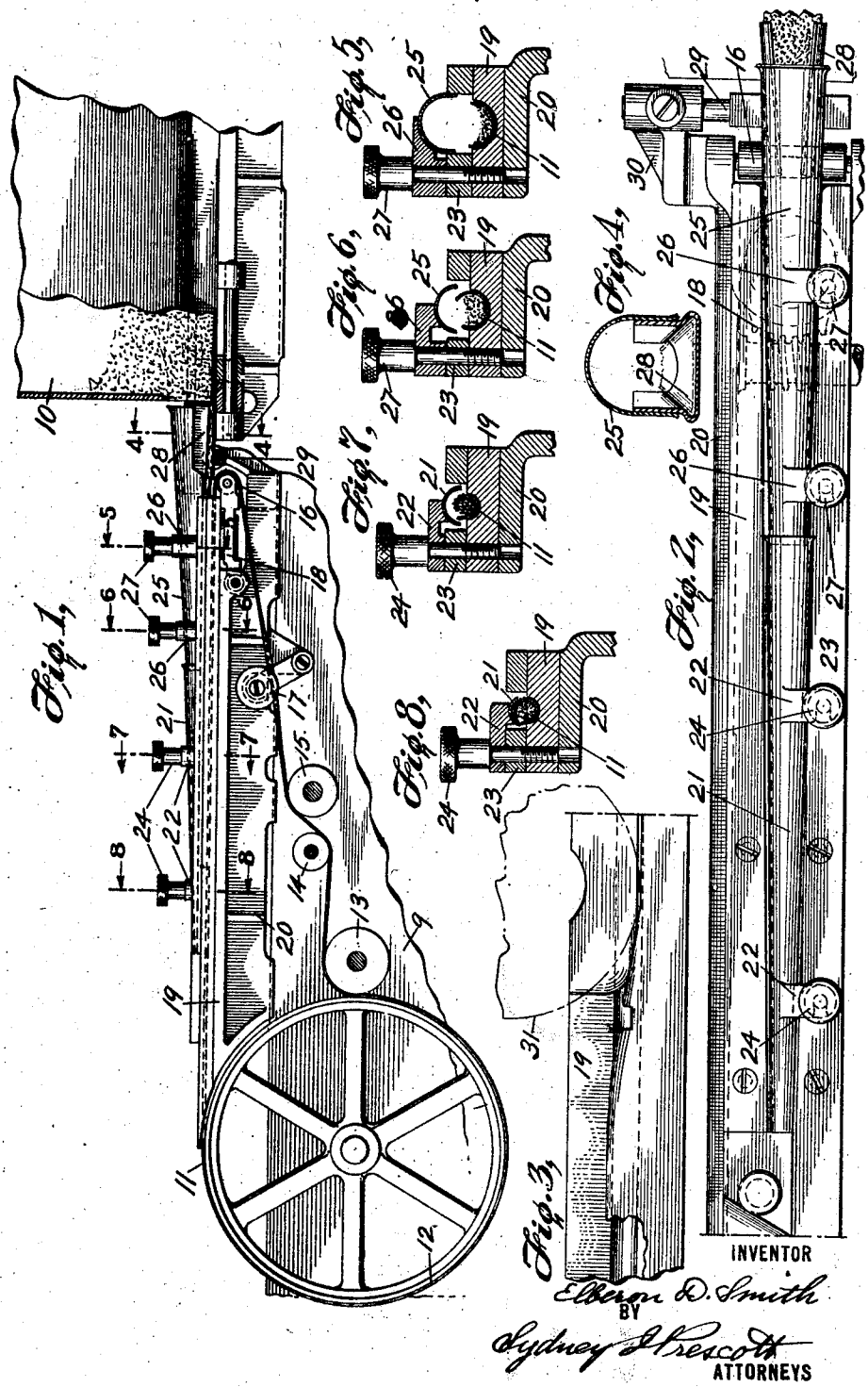
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E. D. SMITH

CIGARETTE MACHINE

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UNITED STATES PATENT OFFICE.

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CIGARETTE MACHINE.

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To all whom it may concern:

Be it known that I, ELBERON D. SMITH, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Cigarette Machines, of which the following is a specification.

This invention relates to an improvement in cigarette machines. In making certain kinds of cigarettes, the leaf stems are not removed from the leaves before the latter are shredded in the well known cutting machines. As a resultant of this method of preparing tobacco for cigarettes, slivers of the leaf stem are produced and these slivers are not soft and pliable like the shreds cut from the web of the leaves. In manufacturing cigarettes by machine from tobacco prepared in this way, serious difficulty has been encountered in the operation of the machines, which difficulty is due to the lack of control of the stem slivers as they fall through the feed chute and are delivered to the cigarette rod forming mechanism. When the slivers fall crosswise, as they frequently do, they choke the rod forming mechanism, breaking the continuity of the cigarette rod and necessitating machine stoppage to clear away the obstruction. The latter of course produces wastage and otherwise decreases production economy, and is very objectionable.

The main object of the present invention is to overcome this difficulty. It has been discovered that if the stem slivers which fall crosswise through the feed chute are intercepted and turned lengthwise of the cigarette rod at the beginning of the rod forming operation, choking of the rod forming mechanism is prevented; and further, that the rod forming mechanism itself may be made more efficient by reason of the change made in the machine to effect the turning of the slivers at the beginning of the rod forming operation.

