

Dec. 27, 1932.

W. B. BRONANDER

1,892,263

CIGARETTE MACHINE TOBACCO FEED

Filed April 21, 1931

INVENTOR
Wilhelm B. Cronander
 BY
Sydney J. Prescott
 ATTORNEY

UNITED STATES PATENT OFFICE

WILHELM B. BRONANDER, OF MONTCLAIR, NEW JERSEY, ASSIGNOR TO AMERICAN
MACHINE & FOUNDRY COMPANY, A CORPORATION OF NEW JERSEY

CIGARETTE MACHINE TOBACCO FEED

Application filed April 21, 1931. Serial No. 531,757.

This invention relates to cigarette machine tobacco feeds, its main object being to provide means for conveniently taking care of trouble arising during the tobacco feeding operation of a continuous rod cigarette machine, due to the accumulation of parts of tobacco stems, tobacco lumps and other irregularities in the tobacco fed into the cigarette paper strip while passing through the paper feed trough placed below the tobacco feed delivery chute. 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 set forth in the claims hereunto appended.

While modern tobacco feeds contain various devices for clearing the cigarette tobacco of stems, lumps and foreign matter, and for making it of uniform density and homogeneous texture, it often happens that portions of stems and other irregularities find their way into the cigarette rod, thereby not only causing possible trouble in the smooth running of the machine, but producing imperfect cigarettes.

The present invention, in order to enable the ready correction of such trouble, provides the following means: (1) a breaker comb with which engages the repicker roll of the repicker drum, thereby cutting up the stem portions and tobacco lumps which have escaped the devices provided in the tobacco feed for their removal; (2) a bodily movable gate forming part of the front wall of the tobacco delivery chute, thereby making the delivery end of the tobacco chute accessible to ready inspection and removal of obstructions; and (3) a hinged or pivoted portion at the forward end of the paper feed trough, thereby providing access to the cigarette rod at the delivery end of the trough.

In the accompanying drawing, which forms a part of this specification and in which like characters of reference indicate the same or like parts,

Fig. 1 is a sectional end elevation of a portion of the tobacco feed showing the breaker comb and the gate provided on the tobacco delivery chute;

Fig. 2 is a front elevation of the chute and trough showing the bodily movable gate and the hinged portion of the trough;

Fig. 3 is a detail sectional view taken on line 3—3 of Fig. 1, showing the arrangement of the breaker comb; and

Fig. 4 is a detail sectional view taken on line 4—4 of Fig. 2, showing the arrangement of the pivoted portion of the trough.

In carrying the invention into effect there is provided a chute, means above said chute for showering tobacco thereinto, means for removing tobacco from the bottom of said chute, and means working in said chute for breaking up pieces of stem entering the chute. In the best form of construction the means for removing the tobacco from the bottom of the chute includes a trough having a pivoted portion adapted to be swung outwardly to give access to the cigarette paper strip. In the preferred form of construction the breaking means includes a breaker comb and a rotating roll having pins projecting into the spaces between the teeth of the comb to break the pieces of stem arrested thereon, and the chute is preferably provided with a movable gate forming a portion of its front wall and adapted to be swung outwardly and upwardly to give access to the interior of the chute. These various means and parts may be widely varied 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 specific construction shown and described.

Referring to Figs. 1 and 2, side brackets 5 of a pedestal frame carry the hopper 6 and, by means of hand screws 7, hold the chute 8 through which tobacco T is fed to the paper strip P as it passes through the trough 9 which is held by screws 10 to a bracket 11 supported on the base 12 of the cigarette machine. In trough 9 the paper P is guided by cover strips 13, the tobacco filled paper strip upon emerging from said trough passing into the rod former 14 in which it is closed into the form of a cigarette rod C

which is subsequently sealed and cut into individual cigarettes.

In the hopper 6, the tobacco T is carried by a feed belt 15 to the carded feed drum 16 from which the tobacco, after the surplus has been removed by a picker drum, not shown, is thrown by a picker roller 17 against an angularly adjustable wall 18, along which it passes onto a small repicker drum 19 on which it is pressed by feed roll 19a and from which a repicker roll 20 delivers it into the chute 8.

In order to break up any tobacco lumps or stem portions S, Fig. 3, which may have escaped the devices usually provided in the tobacco feed for their removal, the end of the concave 21, which forms a part of the chute, surrounds a portion of the picker drum 19 and is arranged to project into the path of the pins on the repicker roll 20 and is provided with a breaker comb formed by slots 22 permitting passage of the pins so that they will cut through the stem S when the latter is arrested by the teeth of the breaker comb. A guard 23 partly surrounding repicker roll 20 closes the gap between the tobacco chamber 6 and the rear wall of chute 8.

The chute 8, which consists of two wedge shaped end walls 24 to which are attached the front wall 25 and the rear wall 26, is provided with a bodily movable gate 27 forming a portion of its front wall. A shaft 28 supported in lugs 29 at the front of end walls 24 has a handle 30 fixed thereon at one end and a lever 31 fixed thereon at the other end, while a shaft 32, similarly supported by lugs 33 in walls 24 at the back of the chute, has levers 34 fixed thereon at both ends. The handle 30 and the levers 31 and 34 are joined by pins 35 to lugs 36 of gate 27. The pins 35 are loose in the handle and levers and fixed in the lugs 36, so that by swinging the handle 30 into the dotted position 30' in Fig. 1, the gate 27 is raised into position 27', giving access to the paper strip P along the entire length of trough 9. The handle lever 30 has lugs 37 in which is pivoted a lever 38 held down against one side of a stop block 39 by a spring 40. In gripping the handle of lever 30, the spring 40 is compressed and the end of lever 38 is raised so that it can now pass over block 39, against the other side of which it is then held upon the release of the handle. Side guides 41 extending from the hub of handle 30 take up the strain due to the weight of gate 27 which would otherwise be exerted on the pivot of lever 38 when the gate is in its raised position.

