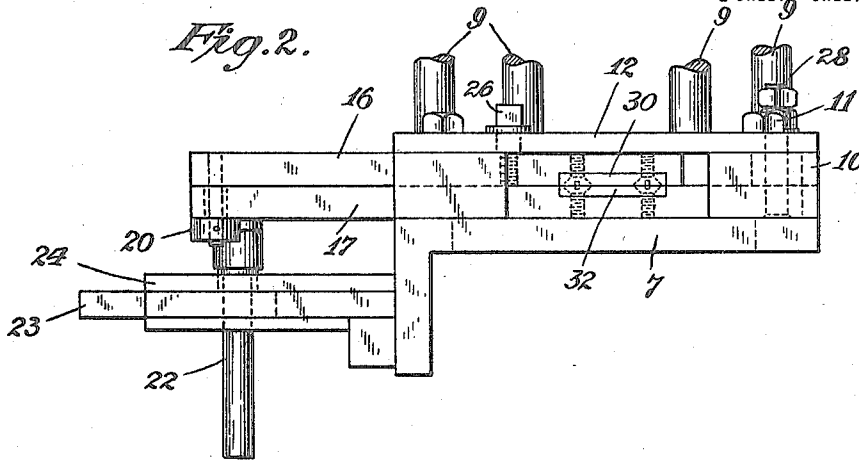
ATTORNEY

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2 SHEETS—SHEET 2.



INVENTOR
Julius Brenzinger,
BY
Thos H. Conner
ATTORNEY

UNITED STATES PATENT OFFICE.

JULIUS BRENZINGER, OF FAIRFIELD, CONNECTICUT, ASSIGNOR TO SANITARY CAN MACHINERY COMPANY, OF ELLSWORTH, MAINE, A CORPORATION OF MAINE.

CAN-COVER-FEEDING DEVICE.

1,270,923.

Specification of Letters Patent.

Patented July 2, 1918.

Application filed June 25, 1917. Serial No. 176,666.

To all whom it may concern:

Be it known that I, JULIUS BRENZINGER, a citizen of the United States, residing at Fairfield, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Can-Cover-Feeding Devices, of which the following is a specification.

This invention relates generally to devices—appurtenant to can heading machines or, more specifically, to can-body and cover assembling and feeding devices for can heading machines—for successively delivering a cover to and positioning the same on the open end of a filled can in transit to the seaming mechanism, with more particular reference to covers for so-called “square” cans.

In connection with more modern methods of what is generally termed “sanitary” can construction, these covers are provided with a tapering central depression adapted to fit within the open end of the container, and with a flange adapted to be intercurled with a flange on the can body at said open end thereof to form a hermetic seam. It will be apparent that if the cover flanges are straight, the covers will closely nest when a plurality thereof are assembled in superposed or stacked arrangement—which has been proven to be the most practical and convenient arrangement in connection with devices for automatically feeding these covers successively to filled cans for the performance of the usual double-seaming operations—and when so nested it has been found practically impossible to insure repeatedly perfect operations of the feeding mechanism, which generally includes an edged tool or tools which must be passed between the bottom or lowermost covers of the stack and the one next above the same to support the remainder of the stack during withdrawal or removal of the bottom cover. Therefore, it was found desirable—if not actually essential—in connection with covers for so-called “round” cans, to uniformly bend or turn down the edge of the flange to prevent nesting—that is to say, to have the effect of slightly spacing apart the superposed covers so that the edged separating tools might be readily and dependably passed between contiguous covers.

In connection with “square” can covers, however, a continuous down-turned flange

edge was found to be objectionable, for reasons which I have clearly set forth in a co-pending application, filed June 8, 1917, Serial No. 173,491, in which I have shown and described a “square” can-cover in connection with which nesting is prevented by turning down opposite substantially straight portions only of the flange, thereby insuring dependable operations of the feeding devices without subjecting the cover to the objections to a continuous down-turned flange-edge.

The principal object of the present invention is the provision of a simple, efficacious and dependable cover feeding device, and particularly one for feeding covers for “square” cans, such as those shown and described in my co-pending application, aforesaid.

