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WINNOWING DEVICE FOR CIGARETTE MACHINES

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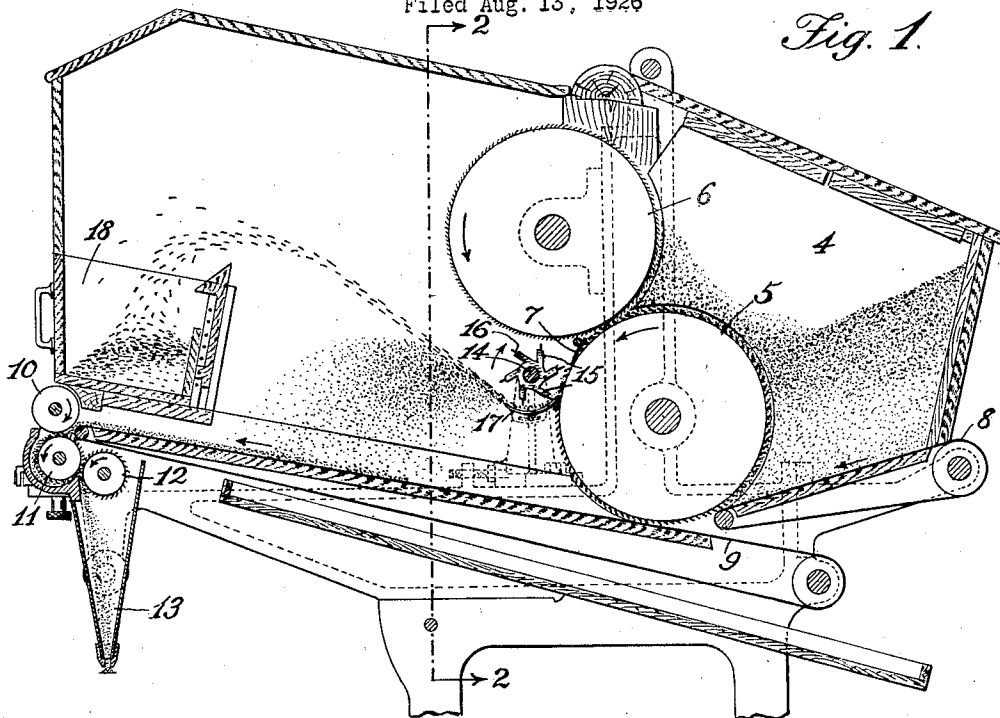


Fig. 2.

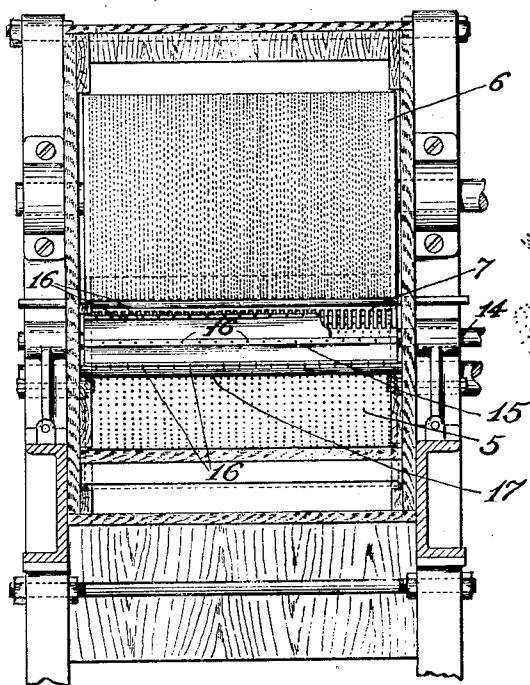
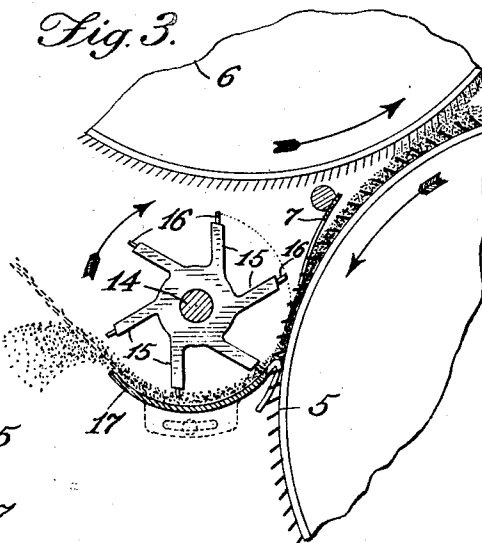


Fig. 3.



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UNITED STATES PATENT OFFICE.

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WINNOWING DEVICE FOR CIGARETTE MACHINES.

Application filed August 13, 1926. Serial No. 128,975.

