Feb. 8, 1955 R. FELLMANN 2,701,569

MACHINE FOR RECOVERING TOBACCO FROM DEFECTIVE CIGARETTES

Filed March 1, 1950

FIG. 1

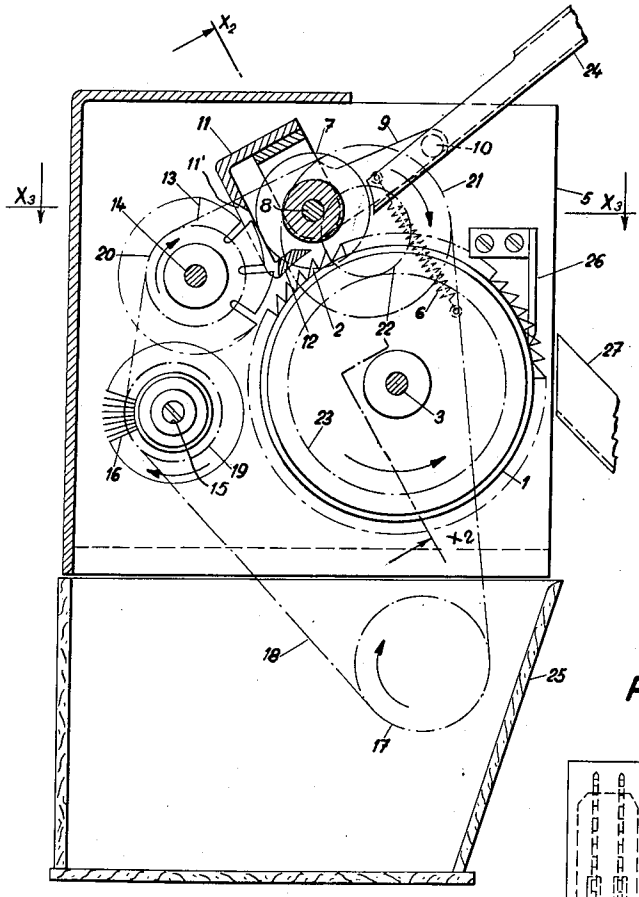


FIG. 2

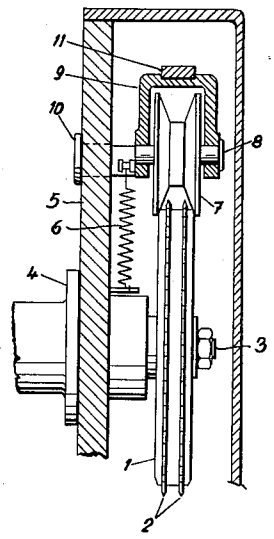


FIG. 4

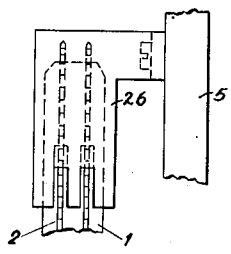


FIG. 5

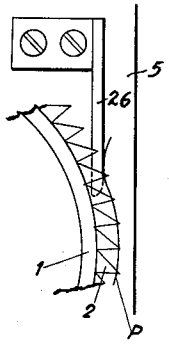
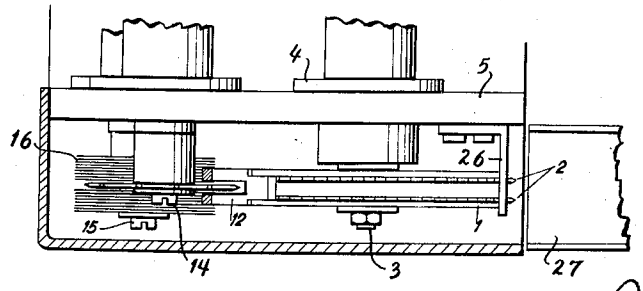


FIG. 3



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United States Patent Office 2,701,569
Patented Feb. 8, 1955

2,701,569

MACHINE FOR RECOVERING TOBACCO FROM DEFECTIVE CIGARETTES

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Application March 1, 1950, Serial No. 146,981

Claims priority, application Czechoslovakia March 11, 1949

3 Claims. (Cl. 131—96)

My invention relates to machines for recovering tobacco from defective cigarettes. In hitherto known machines of that type the paper wrapper of each cigarette is longitudinally cut and the thus opened cigarettes are assembled in a container or the like where the tobacco is separated from the paper wrapper for subsequent reuse in the manufacture of new cigarettes. These known machines were not very efficient particularly with regard to the required separation of the tobacco from the paper wrapper which separation has been performed independently from the cutting operation in a separate device.

The principal object of my invention is to avoid the said disadvantages. According to my invention the tobacco is separated, namely brushed off from the paper wrapper immediately following the cutting operation and the wrapper and the tobacco are collected in separate containers.

The said and other objects of my invention will be more fully understood from the following specification when read with the accompanying drawing in which one embodiment is illustrated.