My invention will be more readily understood by reference to the accompanying drawings, forming a part of this application, in which—

Figure 1 is a partly sectional top plan view of a device embodying my invention;

Fig. 2 is a side elevation thereof;

Fig. 3 is a cross-section, taken substantially on the line 3—3 of Fig. 1, and

Fig. 4 is a fragmentary section, corresponding to Fig. 3, showing the feeding tools in the alternate relative positions.

As hereinabove suggested, it is to be understood that the device now about to be described is designed to be appurtenant to mechanism for conveying filled cans to the seaming mechanism of a can heading machine. With this conveying mechanism, the present invention has nothing to do, other than to be so positioned with respect thereto as to deliver an ejected cover to an advancing—or temporarily checked—can body in properly assembled relationship for the seaming operation, although, so far as this invention is concerned, it will be apparent that the withdrawn or ejected cover may drop into the chute or be otherwise indirectly delivered to the can to be headed.

A practical and convenient embodiment of my invention comprises a frame which includes a substantially heavy base-plate provided with a central orifice 8, preferably of the general outline of a “square” can cover of a certain size, with its rounded corners, although of slightly greater dimensions than the cover whereby the latter will

freely pass therethrough. Mounted in the plate 7 and projecting upwardly therefrom are the retaining and guide posts 9 9, preferably six in number and arranged one at each end and two at each side of the slightly elongated orifice 8. These posts are so relatively positioned as to loosely receive therebetween a plurality of can covers *c c*, in superposed or stacked arrangement, the spacing of the posts being such as to maintain this stacked arrangement of the can covers and yet permit the stack as a whole to drop under action of gravity upon removal or withdrawal of the bottom or lowermost cover of the stack.

Mounted above the base-plate 7 and spaced therefrom preferably by means of suitable blocks 10 10 through which pass the bolts 11 11, are the plates 12 and 13, one on each side of the frame. These plates 12 and 13 form with the plate 7 what may be termed bearing-ways 14 and 15 for the pairs of superposed levers 16 17 and 18 19, respectively. These levers project from the frame 7 and I have shown the projecting ends of each pair thereof bent toward each other and having common pivotal connection with the link-bars 20 and 21, respectively; the other ends of which are pivoted on the stud 22 mounted in the bar 23 which is reciprocable in slide bearings or ways provided by the arms 24 and 25 carried by and projecting from the plate 7.

The upper levers 16 and 18, of each pair, are pivoted at 26 and 27, respectively, intermediate the ends thereof, wherefore outward movement of the projecting ends of said levers causes inward movement of the inner ends thereof. The lower levers 17 and 18, of each of said pairs, are pivoted at 28 and 29, respectively, at the inner ends thereof, wherefore outward movement of the projecting ends of said levers causes outward movement of the same throughout substantially the entire length thereof. Therefore, reciprocation of the bar 23 in one direction, operating through the link-bars 20 and 21 to move the projecting lever ends away from each other, will cause the inner ends of the upper levers 16 and 18 to move toward each other—and toward the stack of can covers *c c*, supported between the posts 9 9—and corresponding portions of the lower levers 17 and 19 to move away from each other—and consequently away from said stack.

At the inner ends of the upper levers 16 and 18 are mounted the edged plates 30 and 31, respectively, and mounted in corresponding positions on the lower levers 17 and 19 are the plates 32 and 33. In what may be termed the initial relative positions of the levers, the edged plates 30 and 31 project under the stack of covers and support the same, as clearly shown in Fig. 3. Recipro-

cation of the bar 23 in a direction to separate the inner ends of the levers 16 and 18 will now have the effect of separating the plates 30 and 31 and withdrawing the same from underneath the stack. At the same time, corresponding portions of the lower levers 17 and 19 are being moved inwardly, toward each other, carrying the plates 32 and 33 to positions underneath side edges of the bottom cover of the stack. Therefore, upon withdrawal of the edged plates 30 and 31, the plates 32 and 33 will be positioned to receive and support the stack, substantially as shown in Fig. 4. Now, upon reciprocation of the bar 23 in the other direction, as the plates 32 and 33 are being withdrawn, the comparatively sharp edges of the plates 30 and 31 will be passed between the bottom cover of the stack and the cover next above the same, thereby supporting the remainder of the stack while the bottom cover drops by gravity through the orifice 8 upon an advancing can or upon a chute or other means for conveying the same for delivery indirectly upon the can to be headed.

