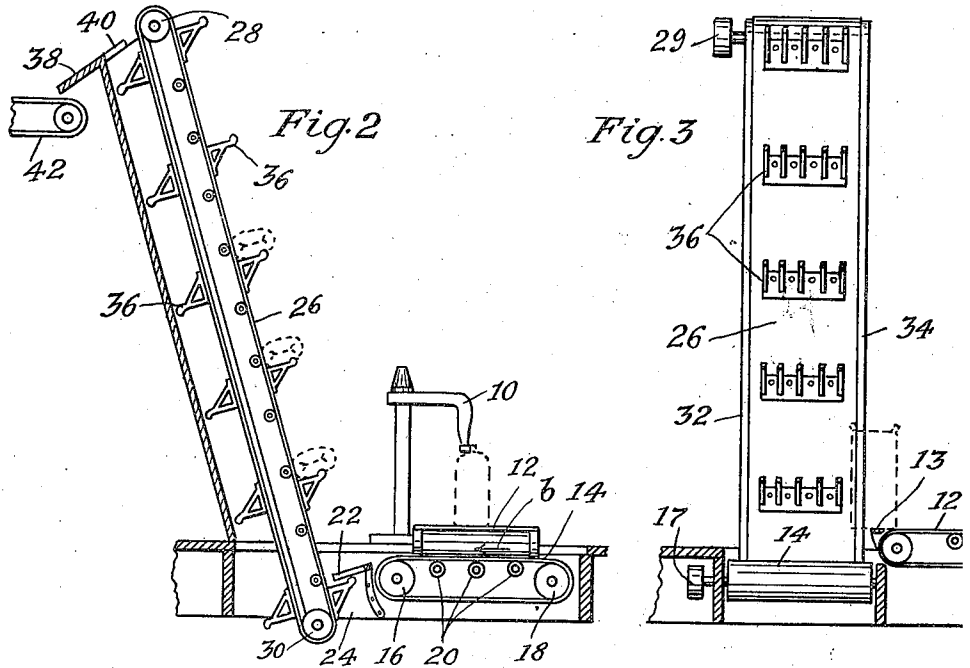
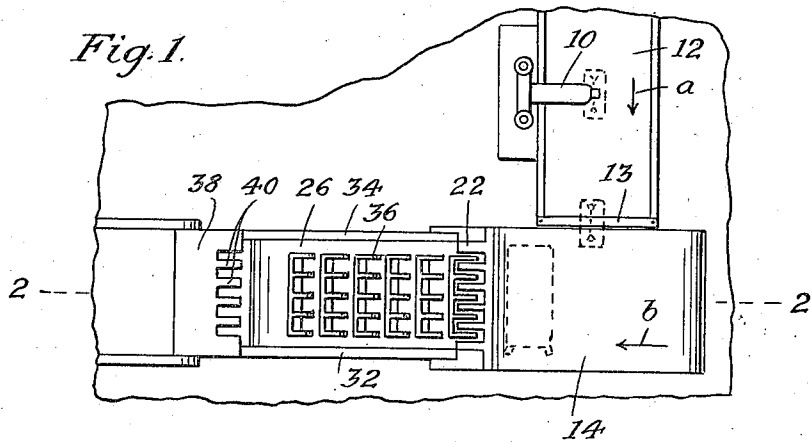
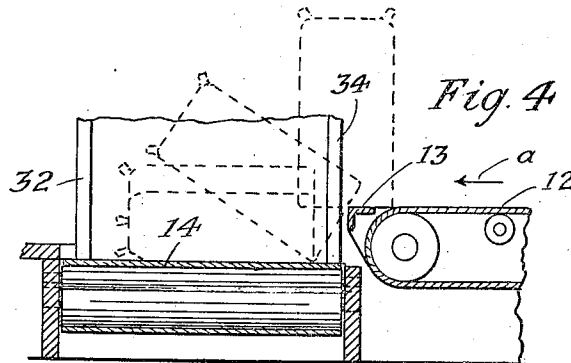


E. D. TSCHACHE.
CONVEYING AND TIPPING APPARATUS.
APPLICATION FILED DEC. 21, 1918.

1,352,329.

Patented Sept. 7, 1920



Inventor:
Edward D. Tschache
By Whiteley and Ruckman
his Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD D. TSCHACHE, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO WASHBURN CROSBY COMPANY, OF MINNEAPOLIS, MINNESOTA, A CORPORATION.

CONVEYING AND TIPPING APPARATUS.

1,352,329.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD D. TSCHACHE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Conveying and Tipping Apparatus, of which the following is a specification.

