G. BILLS.

CARTON FILLING MACHINE.

APPLICATION FILED JULY 19, 1916.

1,226,448. Patented May 15, 1917.

Fig. 1.

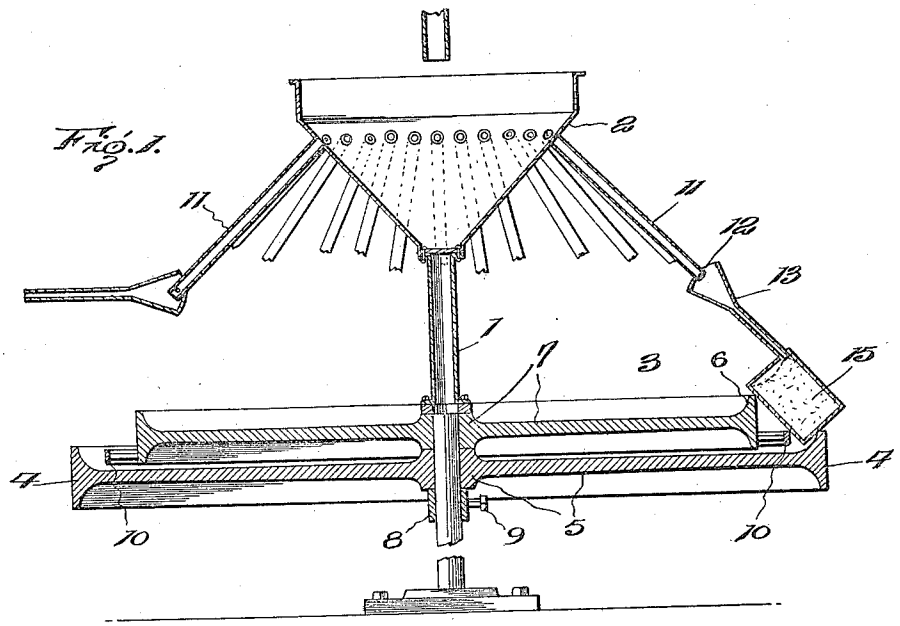


Fig. 2.

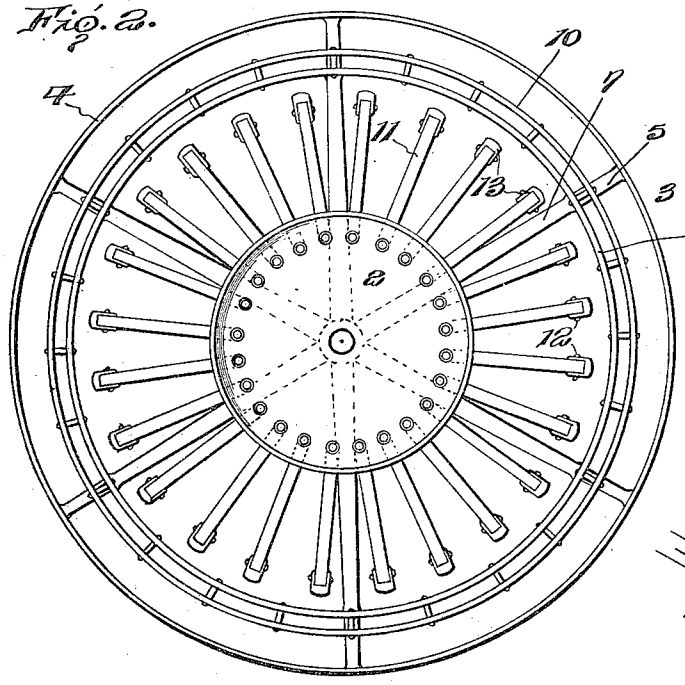
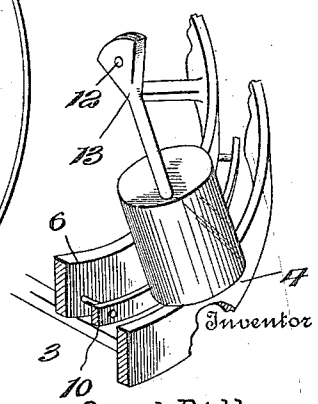


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CARTON-FILLING MACHINE.

