May 17, 1932. F. B. REID 1,858,417

CONTAINER FILLING MACHINE

Filed Dec. 30, 1930

Fig. 1.

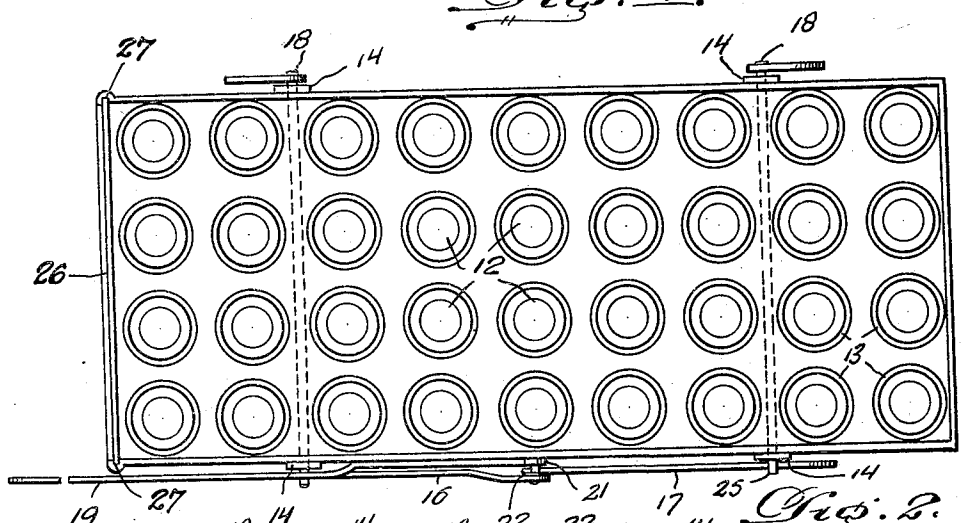


Fig. 2.

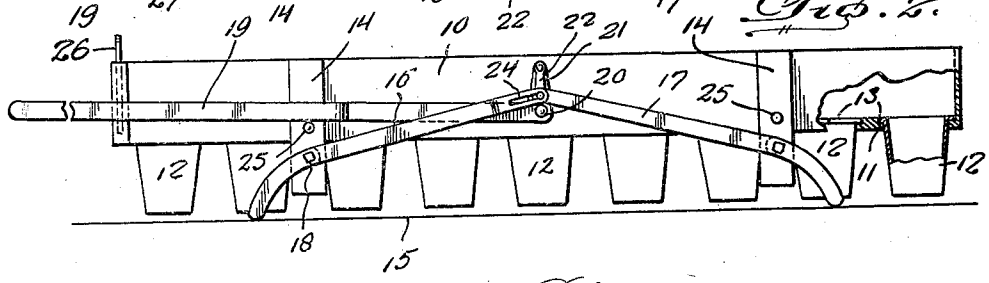
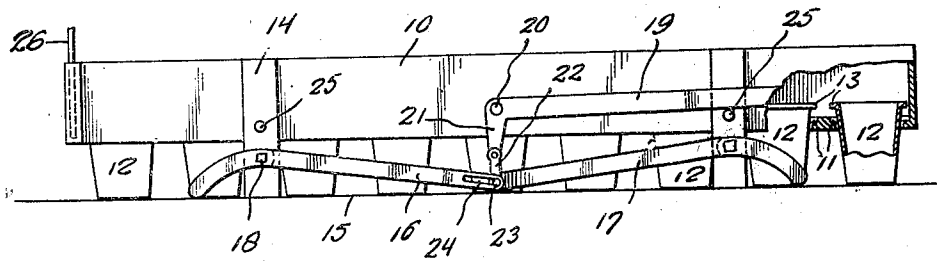


Fig. 3



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CONTAINER FILLING MACHINE

Application filed December 30, 1930. Serial No. 505,629.

The present invention comprehends the provision of a machine for filling containers with frozen confections and the like, and by means of which large numbers of containers can be quickly filled and subsequently removed from the machine with a minimum of time and effort.

In carrying out my invention, I provide a receptacle in which the confection is initially deposited, and from which a large number of containers are filled through openings in the bottom of the receptacle.

In accordance with the present invention, the containers are slidably received in the openings of the receptacle to depend from the bottom of the latter while being filled, and adapted to be subsequently projected within the receptacle incident to the lowering of the latter, so that the containers can be quickly and conveniently removed from the machine.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application like numerals of reference indicate similar parts in the several views and wherein:

Figure 1 is a top plan view of the machine.

Figure 2 is a side elevation showing the receptacle supported in an elevated position and the containers depending from the bottom thereof.

Figure 3 is a similar view showing the receptacle lowered and the containers partly projected within the receptacle to be removed therefrom.

The machine forming the subject matter of the present invention embodies a receptacle 10 which may vary in size and configuration without departing from the inventive idea, but which receptacle is preferably of the elongated contour in plan as illustrated. The bottom of the receptacle is provided with a plurality of countersunk openings 11 adapted to slidably receive containers to be filled from the receptacle 10. These containers are indicated at 12, and of course can vary in size and contour within the scope of the present invention. The receptacle 10 is adapted to be supported in an elevated position during the filling operation, in a manner to be hereinafter described, with the containers 12 depending from the bottom of the receptacle and lying flush, with the bottom as clearly illustrated in Figure 2. If desired, the containers 12 may be formed with flanges 13 to be received by the countersunk openings 11, and which flanges of course are utilized to support the containers in the position illustrated in Figure 2. Depending from the opposite sides of the receptacle 10 are spaced uprights 14, and as clearly illustrated, when the machine is in use for filling the containers 12, the latter project a slight distance beneath the lower edges of the uprights 14 for a purpose to be to be presently described.