My invention relates to a conveying and tipping apparatus and particularly to an apparatus of this kind intended for use in mills for conveying and positioning sacks of flour after they have been filled. An object of my invention is to provide an apparatus for conveying filled sacks in upright position underneath a device for closing the upper ends thereof and then tipping the closed sacks into recumbent position so that the sacks may be delivered in proper position to an elevating apparatus.

The full objects and advantages of my invention will appear in connection with the detailed description thereof and the inventive idea embodied in my construction will be particularly pointed out in the claims.

Referring to the accompanying drawings, which illustrate the application of my invention in one form,—

Figure 1 is a top plan view. Fig. 2 is a view in vertical section on the line 2—2 of Fig. 1. Fig. 3 is a front view. Fig. 4 is an enlarged detail view of the lower portion of the construction shown in Fig. 3.

In the construction shown in the drawings, 10 designates a sewing machine or other closing device underneath which passes a belt 12 traveling the direction of the arrow *a* and positioned to carry filled sacks with their open tops underneath the device 10 by which they are closed. Adjacent the delivery end of the belt 12 is mounted a bar 13 the upper surface of which is in line with the upper surface of the belt. This bar is so positioned that the belt will carry sacks over the bar until the center of gravity of the sacks is slightly beyond the bar. This causes the sacks to be tipped over as shown in dotted lines in Fig. 4 so as to lie transversely upon a short endless belt 14 positioned adjacent the delivery end of the belt 12 with its direction of travel at right angles to the direction of travel of the belt 12. The upper stretch of the belt 14 travels in the direction of the arrow *b* and is positioned at a somewhat lower level than the

belt 12. The belt 14 passes around end rollers 16 and 18 and the upper stretch is supported by idlers 20. A driving pulley 17 is secured to the shaft of one of the end rollers. Adjacent the delivery end of the belt 14 is a comb 22 attached to the frame 24. An endless elevating belt 26 passes over an upper roller 28 and a lower roller 30, these rollers being mounted in the side members 32 and 34. A driving pulley 29 is secured to the shaft of the upper roller. Attached to the belt 26 at regular intervals are sack-elevating members 36 consisting of fingers adapted to pass between the teeth of the comb 22. Adjacent the upper or delivery end of the belt 26 is an inclined plate 38 having teeth 40 between which the fingers of the lifting members 36 are adapted to pass. Passing underneath the lower end of this plate is the receiving end of a traveling belt 42.

The operation and advantages of my invention will be readily understood from the foregoing description. Filled sacks are placed in upright position on the belt 12 which carries them underneath the device 10 for closing the upper ends of the sacks. The closed sacks when they reach the delivery end of the belt 12 are tipped over by means of the bar 13 so as to lie in recumbent position transversely of the belt 14. In this position they are delivered to an elevating apparatus which will readily engage and lift the sacks when in this position.

I claim:

1. A conveying apparatus comprising means for carrying filled sacks in upright position underneath a device for closing the upper ends thereof, means located adjacent the delivery end of said first-mentioned means for causing the closed sacks to tip and means for receiving the tipped sacks and carrying them in recumbent position at an angle to the direction in which sacks are carried by said first-mentioned means.

2. A conveying apparatus comprising a belt for carrying filled sacks in upright position underneath a device for closing the upper ends thereof, means located adjacent the delivery end of said belt for causing the closed sacks to tip into recumbent position, and an endless belt for receiving said tipped sacks, said belts being mounted to travel in directions at right angles to each other.

3. A conveying apparatus comprising a

belt for carrying filled sacks in upright position underneath a device for closing the upper ends thereof, a bar located adjacent the delivery end of said belt, said bar being so constructed and arranged that the center of gravity of the closed sacks is caused to pass slightly beyond the bar whereby the sacks are tipped into recumbent position, and an endless belt having its upper stretch located adjacent and lower than said bar.

4. A conveying apparatus comprising means for carrying filled sacks in upright position underneath a device for closing the upper ends thereof, a bar located adjacent and in line with the delivery end of said belt, said bar being so constructed and arranged that the center of gravity of the closed sacks is caused to pass slightly beyond the bar whereby the sacks are tipped into recumbent position, and an endless belt having its upper stretch adjacent and lower

than said bar, said belts being mounted to travel in directions at right angles to each other.

5. A conveying apparatus comprising a belt for carrying filled sacks in upright position underneath a device for closing the upper ends thereof, a transverse bar located adjacent the delivery end of said belt and having its upper surface lying in the plane of the upper surface of said belt whereby the closed sacks pass on to said bar while in upright position, the width of said bar being such that the movement of said belt causes the center of gravity of said sacks to pass slightly beyond the forward edge of said bar and tip said sacks into recumbent position, and a traveling belt located adjacent and lower than said bar.

In testimony whereof I hereunto affix my signature.

EDWARD D. TSCHACHE.