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ROTARY TOBACCO FEED FOR CIGAR MACHINES

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Fig. 1.

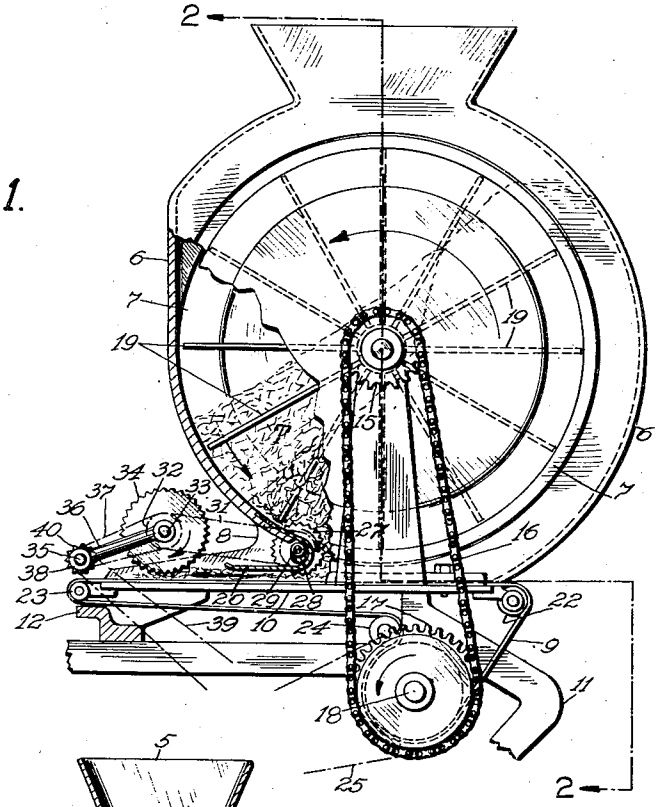
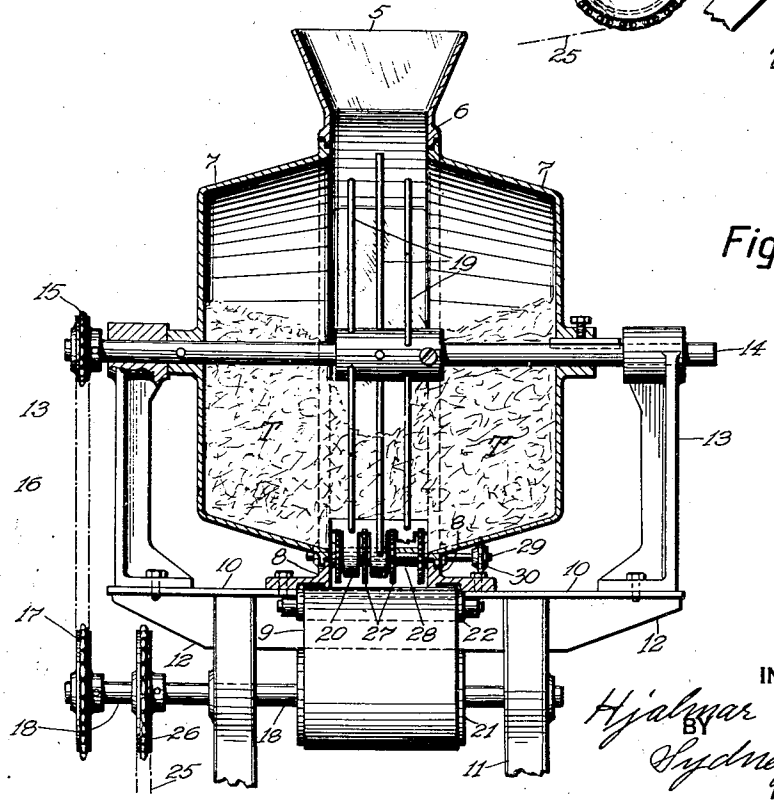


Fig. 2.



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ROTARY TOBACCO FEED FOR CIGAR MACHINES

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This invention relates to tobacco feeds for cigar machines, particularly those designed to feed a sheet of scrap tobacco to the bunch forming means of a cigar machine.

The principal object of the present invention is to produce such a feed which will feed scrap tobacco, especially that containing large scraps, so as to produce a better cigar bunch than hitherto possible from scrap tobacco. While there are machines for the purpose of feeding scrap tobacco for bunches, they have not been entirely satisfactory especially in feeding large scraps, or a mixture of large and small scraps, mainly because large scraps must be kept quite damp for bunch making, and hence have tended to stick together in the tobacco feed. Also, in prior feeds, large scraps have been fed into the bunch forming means more or less at random, instead of being arranged with elongated scraps extending lengthwise of the bunch. It is, therefore, an object of the invention to provide means in such a feed which will keep the dampened scraps in a loose and readily separable condition and which will, at the same time, arrange the larger elongated scraps with their lengths extending in one direction so that the scraps may be fed to the bunch forming means with the scraps extending lengthwise of the bunch.

Still another object is to provide satisfactory means for feeding large scraps from a loose mass onto suitable forwarding means without clogging the discharge opening, while facilitating the arrangement of the elongated scraps with their lengths extending in one direction.

Another object is to produce a scrap feed for cigar machines which is simple and rugged in construction and not liable to derangement or excessive wear.

With these and other objects in view, the invention consists in certain constructions and combinations which will be hereinafter fully described and then set forth in the appended claims.

In the accompanying drawings which form a part of this specification and in which like characters of reference designate the same or like parts:

Fig. 1 is a side elevation, partly in cross section, of a tobacco feed embodying the invention; and

Fig. 2 is a sectional end elevation on the line 2—2 of Fig. 1.