The entire machine is adapted to be arranged upon a work bench or other suitable support indicated generally at 15, and the receptacle is adapted to be either supported in an elevated position as shown in Figure 2 or in a lowered position as illustrated in Figure 3. For this purpose, I preferably employ a pair of pivotally mounted legs arranged at each side of the receptacle 10, the legs of each pair being indicated at 16 and 17 respectively. These legs are pivotally mounted upon the standards 14 as at 18, while the corresponding legs of the respective pairs of legs located at opposite sides of the receptacle are connected by the pivot shaft 18 as clearly shown by dotted lines in Figure 1. Consequently the legs at opposite sides of the receptacle are simultaneously manipulated to either support the receptacle in an elevated position, or to permit the receptacle to be lowered as shown in Figure 3. In addition to the legs 16 and 17 being pivotally mounted upon the standards 14, the legs of each pair are also pivotally connected together, and are controlled by an operating lever 19. The lever is pivoted as at 20 upon one side of the receptacle 10 and is formed with an offset extremity 21. Pivotally connecting the extremity 21 with the adjacent end of the lever

17 is a link 22, while the pivot pin 23 therefor is received by a longitudinal slot 24 in the leg 16. Also carried by the standards 14 are stop pins 25 which limit the movement of the lever 19 to either of its two positions.

In practice, the receptacle 10 receives the frozen confection or other material with which the containers 12 are adapted to be filled, with the receptacle 10 supported by the legs 16 and 17 in an elevated position as illustrated in Figure 2. In this arrangement of parts, the lever 19 occupies the position as shown in Figure 2, while the containers 12 depend from the bottom of the receptacle 10 and slightly spaced from the work bench or support 15. As the containers 12 lie substantially flush with the bottom of the receptacle 10, it is manifest that the containers 12 can be very easily and quickly filled with the frozen confection or the like through the openings in the bottom of said receptacle. After the containers have been properly filled with a predetermined amount or quantity of the frozen confection or the like, the lever 19 is swung from the position illustrated in Figure 2, to the position illustrated in Figure 3. Incident to the operation of the lever 19 in this manner, the offset extremity 21 of the lever is arranged in end to end relation with the link 22, thereby spreading the legs 16 and 17 until the uprights or standards 14 are brought into engagement with the work bench or support 15, and utilized to support the receptacle in its lowered position. However, as the containers 12 project a slight distance beneath the lower edges of the standards or uprights 14, with the receptacle 10 elevated, it is manifest that as the receptacle 10 is being lowered, the containers are brought into engagement with the work bench or support 15, prior to the standards 14, so that the containers are slightly projected or elevated within the receptacle 10 before the latter is brought to its position of rest upon the support 15. I have illustrated in Figure 3 how the containers are projected within the receptacle 10 incident to the lowering of the latter, so that the containers can be very quickly and conveniently removed from the machine when desired. By reversing the lever 19 from the position illustrated in Figure 3, to its normal position illustrated in Figure 2, it is obvious that the legs 16 and 17 will be manipulated and arranged in the manner illustrated in Figure 2 to support the receptacle 10 elevated for the next filling operation.

The receptacle 10 is open at one end, but normally closed by the end wall 26. After the containers 12 have been filled the surplus material, if any, can be quickly scraped off the bottom of the receptacle, and removed from the latter through the open end thereof. The end wall 26 may be mounted in any suitable manner to control the open end of the receptacle for the purpose mentioned, but this end wall is preferably mounted to slide in grooves 27 and capable of being easily removed.

While it is believed that from the foregoing description the nature and advantages of the invention will be readily apparent, I desire to have it known that I do not limit myself to what is herein illustrated and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What I claim as new is:

1. A filling machine of the character described comprising in combination with a support, a receptacle having countersunk openings in the bottom thereof, adapted to slidably receive containers to be filled, means including pivotally mounted legs arranged at opposite sides of the receptacle for supporting the latter elevated above the support, with said containers depending from the bottom thereof, and means for spreading said legs to lower said receptacle, whereby said containers are projected within the latter by contact with said support.

2. A filling machine of the character described comprising in combination with a support, a receptacle having countersunk openings in the bottom thereof, adapted to slidably receive containers to be filled, means including pivotally mounted legs arranged at opposite sides of the receptacle for supporting the latter elevated above the support, with said containers depending from the bottom thereof, means including an operating lever for spreading said legs to lower the receptacle, whereby said containers are partly projected within the latter by contact with the support, and means for limiting the movement of the lever in either direction to either raise or lower the receptacle.

3. A filling machine of the character described comprising in combination with a support, a receptacle having countersunk openings in the bottom thereof, adapted to slidably receive containers to be filled, a pair of pivotally mounted legs arranged at each side of the receptacle, means connecting the corresponding legs of each pair, means pivotally connecting the adjacent ends of the legs of each pair, means for simultaneously adjusting said legs to either support the receptacle in an elevated position, or to spread said legs to lower the receptacle, whereupon said containers are partly projected within the receptacle by contacting the support, and means carried by the receptacle for supporting the latter in its lowered position independently of said legs.

4. A filling machine of the character described. comprising in combination with a support, a receptacle having countersunk openings in the bottom thereof, adapted to slidably receive containers to be filled, a pair

of pivotally mounted legs arranged at opposite sides of the receptacle and pivotally connected together, means connecting the corresponding legs of each pair for simultaneous adjustment, said legs normally supporting the receptacle elevated above the support with said containers depending from the bottom thereof, means including an operating lever for adjusting said legs to lower the receptacle, whereby said containers are partly projected within the latter by contact with said support, standards carried by the opposed sides of the receptacle for supporting the latter in its lowered position independently of said legs, and means for limiting the movement of said lever in either direction to raise or lower said receptacle.

In testimony whereof I affix my signature.

FRED B. REID.