

May 7, 1935.

W. D. STARRETT

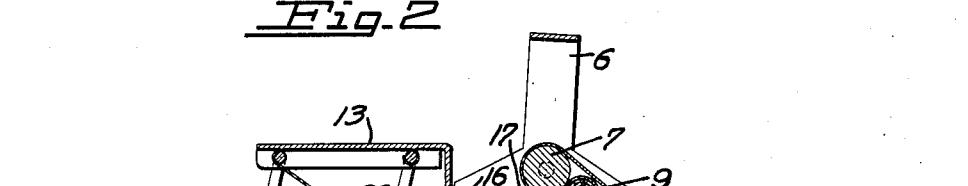
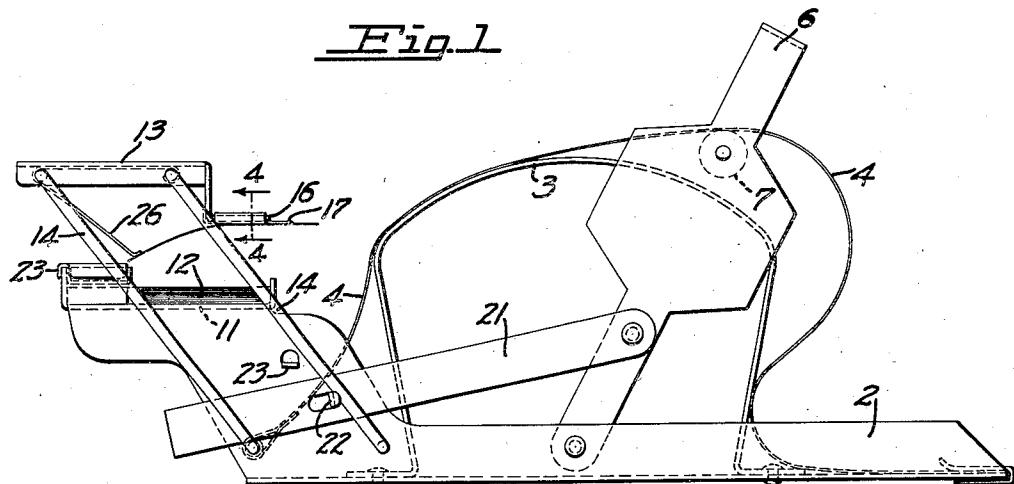
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CIGARETTE MAKING APPARATUS

Filed Feb. 25, 1933

2 Sheets-Sheet 1

Fig. 1



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2 Sheets-Sheet 2

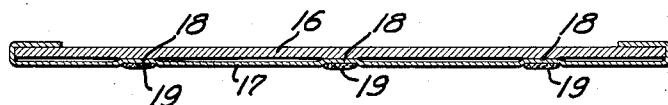
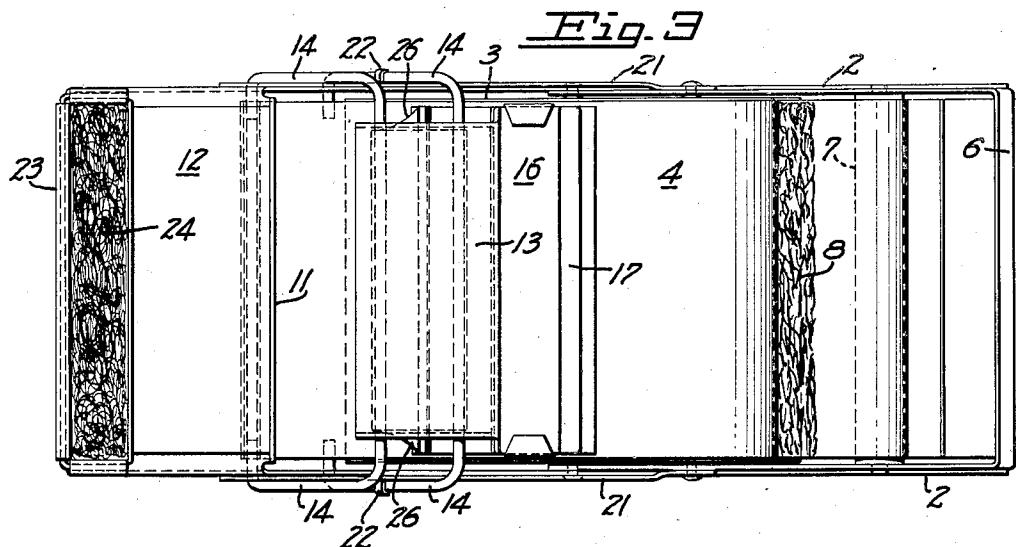