In carrying the invention into effect, there is provided means for forwarding a sheet of tobacco for forming bunches, together with means for tumbling a mass of tobacco over and over above said forwarding means to loosen the tobacco, and means are provided for feeding tobacco down from the bottom of the tumbling means to said forwarding means. In the best constructions, the tumbling means includes a hopper having rotating sidewalls which are preferably outwardly dished. In the best constructions also, the tumbling means includes a hopper having a stationary central portion from which the tobacco is fed by said feeding means. In the best constructions also, the hopper has rotating sidewalls and agitating means between said sidewalls, and these agitating means preferably operate both to loosen tobacco and to arrange elongated tobacco scraps with their lengths extending in one direction. The above means may be widely varied in construction within the scope of the claims, since the device shown and described is but one of many possible 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, the scrap tobacco T to be fed is placed in funnel 5 of a barrel shaped hopper consisting of a stationary central portion and a pair of outwardly dished revolving ends or sidewalls 7. The central portion 6 is carried by brackets 8, which form the sidewalls of the tobacco channel or throat which the tobacco is fed from the bottom of the hopper onto the feed belt 9. The brackets 8 are attached to a base plate 10, one end of which is supported by the frame members 11 of the cigar machine, while the other end is fastened to the bracket 12 extending across said frame

members. On the plate 10 there are mounted the bearing stands 13 which support the shaft 14 for rotation by the sprocket 15 which is driven by a chain 16 from a sprocket 17 on a shaft 18 driven from the cigar machine. The shaft 14 extends through the central portion of the hopper and on it are mounted for rotation the sidewalls 7 and the agitating prongs 19. As will be seen from Fig. 2, the agitating prongs 19 are mounted within the stationary portion of the hopper.

The scrap tobacco in the hopper is tumbled over and over by the revolving sidewalls and a part of the tobacco falls into the stationary portion of the hopper 6, within which the agitators 19 revolve. The effect of these agitators is to separate and loosen the tobacco as it is tumbled in the hopper and, at the same time, the prongs tend to arrange elongated scraps, too long to readily pass between the prongs except lengthwise, with their lengths extending in one direction at the discharge passage or throat of the hopper. The agitating prongs revolve so as to pass the throat of the hopper in a direction opposite to that of the feed belt 9, which aids in preventing the tobacco from jamming at said throat and also in the tobacco passage between the guide plate 20, the feed belt 9 and the sidewalls formed by the brackets 8.

The tobacco carrying portion of the feed belt rests on the plate 10 and the belt is driven by the drum 21 and is held in its tobacco supporting position by idler pulleys 22, 23 and 24. This feed drum 21 is mounted on the shaft 18, already referred to. The guide plate 20 is suitably fastened to the stationary portion 6 of the hopper and its curved inner end is slotted to receive a row of star wheels 27, which project into the throat of the hopper for the purpose of feeding tobacco down from the bottom of the hopper onto the feeding means. These star wheels 27 are spaced, as shown in Fig. 2, by spacers 28 and rotate in planes parallel to the direction of forwarding of the forwarding means, thereby tending to maintain the scraps of tobacco which have been arranged with their lengths extending in one direction by the agitators in this same arrangement while fed onto the forwarding means. Hence the elongated scraps upon the forwarding means will extend in the direction of forwarding, thereby making possible the arrangement of elongated scraps to extend lengthwise of the completed bunch.

The spaced star wheels are keyed to the shaft 29, which is adjustably supported in slots of the brackets 8, and the shaft is driven by sprocket 30 connected by a chain 31 to a double sprocket 32 on the shaft 33 of the levelling star wheels 34. It will be noted that the star wheels 27 are spaced above the feed belt sufficiently so they may feed a sheet of scrap tobacco of the desired thickness between said star wheels and the belt. The adjustable mounting of the shaft 28 permits regulating the thickness of the sheet of scrap tobacco on the belt. The shaft 35 carries the star wheels 40 which feed the tobacco sheet from the end of the feed belt 9 and propel it to the bunch forming means. The chains 25 and 39 are ordinarily connected to controlling means commonly provided in the bunch forming mechanism of cigar machines which automatically stop the feed 9 and the shaft 14 when a charge of tobacco sufficient for one cigar bunch has been fed.

It will be seen that the present device provides a rotary feed for scrap tobacco which is free from vibrating or reciprocating parts liable to excessive wear or derangement and which will satisfactorily handle large elongated scraps in a dampened or sticky condition and feed them to the bunch forming means in proper arrangement to form bunches having to some extent the advantages of long filler bunches.

What is claimed is:

1. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having oppositely disposed rotating sidewalls.

2. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having a stationary central portion from which the tobacco is fed by said feeding means and oppositely disposed rotating sidewalls.

3. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having a stationary central portion and oppositely disposed rotating sidewalls, and agitating means in said central portion.

4. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having outwardly dished rotating sidewalls.

5. The combination with means for for-

warding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having a pair of oppositely positioned rotating sidewalls and agitating means between said sidewalls.

6. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having oppositely disposed sidewalls rotating in parallel planes and agitating means between said sidewalls revolving in planes parallel to said first mentioned planes.

7. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a barrel shaped hopper having rotating outwardly dished ends.

8. The combination with means for forwarding a sheet of tobacco, of means for tumbling a mass of tobacco over and over above said forwarding means, and means for feeding tobacco down from the bottom of the tumbling means to said forwarding means, said tumbling means including a hopper having rotatable sidewalls, an agitator between said sidewalls and a driveshaft extending through said hopper for supporting and rotating said sidewalls and agitator.

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

HJALMAR ERIK CARLSON.