Jan. 27, 1925.

F. CLARKE

1,524,537

ENVELOPE FILLING MACHINE

Filed June 6, 1924

3 Sheets-Sheet 1

Fig. 9.

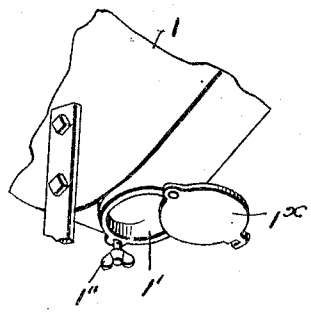
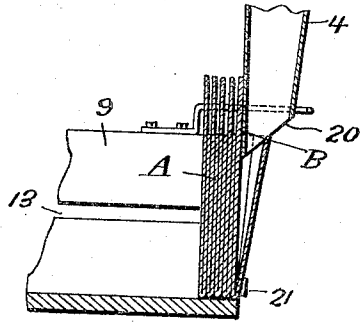


Fig. 1.

Fig. 5.



WITNESS:

Gerald Hennes

Frank Clarke

INVENTOR

BY Victor J. Evans

ATTORNEY

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Fig. 3.

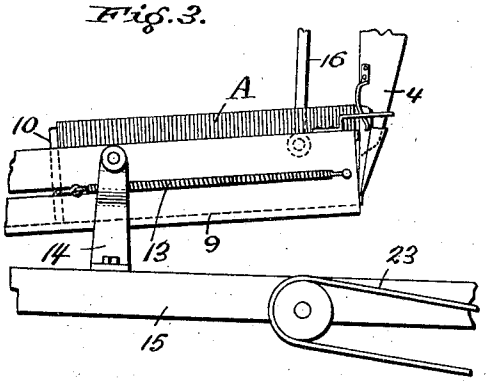
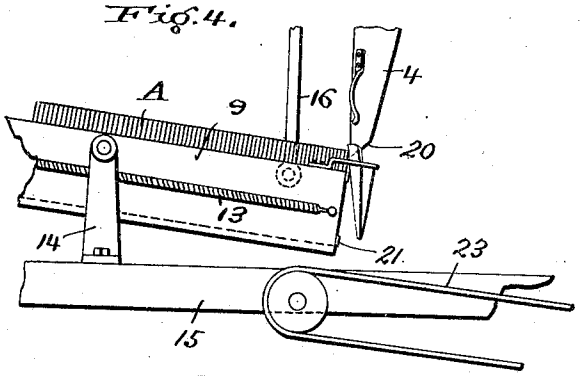


Fig. 2.

Fig. 4.



WITNESS: Gerald Hennes

Frank Clarke
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Fig. 6.

Fig. 7.

