R. E. RUNDuell

CIGAR MACHINE RETURN FEED MECHANISM

Filed Nov. 26, 1923

2 Sheets-Sheet 1
UNITED STATES PATENT OFFICE.

RUPERT E. RUNDELL, OF BROOKLYN, NEW YORK, ASSIGNOR TO INTERNATIONAL CIGAR MACHINERY COMPANY, A CORPORATION OF NEW JERSEY.

CIGAR-MACHINE RETURN-FEED MECHANISM.

Application filed November 26, 1923. Serial No. 677,131.

To all whom it may concern:

Be it known that I, RUPERT E. RUNDELL, citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Cigar-Machine Return-Feed Mechanism, of which the following is a specification.

This invention relates to a cigar machine return feed mechanism.

In machines for making "fresh work" or "fresh bunch" cigars, a feed mechanism is employed which advances a sheet of filler material into the range of action of a charge severing device which separates individual charges from the sheet, thence into the range of action of a trimming mechanism which operates to trim the ends of the individual charge, usually in serrated form. Hereinafter, that part of the filler trimmed off from the charge; or in other words, the filler trimmings, fall into a receptacle where they accumulate and from which they are removed from time to time. These filler trimmings, or a part of them, are used to augment the sheet of filler in the feed mechanism, but their distribution on the filler sheet has heretofore been irregular for the reason that they were recovered from the receptacle at irregular intervals. Another objection to the practice heretofore followed resides in the drying out of the filler trimmings in the receptacle, and this sometimes resulted in the breaking up of trimmings into still smaller particles of tobacco during cigar bunch formation.

The main object of the present invention is the production of a return feed mechanism for cigar machines operating to return the filler trimmings to antero-feed position as soon as they are separated from successive individual charges, so that the feed operator can at once distribute them on the sheet of filler in the feed mechanism and thus obtain even distribution and avoid drying out of the trimmings. With this and other objects not specifically mentioned in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then specifically pointed out in the claims hereto appended.

In the accompanying drawings, which form a part of this specification and in which like characters of reference indicate the same or like parts, Fig. 1 is a side elevation, partly in section, of a device constructed in accordance with the invention; Fig. 1* is a detailed view of a modification of the return feed mechanism shown in Fig. 1; Fig. 2 is a plan view, as indicated in the line 2—2, Fig. 1; and Figs. 3 and 4 are respectively cross-sectional views taken on the lines 3—3 and 4—4 in Fig. 1. In carrying the invention into effect, there is provided means for feeding filler to trimming position and there trimming it, and means coacting therewith to return filler trimmings to antero-feed position where they may be readily distributed manually or automatically on the sheet of filler in the feeding means. In the best constructions, the feeding means and the return feeding means both include belts operating intermittently and in synchronism. The above mentioned means may vary widely in construction within the scope of the claims for the particular device selected to illustrate the invention is but one of many possible concrete embodiments of the same. The invention therefore is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, 5 indicates generally a feed mechanism mounted on the frame 6 of a cigar machine in connection with which it is used. As shown, the feed mechanism includes a feed belt 7 intermittently driven by means of a ratchet mechanism 8 operating a belt driving pulley 9. Coacting with the belt 7 are presser wheels 10 and a forwarding rake 11. Also coacting with the feed belt 7, when the latter is at rest, is a knife 12 the purpose of which is to sever individual charges of filler from the advancing sheet on the feed belt. This knife is carried by a yoke 13 mounted on two posts 14, one on either side of the ma-
chine, which posts are reciprocated by a bellcrank lever 15, actuated by a cam 16, fast on a shaft 17 which is one of the main cam shafts of the cigar machine in connection with which the device is used. The yoke 13 also carries serrated knives 18, the function of which is to trim the ends of individual charges of filler advanced by the feeding means to trimming position. The structure so far described is old and well known in the art and since a detailed description of the same is unnecessary to a full understanding of the present invention, it is omitted in the interest of brevity and clearness.