1,226,448. Specification of Letters Patent. Patented May 15, 1917.

Application filed July 19, 1916. Serial No. 110,227.

To all whom it may concern:

Be it known that I, GRANT BILLS, a citizen of the United States, residing at Watkins, in the county of Schuyler and State of New York, have invented certain new and useful Improvements in Carton-Filling Machines, of which the following is a specification.

This invention relates to improvements in carton filling machines.

The object of the invention is to provide means with a regulating spout for feeding material to a carton, and a carrier to support the carton in such position that the material falling from the spout will choke the latter when the carton is full.

A further object is the provision of a machine of the character set forth adapted to fill cartons automatically without the material coming in contact with outside unsanitary conditions.

A further object of the invention is to arrange the regulating spouts with reference to the carrier, whereby when the machine is in use the spouts will assist in preventing the loaded cartons tilting from the carrier.

The invention also comprehends improvements in the details of construction and arrangement of parts which will be hereinafter described and particularly pointed out in the claim.

In the drawing:

Figure 1 is a vertical central section of my improved carton filling machine.

Fig. 2 is a plan view of same.

Fig. 3 is a detail perspective view of one of the spouts and a portion of the carrier.

1 indicates a vertical standard, at the upper end of which is a hopper 2. Relatively mounted on the standard 1, is a carrier 3, comprising an outer annular rim 4, having a hub and spokes 5, and an inner rim 6, having a hub and spokes 7. The carrier is maintained in adjusted position on the standard by a collar 8, held by a set screw 9.

It is to be noted that the upper edge of the inner rim 6 is horizontally spaced from and is above the plane of the upper edge of the outer rim 4, this particular location forming an essential feature of the invention, as will appear later on.

An intermediate annular rim 10 is supported on the inner rim 6, and is spaced between the inner and outer rims, as shown in the drawings.

Extending from the hopper 2, are downwardly and outwardly inclined tubes 11. At the outer end of each tube is pivoted at 12, a spout 13, the upper end of which is flared to form a mouth, while the lower end is reduced and terminates above the horizontal plane of the upper edge of the carrier.

In use, an operator places a carton, indicated at 15, on the carrier, the bottom of the carton resting on the upper edge of the outer rim 4, and the inner side resting on the upper edge of the inner rim 6, and the intermediate rim 10, as shown in Fig. 1. In placing the carton on the carrier, the spout above same is turned down, its free end fitting in the open top of the carton.

When the carton is put in place, it is supported at an angle, consequently when salt or other product passes through the spout, same falls into the carton. Because of the relative position of the carton, and the end of the spout, the salt forms a pyramid, indicated in dotted lines in Fig. 1, and chokes the open end of the spout, and acts to prevent further salt flowing from the hopper after the carton becomes filled.

After the operator inserts an empty carton on the carrier, and turns down the adjacent spout, the carrier is moved and another carton is inserted, and another spout is turned down. This operation is continued, and in the meantime, the cartons are being filled, and the flow of the salt is stopped when a carton has received all it will take. In time the filled cartons will reach the operator, whereupon he raises the spouts and removes the filled cartons, and inserts others, as before described.

While I have stated that the cartons are filled with salt and that the carrier is manually rotated, it is evident that other products may be filled in the cartons, and that the carrier may be rotated by power if found desirable.

The spouts fit the tubes rather snugly to form friction sufficient to hold them in adjusted position during the filling operation, but if necessary each spout may be formed with a stop to abut against the tube to hold the spout in proper position relative to the carton.

The end of the spout engages the inner front side of the carton, which prevents the latter falling inwardly when filled, should the carrier receive a severe jolt.

What I claim is:—

In a carton filling machine, the combination of a standard, a rotative carrier mount-

ed on the standard, said carrier having means for holding cartons in inclined position, a hopper mounted above the carrier, a plurality of tubes extending from the hopper, a regulating spout pivoted at the outer end of each tube, said spouts acting to cut off the products passing from the tubes when in one position, and fitting in the open ends of the inclined cartons in the carrier when in another position, whereby to choke the spouts and stop the passage of the products when the cartons become filled.

In testimony whereof I affix my signature in the presence of two witnesses.

GRANT BILLS.

Witnesses:
JAMES A. HOPE,
MAMIE B. EVERTS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."