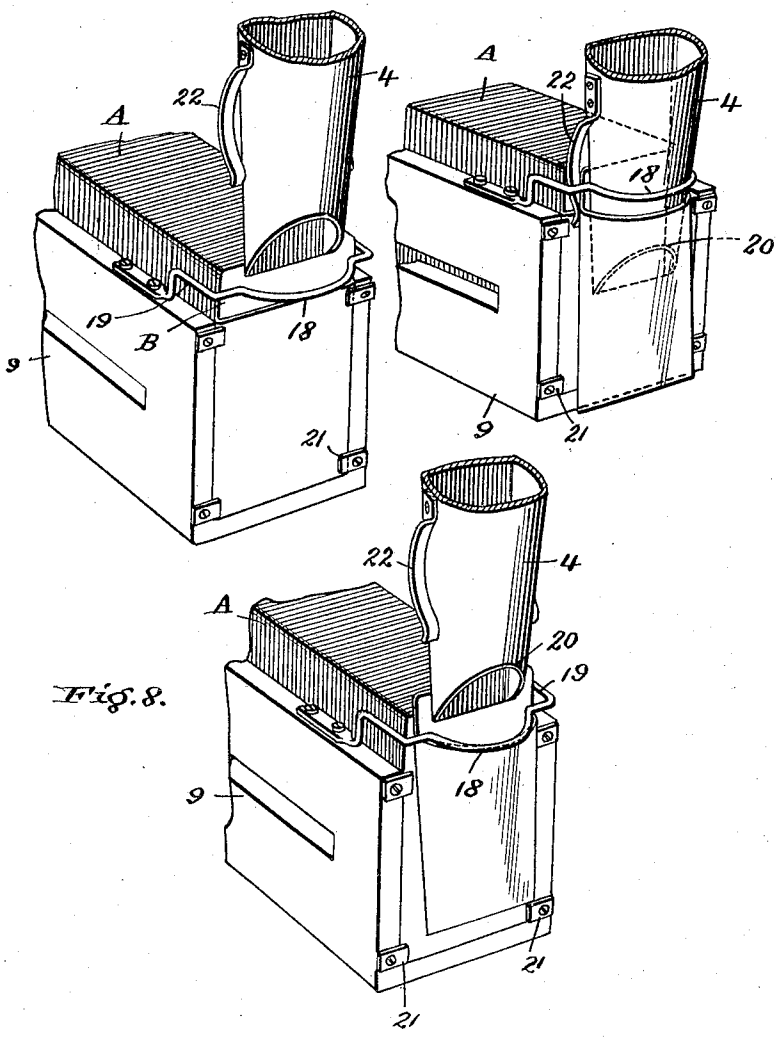


Fig. 8.

Frank Clarke,
INVENTOR

BY Victor J. Evans

ATTORNEY

WITNESS: Gerald Hemmens.

Patented Jan. 27, 1925. 1,524,537

UNITED STATES PATENT OFFICE.

FRANK CLARKE, OF WASHINGTON, DISTRICT OF COLUMBIA.

ENVELOPE-FILLING MACHINE.

Application filed June 6, 1924. Serial No. 718,385.

To all whom it may concern:

Be it known that I, FRANK CLARKE, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Envelope-Filling Machines, of which the following is a specification.

This invention relates to an envelope filling machine, the general object of the invention being to provide means for placing seeds and the like in envelopes automatically by successively bringing the envelopes to a feeding spout, causing the spout to enter the envelope and then dropping the envelope upon a conveyor.

Another object of the invention is to provide agitators for insuring passage of the seeds from the hopper to the delivery cups and for enabling the seeds to be discharged into a receptacle when the chamber, from which the seeds are to be delivered to the packages, is to be emptied.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a side view with parts broken away of the complete device.

Figure 2 is a view taken at right angles to Figure 1.

Figure 3 is a side view of the carrier and a part of the spout.

Figure 4 is a similar view but showing the carrier in a different position.

Figure 5 is a detail sectional view through the front end of the container.

Figures 6, 7 and 8 are perspective views showing the different positions of the parts.

Figure 9 is a detail view showing the discharge door for the delivery chamber.

In these views, 1 indicates a chamber into which seeds or other articles are fed from a hopper 2 under the action of gravity and the effects of the agitators 3. The seed is lifted out of the chamber 1 in small quantities and deposited into a chute 4 by means of the small cups 5 carried by the arms 6 which are attached to a shaft 7 journaled in the sides of the chamber. The shaft 7 and the agitators are driven in any suitable manner, such as by the belts and pulleys shown generally at 8. As will be seen a small amount of seed is picked up by each cup 5 and thrown into the chute 4, the discharge of the seed taking place at intervals.

One agitator is so arranged that it will insure the passage of the seeds from the hopper into the chamber and the other agitator will cause the seeds to pass downwardly to a point where they can be reached by the cups and this agitator will also prevent the seeds from being packed by the rotary action of the cups. The chamber 1 is provided with a discharge opening 1′ so that seeds remaining in the chamber can be removed therefrom when seeds of another kind are to be packed and this opening is closed by a pivoted door 1× which is held in closed position by the wing nut 1″. Thus the door opens in such a manner that a box or receptacle can be placed under the chamber to receive seeds therefrom without interfering with the opening of the door.