Fig. 4

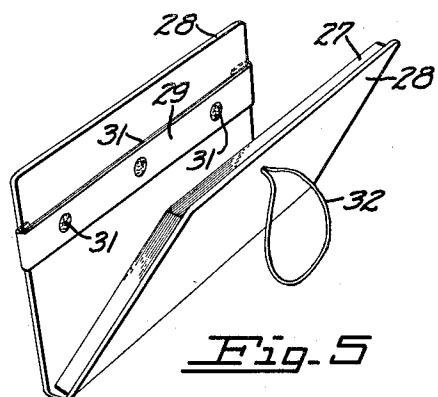
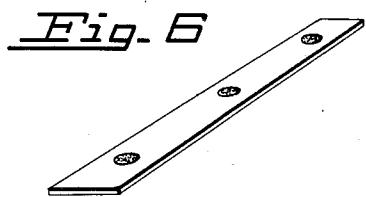


Fig. 5

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CIGARETTE MAKING APPARATUS

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14 Claims. (Cl. 131—43)

My invention relates to apparatus for making cigarettes, and more particularly to improvements in home-rolling cigarette machines and to devices for assisting in the hand making of cigarettes.

It is among the objects of my invention to improve the web type of home-rolling cigarette machines by providing means for automatically handling the papers during the operation of the machine.

Another object of my invention is to provide a machine of the character described in which the movement of a single operating lever operates to roll the tobacco into a cylindrically-shaped charge, remove a cigarette paper from a supply thereof, apply a fluid along an edge of the removed paper, and deposit the moistened paper in the path of movement of the rolling charge of tobacco.

A further object of my invention is to provide improved means for separating a cigarette paper from a stack thereof; which means is applicable either in conjunction with a machine of the character described or in connection with the ordinary cigarette paper packet employed in the hand rolling of cigarettes.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of my invention. It is to be understood that I do not limit myself to this disclosure of species of my invention, as I may adopt variant embodiments thereof within the scope of the claims.

Referring to the drawings:

Figure 1 is a side elevational view of a cigarette making machine embodying the improvements of my invention, showing the operating lever during its movement toward the loading position.

Figure 2 is a longitudinal vertical sectional view of the machine, showing the operating lever during the rolling operation.

Figure 3 is a plan view of the machine, showing the operating lever in the loading position.

Figure 4 is a detail vertical sectional view of the paper carrier, taken in a plane indicated by the line 4—4 of Figure 1.

Figure 5 shows a paper separating device embodying the improvements of my invention as applied to the cover of an ordinary book of cigarette papers; and

Figure 6 shows a variant form of separating device prior to its application to the book.

In terms of broad inclusion, a cigarette machine embodying the improvements of my in-

vention comprises a web adapted to receive a quantity of tobacco and means engaging the web for rolling the tobacco into a cylindrically-shaped charge. Means are provided for holding a supply of cigarette papers, and means are provided for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco. Means are also preferably provided for moistening an edge of the paper prior to its being rolled about the charge of tobacco.