I have shown the plates 30 and 31 provided with recesses 34 34 underneath the penetrating edges of the same in order to provide clearance for the covers in process of withdrawal, and I have also shown the edges of these plates inclined, to effect what may be termed a "shearing" movement and insure free penetration of the stack without possibility of mutilation of the turned flange of a cover should the flange-edge have been imperfectly turned.

Many modifications of minor details of my improved can-cover feeding device will doubtless readily suggest themselves to those skilled in the art to which it appertains, and I therefore do not desire to limit my invention to the specific construction herein shown and described.

I claim as new and desire to secure by Letters Patent:—

1. In a device of the character described, the combination, with primary means for supporting a stack of can covers and secondary supporting means adapted to be interposed between the bottom cover and the remainder of the stack, both of said supporting means having reciprocatory movement only, of separate means each common to portions of both said primary and said secondary supporting means and having common actuating means for successively rendering the two supporting means alternately effective.

2. In a device of the character described, the combination, with primary means for supporting a stack of can covers from opposite sides of the bottom cover of the stack, and relatively correspondingly located secondary supporting means adapted to be in-

terposed between the bottom cover and the remainder of the stack, of separate means each common to portions of both primary and secondary supporting means on one side of said stack and having common actuating means for successively rendering the two supporting means alternately effective.

3. In a device of the character described, the combination, with primary means for supporting a stack of can covers and secondary supporting means adapted to be interposed between the bottom cover and the remainder of the stack, both of said supporting means having reciprocatory movement only, of pairs of oppositely oscillating levers for supporting and actuating both of said supporting means, and means for oscillating said levers to successively render the two supporting means alternately effective, said last-mentioned means including separate connecting means each common to a lever in each pair thereof.

4. In a device of the character described, the combination, with primary means for supporting a stack of can covers from opposite sides of the bottom cover of the stack, and relatively correspondingly located secondary supporting means adapted to be interposed between the bottom cover and the remainder of the stack, of pairs of oppositely oscillating levers for supporting and actuating both of said supporting means, and means for oscillating said levers to successively render the two supporting means alternately effective, said last-mentioned means including separate connecting means each common to a lever in each pair thereof.

5. In a device of the character described, the combination, with primary means for supporting a stack of can covers and secondary supporting means adapted to be interposed between the bottom cover and the remainder of the stack, of pairs of oppositely oscillating levers upon which both of said supporting means are mounted, a reciprocating member, and connecting means between said member and said levers and including actuating parts each common to a lever in each pair thereof for oscillating said levers to successively render the two supporting means alternately effective.

6. In a device of the character described, the combination, with primary means for supporting a stack of can covers from opposite side edges of the bottom cover of the stack, and similar secondary supporting

means adapted to be interposed between the bottom cover and the remainder of the stack, of two pairs of levers in superposed arrangement, said primary supporting means being supported and actuated by the lower pair of levers and said secondary supporting means being supported and actuated by the upper pair of levers, and means common to a lever in each pair thereof for oscillating operative portions of the levers of both pairs in opposite directions.

7. In a device of the character described, the combination, with primary means for supporting a stack of can covers from the opposite side edges of the bottom cover of the stack, and similar secondary supporting means adapted to be interposed between the bottom cover and the remainder of the stack, of two pairs of levers in superposed arrangement, said primary supporting means being supported and actuated by the lower pair of levers and said secondary supporting means being supported and actuated by the upper pair of levers, a reciprocating member, and connecting means between said member and all said levers and including actuating parts each common to a lever in each pair thereof for oscillating operative portions of the levers of both pairs in opposite directions.

8. In a device of the character described, the combination, with primary means for supporting a stack of can covers from opposite side edges of the bottom cover of the stack, and similar secondary supporting means adapted to be interposed between the bottom cover and the remainder of the stack, of two pairs of levers in superposed arrangement, said primary supporting means being supported and actuated by the lower pair of levers and said secondary supporting means being supported and actuated by the upper pair of levers, a reciprocating member, and a pair of link-bars each pivoted at one end thereof to said reciprocating member and at the other end thereof to a lever in each of said pairs of levers to oscillate operative portions of the levers of each pair in opposite directions.

In testimony of the foregoing, I have hereunto set my hand in the presence of two witnesses.

JULIUS BRENZINGER.

Witnesses:

ANNA DICK BERNSTEIN,
HENRY C. BURROUGHS.