I provide a box-like carrier 9 for the envelopes A which are to receive the seeds. The envelopes are forced towards the open front end of the carrier by means of a presser plate 10 in the carrier which has pintles 11 at its ends, passing through slots 12 in the sides of the carrier and to which the springs 13 are connected, the other ends of the springs being connected with the sides of the carrier. The envelopes are placed in the carrier with their flaps extending upwardly, as shown at B. The carrier is pivoted between the uprights 14 which are carried by the base 15 so that it is tiltably supported and it is adapted to be rocked on its pivot by means of the pitman 16 which is connected to a crank pin 17 associated with the shaft 7 of the apparatus before described. A curved member 18 is supported by its arms 19 from the carrier with the curved part spaced above the open front end of the carrier and the end of the chute 4 is adapted to approach said curved part on the upward movement of the carrier. The chute has its rear face flat to engage the flaps B of the envelopes. The mouth of the chute is beveled, as shown at 20, so as to facilitate its entrance into an envelope. Clips 21 at the front end of the carrier hold the en-

velopes therein and fingers 22 are carried by the chute for separating the flap of the front envelope from that of the next one. As the front of the carrier moves upwardly under the action of the pitman the flap of the outermost envelope will slide along the rear of the chute and the beveled mouth of the chute will enter the mouth of the envelope causing its front and rear to move apart and its edges inwardly so that the envelope will be contracted as to its width and thus be freed of the clips 21. At this point the seeds are deposited in the chute so that they will run down the same and drop into the envelope, the parts being now in a position as shown in Figure 7. The weight of the seeds will cause the envelope to swing outwardly, as shown in Figure 7, and be entirely supported by the spout and finally the curved member will strike the front edge of the envelope and force it from the spout so that it will drop upon the conveyor 23 which will carry the same to sealing means or to a point where the envelope can be sealed. The fingers 22 will pass in rear of the flap as the spout enters the envelope and thus separate the envelope being filled from the next envelope and prevent any movement of the second envelope and also acts to hold the first envelope on the spout. The clips 21 will hold the envelopes in the carrier but when the envelope is contracted by the chute entering the same the side edges of the envelope will pass between the clips and then the envelopes will be wholly supported by the chute. On the downward movement of the carrier the curved member 18 will strike the front edge of the envelope and force it from the chute. Thus the envelopes are successively filled with the seeds and the action is wholly automatic.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A device of the class described comprising an envelope carrier having an open end, means for pressing the envelopes towards said end with the flaps in raised position, a feed spout against which the flaps are pressed and means for raising the carrier to cause the spout to enter the first envelope to place the seed therein and to contract the envelope so that it can leave the carrier as the same descends.

2. A device of the class described comprising an envelope carrier having an open end, means for pressing the envelopes towards said end with the flaps in raised position, a feed spout against which the flaps are pressed, means for raising the carrier to cause the spout to enter the first envelope to place the seed therein and to contract the envelope so that it can leave the carrier as the same descends and means associated with the carrier for holding the unfilled envelopes therein while permitting the filled envelope to drop therefrom.

3. A device of the class described comprising a feed spout, a box-like carrier for containing envelopes to be filled, the flaps of the envelopes being in raised position, one end of the carrier being open, clips at the front end for holding the envelope in place, spring means for pressing the envelopes towards the front end of the carrier, means for raising the carrier to cause the first envelope to encircle the spout to receive the material therefrom and to free the envelope from the clips and means for pressing the envelope off the spout as the carrier moves downwardly.

4. A device of the class described comprising a feed spout, a box-like carrier for containing envelopes to be filled, the flaps of the envelopes being in raised position, one end of the carrier being open, clips at the front end for holding the envelope in place, spring means for pressing the envelopes towards the front end of the carrier, means for raising the carrier to cause the first envelope to encircle the spout to receive the material therefrom and to free the envelope from the clips, means for pressing the envelope off the spout as the carrier moves downwardly, such means consisting of a member on the carrier and having a curved part arranged to engage a front portion of the envelope.

5. A device of the class described comprising a feed spout, a box-like carrier for containing envelopes to be filled, the flaps of the envelopes being in raised position, one end of the carrier being open, clips at the front end for holding the envelope in place, spring means for pressing the envelopes towards the front end of the carrier, means for raising the carrier to cause the first envelope to encircle the spout to receive the material therefrom and to free the envelope from the clips, means for pressing the envelope off the spout as the carrier moves downwardly, such means consisting of a member on the carrier and having a curved part arranged to engage a front portion of the envelope and fingers on the rear of the spout arranged to receive the flap of an envelope between themselves and the rear of the spout.

In testimony whereof I affix my signature.

FRANK CLARKE.