In the drawing

Fig. 1 is a schematic sectional view of my new machine,

Fig. 2 is a partial cross sectional view taken along the broken line x_2—x_2 of Fig. 1.

Fig. 3 is a partial cross sectional view taken along the broken line x_3—x_3 of Fig. 1, and

Figs. 4 and 5 illustrate in an enlarged scale the remover of the paper wrapper in front and side view, respectively.

My new machine for recovering tobacco from defective cigarettes comprises a feed drum 1 which is provided upon its circumference with at least one row of fine teeth 2 and which is keyed to the shaft 3 to rotate therewith. Said shaft 3 rests in a bearing 4 mounted in a supporting frame 5. An auxiliary feed or press roller 7 which circumferentially contacts said feed drum 1 is rotatably mounted upon a pin 8 in the forked end of an arm 9 which is swingable about the pin 10 resting in the frame 5. The roller 7 is held in circumferential frictional contact with the feed drum 1 by the spring 6 one end of which is secured to a projection of said swing arm 9 and the other end thereof to a projection of the frame 5. The said press roller 7 is provided with a circumferential groove or channel adapted to frictionally engage the cigarettes which longitudinally approach towards the feed drum 1 through the feeding channel 24. The incoming cigarettes are seized by the teeth 2 of the feed drum 1 and are carried below an accommodating follower plate 12 which holds the incoming cigarettes upon the toothed circumference of the feed drum 1 so that the wrapper and the tobacco filler are under increased tension. The said follower plate 12 is mounted upon the forked end of the swing arm 9 by means of an angle bracket 11 and is pressed against the cigarettes carried by the feed drum 1 by the action of the spring 6 acting upon the supporting swing arm 9. The follower plate 12 is so located relative to the press roller 7 that it engages the front end of the passing cigarette before the rear end of the cigarette avoids the press roller 7. The rotating drum 1 transports the cigarettes leaving the channel provided between the feed drum 1 and its follower plate 12 under a rotary cutter or other slitting device 13 mounted upon the shaft 14, the cutting or slitting edges thereof projecting slightly into the channel through which the cigarettes run

so as to cut the paper wrapper lengthwise without injuring the tobacco and without shredding the paper. The said angle bracket 11 is provided with a slit or opening 11' to permit the cutter 13 to rotate unobstructedly. The paper wrapper after being longitudinally slit by the cutter 13 is opened by the elastically expanding tobacco filler and the thus opened cigarettes are carried by the feed drum 1 to and under a rotary brush 16 which sweeps the tobacco from the paper wrapper into a container 25. The paper wrapper thus freed from tobacco but still held by the teeth 2 of the feed drum 1 is carried towards a separator or remover 26 which lifts the wrapper p from the drum 1 as illustrated in Fig. 5 and permits the wrapper to fall into a collecting channel 27.

The device described above is actuated by a motor driven pulley or the like 17 which drives an endless belt 18 engaging the pulley 19 driving the rotary brush 16, the pulley 20 driving the rotary slitting device 13 and the pulley 21 driving the feed drum 1 by means of the gearing 22, 23 (shown diagrammatically by the dot-and-dash circular lines).

Although one embodiment of my invention has been shown and described by way of illustration, it will be well understood that my invention may be constructed in various other embodiments which will come within the scope of the appended claims.

What I claim as my invention is:

1. In a machine for recovering tobacco from defective cigarettes, the improvement comprising in combination a rotatably mounted feed drum for the cigarettes, means to feed cigarettes longitudinally to the circumference of said drum, the circumference of said drum having at least one row of teeth for engaging and holding the cigarettes, a roller arranged in front of the outlet end of said feed means to cooperate with said drum and to press the incoming cigarettes upon said teeth, rotary slitting means behind said roller in the direction of rotation of said drum adapted to slit the cigarettes lengthwise, a rotary brush behind said slitting means for removing tobacco from the paper of the slit cigarettes, a container to receive the removed tobacco, and means to remove the cigarette paper from the feed drum.

2. In a machine for recovering tobacco from defective cigarettes, the improvement comprising in combination a rotatably mounted feed drum for the cigarettes, means to feed cigarettes longitudinally to the circumference of said drum, the circumference of said drum having at least one row of teeth for engaging and holding the cigarettes, a press roller circumferentially cooperating with said feed drum, a swingable arm rotatably supporting said press roller, means for holding said press roller in frictional engagement with the circumference of said feed drum, said roller having a V-shaped circumferential groove to receive the incoming cigarettes and pressing the same upon said teeth, rotary slitting means behind said roller in the direction of rotation of said drum adapted to slit the cigarettes lengthwise, a rotary brush behind said slitting means for removing tobacco from the paper of the slit cigarettes, a container to receive the removed tobacco, and means to remove the cigarette paper from the feed drum.

3. A machine for recovering tobacco from defective cigarettes according to claim 2 comprising a feed drum follower plate attached to said swingable arm to guide the cigarettes leaving said press roller.

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