G. W. PARSHALL.

BOTTLE FILLING MACHINE.

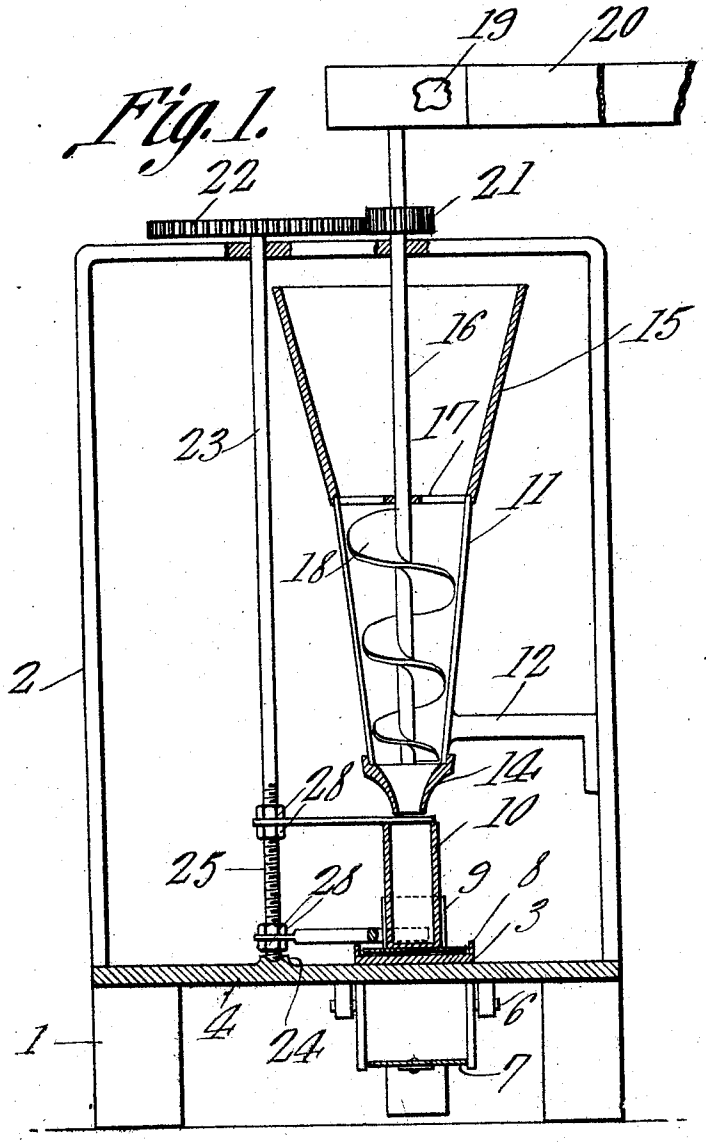
APPLICATION FILED FEB. 24, 1911.

1,000,547.

Patented Aug. 15, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

J. D. Lemlein

L. H. Wilson.

George W. Parshall, Inventor

by C. A. Snow & Co.

Attorneys

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2 SHEETS—SHEET 2.

Fig. 2.