The means for handling and moistening the paper are preferably mounted for movement with the web engaging means so that all may be actuated by a single operating lever. The papers are preferably inserted in the machine in their usual stacked relation, and the means for removing or separating a paper from the supply or stack preferably comprises a device adapted to hold a paper by adhesive engagement.

The idea of separating a cigarette paper from a stack thereof by adhesive engagement is also applicable to the ordinary book or packet of cigarette papers employed in the hand rolling of cigarettes. In this instance the adhesive separating device is preferably mounted on the inside of the book cover so that a paper is separated from the stack upon the opening of the cover.

In greater detail, the cigarette machine chosen for purposes of illustrating the improvements of my invention comprises a frame 2 providing support for a drum-shaped platen 3. A web 4 overlying the platen 3 is provided and is suitably secured at each of its ends to the frame 2. A yoke-shaped operating lever 6 is pivotally mounted on the frame 2 and carries a roller 7 engageable with the web 4 and adapted to ride over the platen 3. The web 4 is provided with sufficient slack to provide a fold for receiving a quantity of tobacco 8 in the loading position of the operating lever 6. Note Figure 3.

As best shown in Figure 2, the web engaging means or roller 7 functions to shift the tobacco containing fold along the web and across the top of the platen 3. This operates to roll the tobacco into a cylindrically-shaped charge 9. These elements and their actions are common in the web type of home-rolling cigarette machines, and an extended explanation thereof is consequently unnecessary. The above described arrangement of elements is typical of the web type machine and is so chosen for illustration. It is understood however that any other specific arrangement of these elements may be employed.

In my improved machine means are provided for automatically handling the cigarette papers during the operation of the machine. To this end suitable means are provided for holding a supply of cigarette papers. Preferably a tray 11 is mounted on the frame 2 for receiving a stack 12 of the papers. The capacity of the tray is preferably sufficient to hold the stack of papers ordinarily found in the commercial type of loose leaf packet.

A carrier 13 is pivotally mounted on the base 2 by a pair of yoke-shaped carrier arms 14. The carrier is preferably provided with a depending shelf portion 16, and the mounting of the carrier is such that the shelf portion rests upon the paper stack 12 in the retracted position of the carrier and upon the web 4 in the extended position of the carrier. A position of the carrier just after it has left its retracted position is shown in Figure 1, and the location of the carrier in its extended position is shown in Figure 2.

Means are provided on the carrier 13 for removing a paper from the stack 12 and depositing it on the web 4 in the path of movement of the rolling tobacco charge 9. For this purpose a thin face plate 17 is clipped on the carrier 13 and is arranged to extend across the lower side of the shelf portion 16. As best shown in Figure 4, the face plate 17 is provided with a plurality of indentations 18 into each of which a quantity of adhesive 19, such as gum, is deposited. A gum very satisfactory for this purpose is that commonly used on surgical adhesive tape.

These deposits provide adhesive areas or surfaces which operate to grasp a paper from the stack 12 when the carrier 13 is in the retracted position and to hold the same on the bottom of the carrier when the latter is moved to its extended position. As is best shown in Figure 1, the leading edge of the paper adhering to the carrier extends beyond the forward edge of the clip 17, so that the leading edge is free to be engaged between the rolling tobacco charge 9 and the web 4.

Means are provided for timing the movement of the carrier 13 with that of the web engaging roller 1, and this is preferably accomplished by means connecting the carrier for movement with the roller so that both are actuated by the single operating lever 6. For this purpose a driving arm 21 is slidably arranged between the supporting arms 14 and the frame 2 and is pivotally connected at one end to the actuating lever 6. The arm 21 is provided with a driving tab 22 engageable with either of the carrier supporting arms 14.

When the operating lever 6 is moved to shift the roller 1 into the loading position the driving tab 22 engages the foremost arm 14 and moves the carrier to its extended position. Conversely, when the operating lever is moved toward the discharge position the tab 22 engages the rear arm 14 and shifts the carrier 13 back into its retracted position.