The delivery end of the trough 9, adjacent to the rod former 14, in which trouble due to the presence of obstructions is most likely to occur, is divided on the vertical center line into two parts, the part 42 so separated

being hinged by a vertical pin 43 to the main part of the trough so that it may be swung horizontally as shown in Fig. 4, thereby giving access to a portion of the side of strip P as well as to its top which is already partly exposed by opening gate 27 of the chute. To the bottom of the stationary part of trough 9 is attached a bracket 44 carrying a lug 45 for the reception of pivot pin 43. The part 42, with its portion of the guide strip 13 attached thereto, is fastened to a swingable bracket 46 having a similar lug 47 fitting upon lug 45 and carrying the pin 43. The swingable bracket 46 is provided with a slotted side extension 48 by means of which it is held in closed position by tightening a hand screw 49 tapped into the stationary portion of trough 9.

Thus, with the improved arrangement, not only is the liability of stems or lumps entering the cigarette rod reduced to a minimum by the added breaker comb, but the entire tobacco feeding length of the advancing paper strip P, by virtue of the movable chute gate 27 and of the hinged portion 42 of the trough, is readily accessible for the removal of obstructions in case of trouble, thereby saving considerable time and speeding up the production of the machine.

What is claimed is:

1. In a cigarette machine feed, the combination with a chute, of means above said chute for showering tobacco thereinto, means for removing tobacco from the bottom of said chute, and means working in said chute for breaking up pieces of stem entering said chute.

2. In a cigarette machine feed, the combination with a chute, of means above said chute for showering tobacco thereinto, means for removing tobacco from the bottom of said chute, and means working in said chute for breaking up pieces of stem entering said chute, said chute being provided with a gate forming a portion of one of its walls, and manually operable linkage for moving said gate bodily to permit access to said chute.

3. In a cigarette machine feed, the combination with a chute, of means above said chute for showering tobacco thereinto, means for removing tobacco from the bottom of said chute, and means working in said chute for breaking up pieces of stem entering said chute, said breaking means including a repicker drum on which the tobacco is showered, a concave partially surrounding said drum and forming a part of said chute and having a breaker comb, and a repicker roll working between the teeth of said comb.

4. In a cigarette machine feed, the combination with a chute, of means above said chute for showering tobacco thereinto, means for removing tobacco from the bottom of said chute, and means working in said chute for breaking up pieces of stem entering said

- chute, said means for removing tobacco from the bottom of said chute including a trough underlying the delivery end of said chute and adapted to guide the cigarette paper strip into position to receive tobacco from said chute, said trough having a pivoted portion adapted to be swung outwardly out of position to give access to said strip.
5. The combination with a chute, of means above said chute for disintegrating and showering tobacco thereinto from a sheet of tobacco, and means working in said chute for breaking up pieces of stem entering said chute.
6. The combination with a chute, of means above said chute for showering tobacco thereinto, and means working in said chute for breaking up pieces of stem entering said chute, said means for breaking up pieces of stem including a comb disposed in said chute, and a rotating roll having pins working between the teeth of said comb to break pieces of stem on said comb.
7. The combination with means for disintegrating and showering tobacco from a sheet of tobacco, of means intercepting the showered tobacco for breaking pieces of stem.
8. The combination with means for showering tobacco, of means intercepting the showered tobacco for breaking pieces of stem, said breaking means including a repicker drum on which the tobacco is showered, a breaker comb, and a repicker roll having pins arranged to work between the teeth of said comb to break the pieces of stem on said comb.
9. A tobacco feeding chute having a gate forming a portion of one of its walls, and manually operable linkage for moving said gate bodily to permit access to the chute.
10. A tobacco feeding chute having a gate forming a portion of one of its walls, and manually operated linkage for moving said gate upwardly and outwardly to permit access to the chute.
11. A tobacco feeding chute comprising end walls, front and rear walls connecting said end walls, a gate forming a portion of said front wall, links pivoted on said end walls and connected to said gate, and a handle pivoted on one of said end walls and connected to said gate, whereby said gate may be moved bodily outwardly and upwardly.
12. A tobacco feeding chute comprising end walls, front and rear walls connecting said end walls, a gate forming a portion of said front wall, links pivoted on said end walls and connected to said gate, a handle pivoted on one of said end walls and connected to said gate, a lever pivoted on said handle, a stop on the end wall adjacent said handle, and a spring urging said lever into position to be engaged by said stop to prevent movement of said handle.
13. A trough for guiding a cigarette paper strip, comprising a stationary portion, a vertical pin mounted on said stationary portion, and a movable portion mounted on said pin to permit it to be swung outwardly for access to said strip.
14. A trough for guiding a cigarette paper strip, comprising a stationary portion, a vertical pin rotatably mounted on said stationary portion, a movable portion fixed to said pin to permit it to be swung outwardly for access to the strip, and an extension on said movable portion adapted to be secured to the stationary portion.
- In testimony whereof, I have signed my name to this specification.
- WILHELM B. BRONANDER.