When an individual charge of filler reaches trimming position, its ends rest on swinging traps 19 fulcrumed at 20 to the frame 5 of the feed mechanism. These traps are normally held in the position shown in Fig. 3 by means of springs 21, one end of each of which is hooked over a pin 22 fast in the frame 5 before referred to. The other end of each spring is secured to one end of a lever 23 controlling the movement of a trap 19, and the opposite end of this lever carries a bowl 24 which normally lies in the path of a depending log 25 carried by the yoke 13 before referred to. The yoke is shown in its uppermost position in Fig. 3.

As it descends so that the serrated knives 18 will engage the ends of the charge of filler resting on the traps 19 and trim said ends in its descent, the legs 25 engage the bows 24 and swing the traps 19 downwardly, as shown in Fig. 4. This opens the way for the filler trimmings to fall on the upper run of a return feed belt 26, and the mechanism just described constitutes means controlling delivery of trimmings to the return feed belt.

The return feed belt 26 runs over and is driven by the feed belt 7 as the latter runs over the driving pulley 3. The belt 26 also runs over pulleys 27, 28 and 29, the last named pulley being adjustable in a well known manner, as clearly shown in Fig. 1, for belt tightening purposes.

For the reason that the belt 7 is operated intermittently and the belt 26 is operated by the belt 7 over a portion of the perimeter of the driving pulley 3, both belts are operated intermittently and in synchronism, and filler trimmings transported from the position below the traps 19 to antero-feed position will be delivered to a receptacle 30 in front of the pulley 27. The feed operator takes the trimmings from this receptacle and distributes them on the sheet of filler as she builds up the latter on the feed belt 7.

In the modification shown in Fig. 1, the receptacle 30 is dispensed with and the belt 26 is carried up over a small pulley 31 located over the front end of the feed belt 7.

In this structure, the filler trimmings are automatically delivered to the feed belt 7 so that the operator need place only the long filler thereon.

As shown in Fig. 4, the trimmings from opposite ends of a charge fall in separate positions on the return feed belt 26. Means are provided and used in some constructions for gathering the separated filler trimmings in predetermined position on the belt 26, and this means includes two deflector plates 32—33, the lower edges of which touch the upper run of the belt 26 and deflect the oncoming separated lines and gather the trimmings into one line of the same, the position into which the trimmings are gathered being determined by the form of the cigar the machine is making—the trimmings going into that part of the cigar which has the greatest diameter. These plates are mounted on a bar 34 suitably supported by the frame 5 before referred to.

In view of the foregoing, a detailed description of the operation of the device is deemed unnecessary and is therefore omitted in the interest of brevity.

What is claimed is:

1. In a cigar machine, the combination with means for feeding filler to trimming position and there trimming it, of means coacting therewith to return filler trimmings to antero-feed position, said returning means being intermittently operative.

2. In a cigar machine, the combination with means for feeding filler to trimming position and there trimming it, of means coacting therewith to return filler trimmings to antero-feed position, both of said means being intermittently operative in synchronism.

3. In a cigar machine, the combination with means for feeding filler to trimming position and there trimming it, of means coacting therewith to return filler trimmings to antero-feed position, said returning means including an intermittently operating belt.

4. In a cigar machine, the combination with means for feeding filler to trimming position and there trimming it, of means coacting therewith to return filler trimmings to antero-feed position, said returning means including an intermittently operating belt.

5. In a cigar machine, the combination with means for feeding filler to trimming position and there trimming it, of means coacting therewith to return filler trimmings to antero-feed position, and means controlling delivery of trimmings to said returning means.

6. In a cigar machine, the combination with means for feeding filler to trimming position and there trimming it, of means coacting therewith to return filler trimmings to antero-feed position, and intermittently
operating traps permitting delivery of filler trimmings to said returning means while the filler is being trimmed.

7. In a cigar machine, the combination

5 with means for feeding filler to trimming position and there trimming it, of means co-acting therewith to return filler trimmings to antero-feed position and there delivering them to said feeding means.

8. In a cigar machine, the combination

10 with means for feeding filler to trimming position and there trimming it, of means co-acting therewith to deliver filler trimmings to said feeding means.

In testimony whereof, I have signed my name to this specification.

RUPERT E. RUNDuell.