The proportion and arrangement of the parts is such that the driving tab 22 starts moving the carrier 13 toward its retracted position immediately after the leading edge of the paper has been grasped between the rolling tobacco charge 9 and the web 4. The slight hold of the adhesive deposits 19 on the paper is broken at this time and the paper is left lying on the web to be completely rolled about the charge of tobacco. Prefer-

ably a pair of driving arms 21 are provided, one on each side of the machine.

Means are preferably provided for pressing the carrier 13 against the stack 12 in the retracted position of the carrier. This is conveniently accomplished by providing tabs 23 on the sides of the frame 2 for limiting the upward movement of the driving arms 21. The positions of the guide tabs 23 are such that the driving tabs 22 of the arms 21 are caused to bear down on the rear supporting arm 14 during the final forward movement of the operating lever 6 into the discharge position. This downward pressure of the carrier 13 on the stack 12 insures that the gum deposits 19 will be brought into firm contact with the cigarette paper to be removed.

Means are also provided for applying a fluid along the trailing edge of the removed paper prior to its being rolled about the tobacco charge 9. A tray 23 is preferably removably mounted on the rim of the paper tray 11 so that it is positioned above the stack 12. An absorbent pad 24, such as felt, is arranged in the tray 23 for holding a supply of fluid. A sheet of resilient material is mounted on the carrier 13 and is arranged to extend downwardly and forwardly, as shown in Figures 1 and 2, to provide a wiper 26. The lower edge of the wiper is turned upwardly slightly to provide a flat portion adapted to engage along the trailing edge of the paper being held by the carrier.

When the carrier 13 is in its retracted position the lower edge of the wiper is pressed against the absorbent pad 24, and when the pad is saturated with water the edge of the wiper becomes wetted. Subsequently, when the carrier picks up a paper and moves it toward the web the trailing edge of the paper moves into engagement with the wiper. Note Figures 1 and 2. When a glutinous substance is incorporated in the paper, or when a strip of glue is provided along an edge of the same, a water saturated pad 24 is all that is necessary. Otherwise, a slight amount of glue may be added to the saturant for properly sealing the cigarettes.

The idea of adhesive means for separating a cigarette paper from a stack thereof may be employed in connection with the ordinary packet or book of cigarette papers used in the hand rolling of cigarettes. Such a book of papers comprising the leaves 27 and covers 28 is shown in Figure 5. The paper separating device employed with such a packet comprises a thin apertured face plate 29 clipped over the inner face of one of the covers 28. A backing 31 of adhesive tape, such as court plaster, is bonded to the strip 29 so that the adhesive side of the tape is presented at the apertures of the strip.

When the cover of the packet is closed and secured by the usual elastic 32 the adhesive areas 60 of the separating device become attached to the adjacent leaf, and when the cover is opened the leaf is automatically drawn away from the others so that it may be readily removed. The device as shown in Figure 5 may be transferred to a new 65 packet when the leaves of an old one have been used up. Of course it is understood that this showing is merely for purposes of illustration, and that if desired the adhesive material may be incorporated as a part of the cover when the book 70 is made; or a strip of material, such as paper, having an adhesive on one side for bonding the strip to the cover and having deposits of adhesive on the other side may be provided. Such a strip 75 is shown in Figure 6.

The metallic strip carrying gum deposits, shown in Figure 4 in conjunction with the cigarette machine, could be employed equally as well in a cigarette paper book. Likewise an apertured strip having adhesive tape on the back thereof as shown in Figure 5 could be incorporated in the machine.

After continued use over a considerable time, it may be found that the adhesive gum deposits lose their stickiness, so that the paper is not picked up with certainty. This is caused by an accumulation of dust over the surface of the gum, usually derived from the paper. The condition is readily remedied by picking the surface of the gum with the point of a knife blade, or pin so that a fresh surface is presented.