With these and other objects not specifically mentioned in view, the invention consists of certain constructions and combinations which will be hereinafter fully described and then specifically pointed out in the claims hereunto 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 fragmentary view, in elevation and partly in section, of the rod forming mechanism of a cigarette machine of a standard type and of the tobacco feed chute used in connection therewith and constructed in accordance with the invention; Fig. 2 is an enlarged detail plan view of that part of the rod forming mechanism shown in Fig. 1; Fig. 3 is a plan view of that part of the rod forming mechanism extending to the left from that part shown in Fig. 2; and Figs. 4, 5, 6, 7 and 8 are respectively detail cross-sectional views taken on the lines correspondingly numbered in Fig. 1.

In carrying the invention into effect, there is provided a feed mechanism, rod forming mechanism, and means coacting with said mechanisms to engage stem slivers received crosswise from said feed mechanism, and turn and deliver them lengthwise to said rod forming mechanism in order to prevent choking of the rod forming mechanism, material wastage, and uneconomic machine stoppage. In the best constructions, the feed mechanism includes a chute through which the shredded tobacco falls on to a traveling strip of wrapper material by means of which it is carried into the rod forming mechanism; and the rod forming mechanism itself is provided with an extra long and narrowly tapered tongue, one edge of which is arranged to engage stem slivers which fall crosswise in the chute and turn them lengthwise at the beginning of the rod forming operation, and which by reason of its long narrow tapering form increases the efficiency of the rod forming mechanism. The particular device selected to illustrate the invention is but one of many possible concrete embodiments of the same, and these embodiments may vary widely in construction within the scope of the claims. The invention therefore is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, 9 indicates the bed of a cigarette machine of the standard type, and 10 is a feed chute through which the shredded tobacco falls on to a strip of wrapper material, not shown, but running in a well known manner through the bottom of the chute 10 and over the rod forming belt 11, the belt being driven by a wheel 12 and running over idle pulleys 13, 14, 15 and 16. The belt 11 is kept tight by means of an ad-

justable pulley 17 and kept running true by means of a worm and sector adjusting device 18 of well known construction. The belt 11 runs through a concaved forming plate 19 supported on a bracket 20 rising from the bed 9 before referred to. As the belt 11 travels along the forming plate 19, its edges are turned upwardly in the usual manner and are finally overlapped by means of a curved tongue 21 carried on overhanging arms 22. The arms 22 rest upon a spacing block 23 extending along one side of and resting upon the plate 19. The arms 22, and consequently the tongue 21, are held in adjusted position by means of clamping screws 24, the arms being slotted as clearly shown in Fig. 2, to permit removal of the tongue by a rearward sliding action with out completely backing out the clamping screws 24.

There is provided a second tongue 25 carried on arms 26 and held in position by means of clamping screws 27, just as the tongue 21 is held. The tongue 25 extends to the chute 10 and eliminates the open space heretofore existing between a feed chute and the near edge of a rod forming tongue, the double tongue of the present machine being longer than the single tongue of machines heretofore in commercial use, without in any way lengthening the machine. The tongues may be and are more narrowly tapered, and this increases the efficiency of the rod forming mechanism.

Adjacent the chute 10 and the near end of the tongue 25 is a bridge 28 mounted on a bar 29 supported in an extension 30 rising from the bracket 20 before referred to.

The paper strip from which the cigarette rod wrapper is formed passes along the floor of this bridge, carrying the tobacco with it. The stem slivers are not long enough to span the space between the floor and walls of the bridge 28 and the tongue 25, and when one falls crosswise through the chute 10, one of its ends will be arrested by one of the walls of the bridge 28, and the other end will be swept along by the stream of tobacco carried by the strip of wrapping material. This results in turning the stem slivers from a crosswise position to a lengthwise position with respect to the traveling stream of tobacco, and when lying in a lengthwise position they do not tend to choke the rod forming mechanism and cause the wastage referred to.

At the far end of the rod forming mechanism is located the usual pasting wheel, indicated in Fig. 3 by the reference character 31.

What is claimed is:

1. In a cigarette machine, the combination with feed mechanism, of rod forming mechanism, and means coacting with said mechanisms to engage stem slivers received crosswise from said feed mechanism and turn and deliver them lengthwise to said rod forming mechanism.

2. In a cigarette machine, the combination with a feed chute, of a rod forming mechanism, and means coacting with said chute and said mechanism to engage stem slivers which fall crosswise through said chute and turn them lengthwise at the beginning of the rod forming operation.

3. In a cigarette machine, the combination with a feed chute, of a rod forming mechanism, and an extra long and narrowly tapered tongue carried by said mechanism and extending to said chute to there engage stem slivers which fall crosswise through said chute and turn them lengthwise.

4. In a cigarette machine, the combination with a feed chute, of a rod forming mechanism, and an extra long and narrowly tapered tongue in two parts independently and removably mounted on said mechanism and extending to said chute to there engage stem slivers which fall crosswise through said chute and turn them lengthwise.

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

ELBERON D. SMITH.