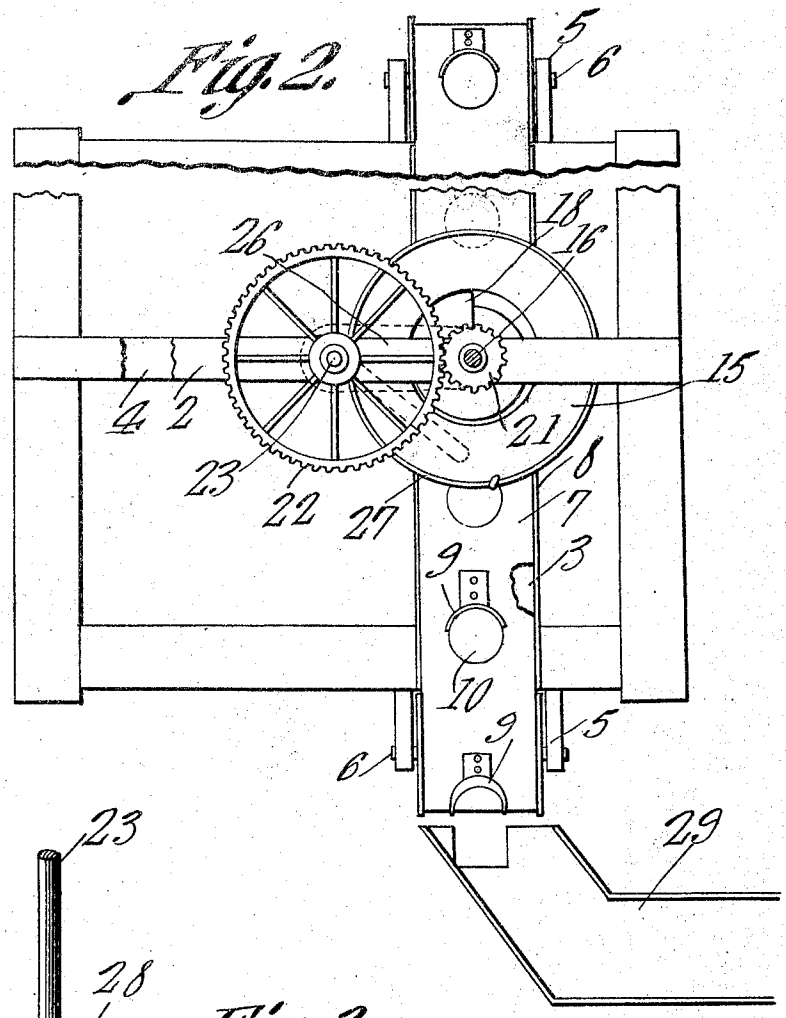
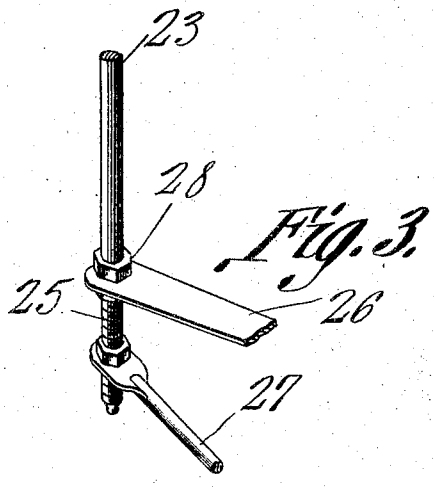


Fig. 3.



Witnesses

J. P. Tomlin

L. H. Wilson

George W. Parshall Inventor

by C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

GEORGE W. PARSHALL, OF COOPERSTOWN, NEW YORK.

BOTTLE-FILLING MACHINE.

1,000,547. Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed February 24, 1911. Serial No. 610,460.

To all whom it may concern:

Be it known that I, GEORGE W. PARSHALL, a citizen of the United States, residing at Cooperstown, in the county of Otsego and State of New York, have invented a new and useful Bottle-Filling Machine, of which the following is a specification.

It is the object of this invention to provide, in a machine of the character hereinafter described novel means for controlling the delivery of the material into the receptacle, to provide novel means for advancing the receptacle into a position to be filled, to provide novel means for filling the receptacle, and to connect these several mechanisms for simultaneous operation.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 shows the invention in vertical transverse section, parts being shown in elevation; Fig. 2 is a top plan, parts being broken away; and Fig. 3 is a detail perspective of the shaft whereby the cut off and the advancement member are carried.

In carrying out the invention there is provided a base frame 1, carrying an upright, arched, supporting frame 2. The frame 1 includes angularly disposed braces 3 and 4, the brace 3 being superposed upon the brace 4.

Carried by the frame 1, adjacent the ends of the brace 3, are brackets 5, in which are journaled for rotation, shafts 6, carrying a belt conveyer 7, adapted to move along the upper face of the brace 3, between upright guiding flanges 8 thereon. The belt conveyer 7 is provided with spaced, arcuate lugs 9, adapted to engage the receptacle 10 which is to be filled, and to advance the receptacle beneath the feeding means to be described hereinafter.

The feeding means embraces a hopper, comprising a body portion 11, supported by an arm 12, carried by the frame 2. The body 11 of the hopper carries at its lower end, a nozzle 14, and to the upper end the body 11 of the hopper is applied a conical receiver 15. The feeding means likewise includes a shaft 16, journaled for rotation in the top of the frame 2, and in a hopper-supported bearing 17. Secured to the shaft 16 and operating within the body 11 of the hopper, is a worm 18.

Secured to the upper end of the shaft 16, is a pulley 19, carrying a belt 20, whereby the shaft 16 may be actuated. Secured to the shaft 16 is a pinion 21, meshing into a pinion 22, secured to a shaft 23, journaled for rotation in the top of the frame 2, and in a suitable thrust bearing 24, carried by the cross brace 4.

The lower end of the shaft 23 is threaded, as shown at 25, and upon this threaded portion 25 of the shaft 23 are disposed two radial arms, one of which is denoted by the numeral 26, the other of which is denoted by the numeral 27. The arms 26 and 27 are held in place by nuts 28, and it will be seen that by manipulating the nuts 28, the arms 26 and 27 may be adjusted longitudinally of the shaft 26. Likewise, by manipulating the nuts 28, the angle between the arms 26 and 27 may be adjusted. The arm 26 preferably takes the form of a flat plate, adapted to move in close vicinity to the lower end of the nozzle 14 of the hopper, to cut off the supply of material delivered by the nozzle 14 into the receptacle 10. The arm 27 overhangs the belt conveyer 7, and is adapted to engage the lugs 9 successively, to impart step by step movement to the belt conveyer; the arm 27, therefore, constitutes an advancement member for the belt conveyer.