This invention relates to an improved winnowing device for cigarette machines of the type disclosed in the patent to Teale, No. 1,326,547, granted Dec. 30, 1919, wherein the general operation of such devices is fully explained; and it has for its main object the production of a device of this character in which the filler tobacco is freed from undesirable pieces of tobacco or tobacco stems and foreign matter in a simplified and more effective manner. 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.

In the accompanying drawings, in which like characters of reference indicate the same or like parts, Fig. 1 is a sectional side elevation of a device constructed in accordance with the invention and in operative position in an automatic feed mechanism for cigarette machines; Fig. 2 is a sectional elevation taken in the line 2—2 in Fig. 1; and Fig. 3 is a fragmentary side view of the winnowing device per se on an enlarged scale.

Generally speaking, the invention consists of a combined picker and fan acting on a mass of shredded tobacco in the feed mechanism of a cigarette machine to disentangle the tobacco and propel its shreds, and means for directing or guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, in a simplified and more effective manner than heretofore.

In the drawings, the winnowing device is shown in position in an automatic feed mechanism for cigarette machines, where it is usually employed. This mechanism is well known and consists, generally, of a hopper 4, a feed drum 5, a filling drum 6, a comb 7, a pressing belt 8, a forwarding belt 9, a pressure roller 10, a filler roller 11, a picker roller 12, and a chute 13, all constructed and operating in a manner well known in the art and therefore needing no detailed description herein.

The winnowing device proper consists of a rapidly rotating shaft 14 adjacent the feed drum 5, a combined picker and fan fast on said shaft and comprising fan blades 15 and picker pins 16 projecting from the edges

of said blades, and means for directing the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, said means consisting of an adjustable concave 17 adjacent the periphery of said picker and fan. The shaft 14 derives its motion from one of the shafts of the cigarette machine in connection with which the device is used, not shown. And the pins 16 on each blade 15 are in staggered relationship with the pins of adjacent blades, in order to effect an improved picking or disentangling action on the mass of tobacco on the feed drum 5.

The blades 15 of the fan, and also the pins 16 of the picker, are rearwardly inclined, so that they will be withdrawn from the shreds in the concave 17 at an angle which will release said shreds and not carry them up over the combined picker and fan.

In the operation of the device, the desirable lighter shreds will fall upon the forwarding belt 9, while the heavier and undesirable pieces of tobacco and foreign matter will be thrown into the receptacle 18. This receptacle is in the form of a drawer which may be withdrawn to remove its contents from time to time.

The shreds of tobacco, as usual, lie more or less extended in many directions in the mass on the feed drum 5. As they approach the combined picker and fan, some of them will be engaged by two or more picker pins 16, and others will come between adjacent picker pins. In the case of the former, the shreds will be thrown out of the concave 17 by the pins 16. In the case of the latter, however, a pin 16 may not engage a shred at all, but when this occurs the shred is engaged by the outer edge of one of the fan blades 15 and is thereby thrown out of the concave. Pieces of foreign matter are usually too small to be engaged by more than one picker pin, and even then the pin may simply throw the same in between adjacent pins. When this occurs, the outer edge of one of the fan blades engages the piece and throws it out of the concave. The air movement produced by the fan blades 15 tends to keep all shreds and pieces of foreign matter well down in the concave as they pass there-through.

Changes and variations may be made in

the construction by means of which the invention is carried into effect, within the scope of the claims. The invention, therefore, is not to be restricted to the precise details of the structure shown and described.

What is claimed is:

1. In a winnowing device for cigarette machines, the combination with a combined picker and fan acting on a mass of shredded tobacco to disentangle it and propel its shreds, of means for guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter.

2. In a winnowing device for cigarette machines, the combination with a combined picker and fan acting on a mass of shredded tobacco to disentangle it and propel its shreds, of means for guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, said fan having blades, and said picker consisting of pins projecting from the edges of said blades.

3. In a winnowing device for cigarette machines, the combination with a combined picker and fan acting on a mass of shredded tobacco to disentangle it and propel its shreds, of means for guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, said fan having rearwardly inclined blades, and said picker consisting of rearwardly inclined pins projecting from the edges of said blades.

4. In a winnowing device for cigarette machines, the combination with a combined picker and fan acting on a mass of shredded tobacco to disentangle it and propel its shreds, of means for guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, said means being stationarily mounted adjacent the periphery of said picker and fan.

5. In a winnowing device for cigarette machines, the combination with a combined picker and fan acting on a mass of shredded tobacco to disentangle it and propel its shreds, of means for guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, said means consisting of an adjustable concave stationarily mounted adjacent the periphery of said picker and fan.

6. In a winnowing device for cigarette machines, the combination with a combined picker and fan acting on a mass of shredded tobacco to disentangle it and propel its shreds, of means for guiding the shreds propelled by said picker and fan to cause them to be thrown through different trajectories to thus separate the desirable shreds from undesirable pieces of tobacco and foreign matter, said fan having blades, and said picker consisting of pins projecting from the edges of said blades, the pins on each blade being in staggered relationship to the pins on adjacent blades.

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

JOHN A. STEIN.