It will be seen that by manipulating the nuts 28, the cut-off 26 may be adjusted properly with respect to the lower end of the nozzle 14. Moreover, by manipulating the nuts 28 which are adjacent the arm 27, the said arm may be elevated or lowered, so as to engage properly with the lugs 9 which constitute a part of the belt conveyer. Moreover, by loosening the nuts 28, the angle between the cut-off 26 and the advancement member 27 may be changed, so that when the member 26 is operating to cut off material which is delivered by the hopper, the member 27 will, at the same time, be operating to engage one of the lugs 9, thus to advance the belt conveyer.

The belt conveyer 8 may, as shown in Fig. 2, be positioned to discharge into a chute 29, supported in any desired manner, and of any suitable form.

The device is adapted primarily, although not exclusively, for feeding soft cheese and the like, into suitable receptacles. When the device is put to this use, the cheese is inserted into the hopper, and the receptacles 10 are placed upon the belt conveyer 7, in engagement with arcuate lugs 9.

When the belt 20 is operating, rotation will be imparted to the shaft 16, the worm 18 advancing the cheese downwardly through the nozzle 14, into that receptacle 10 which may be at the time positioned beneath the nozzle. The intermeshing pinions 21 and 22 will impart rotation to the shaft 23, from the shaft 16. The rotation of the shaft 23 will cause the member 26 to move beneath the lower end of the nozzle 14, thereby cutting off the supply of cheese at the proper moment. The rotation of the shaft 23, will likewise cause the advancement member 27 to swing about, engaging one of the lugs 9 and advancing the belt conveyer 7, so that the filled receptacle 10 will be moved from beneath the nozzle 14, another, unfilled receptacle 10 being advanced beneath the nozzle, to receive the material thrust downwardly through the hopper by the action of the worm 18. The cut-off operation, and the advancement of the belt conveyer 8 may be timed properly, by adjusting the angle between the cut-off 26 and the member 27, through the manipulation of the nuts 28.

What is claimed is:

1. In a device of the class described, a hopper; a shaft journaled for rotation adjacent the hopper; a cut off for the hopper, carried by the shaft; an advancement member carried by the shaft and operating beneath the hopper; feeding means in the hopper; and means for operatively connecting the feeding means with the shaft.

2. In a device of the class described, a hopper; a shaft journaled for rotation adjacent the hopper; a cut off for the hopper, carried by the shaft; an advancement member carried by the shaft and operating beneath the hopper; feeding means in the hopper; means for operatively connecting the feeding means with the shaft; and means upon the shaft for adjusting the cut off and the advancement member longitudinally of the shaft, and for changing the angle between the cut off and the advancement member.

3. In a device of the class described, a hopper; a shaft journaled for rotation adjacent the hopper; a belt conveyer operating beneath the hopper; a cut off for the hopper, carried by the shaft; and an advancement member carried by the shaft and adapted to engage the belt conveyer to impart step by step movement thereto.

4. In a device of the class described, a hopper; a shaft journaled for rotation adjacent the hopper; a belt conveyer operating beneath the hopper; a cut off for the hopper, carried by the shaft; an advancement member carried by the shaft and adapted to engage the belt conveyer at spaced points to impart step by step movement thereto; feeding means in the hopper; and means for operatively connecting the feeding means with the shaft.

5. In a device of the class described, feeding means; a belt conveyer operating beneath the feeding means; a shaft journaled for rotation adjacent the feeding means; radial arms adjustably carried by the shaft, one of which arms constitutes a cut off for the feeding means, the other of which arms is adapted to engage the belt conveyer to impart step by step movement thereto; and an operative connection between the shaft and the feeding means.

6. In a device of the class described, a rotatably mounted shaft; feeding means located adjacent the shaft; a cut off radially extending from the shaft; means for adjusting the cut off upon the shaft, with respect to the feeding means; a conveyer operating beneath the feeding means; a radial advancement member carried by the shaft and adapted to engage the conveyer; and means for adjusting the advancement member upon the shaft, with respect to the conveyer.

7. In a device of the class described, a rotatably mounted shaft; spaced arms upon the shaft, rotatable therewith; means for varying the angle between the arms; means for adjusting the arms longitudinally of the shaft; feeding means, for which one of the arms acts as a cut off; and a conveyer which is advanced by the other of said arms.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. PARSHALL.

Witnesses:

LOUIS E. WALRATH,

JOHN F. BRADY.