I claim:

1. A cigarette machine comprising a web adapted to receive a quantity of tobacco, means engaging said web for rolling the tobacco into a cylindrically-shaped charge, means for holding a supply of cigarette papers, means for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, and means for retracting the paper depositing means after the paper is caught between the rolling charge and said web.

2. A cigarette machine comprising a web adapted to receive a quantity of tobacco, means engaging said web for rolling the tobacco into a cylindrically-shaped charge, means for holding a supply of cigarette papers, means for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, and means operating in time with the web engaging means for retracting the paper depositing means after the paper is caught between the rolling charge and said web.

3. A cigarette machine comprising a web adapted to receive a quantity of tobacco, means engaging said web for rolling the tobacco into a cylindrically-shaped charge, means for holding a supply of cigarette papers, means for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, means for applying a fluid along an edge of the removed paper, and means for retracting the paper depositing means after the paper is caught between the rolling charge and said web.

4. A cigarette machine comprising a platen, a web overlying said platen and adapted to receive a quantity of tobacco, a movably mounted roller engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means for holding a supply of cigarette papers, means for carrying the papers and having a retracted position for receiving a paper from the supply and an extended position for depositing it on the web in the path of movement of the rolling charge of tobacco, and means timed for movement with the roller for extending the paper carrying means and for retracting the same after the paper is caught between the rolling charge and said web.

5. A cigarette machine comprising a platen, a web overlying said platen and adapted to receive a quantity of tobacco, a movably mounted roller engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means for holding a supply of cigarette papers, means for carrying the papers and having a retracted position for receiving a paper from the supply and an extended position for depositing it on the web in the path of movement of the rolling charge of tobacco, means

for applying a fluid along an edge of the removed paper, and means timed for movement with the roller for extending the paper carrying means and for retracting the same after the paper is caught between the rolling charge and said web.

6. A cigarette machine comprising a platen, a web overlying said platen and adapted to receive a quantity of tobacco, a movably mounted roller engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means for holding a supply of cigarette papers, means mounted for movement with said roller for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, means for holding a supply of fluid, and means mounted for movement with the roller for transferring fluid from the supply to the removed paper and depositing it along an edge thereof.

7. A cigarette machine comprising a web adapted to receive a quantity of tobacco, means engaging said web for rolling the tobacco into a cylindrically-shaped charge, means for holding a stack of cigarette papers, a carrier movable from a retracted position resting on said stack to an extended position resting on the web in the path of movement of the rolling charge of tobacco, said carrier having an adhesive surface for picking up a paper from the stack and depositing it on the web, and means for pressing the carrier against the stack in its retracted position.

8. A cigarette machine comprising a web adapted to receive a quantity of tobacco, means engaging said web for rolling the tobacco into a cylindrically-shaped charge, means for holding a stack of cigarette papers, a carrier movable from a retracted position resting on said stack to an extended position resting on the web in the path of movement of the rolling charge of tobacco, said carrier having an adhesive surface for picking up a paper from the stack and depositing it on the web, an absorbent pad, and a wiper on the carrier adapted to contact the pad in the retracted position of the carrier and the edge of the paper held by the carrier in the extended position of the latter.

9. A cigarette machine comprising a frame, a platen on the frame, a web secured to the frame and overlying the platen, said web being adapted to receive a quantity of tobacco, a roller movably mounted on the frame and engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means on the frame for holding a supply of cigarette papers, means on the frame for holding a supply of fluid, means movably mounted on the frame for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, and means for transferring fluid from the supply to the removed paper and depositing it along an edge thereof.

10. A cigarette machine comprising a frame, a platen on the frame, a web secured to the frame and overlying the platen, said web being adapted to receive a quantity of tobacco, a roller movably mounted on the frame and engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means on the frame for holding a supply of cigarette papers, means on the frame for holding a supply of fluid, means movably mounted on the frame and connected for movement with the roll-

er for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, and means for transferring fluid from the supply to the removed paper and depositing it along an edge thereof.

11. A cigarette machine comprising a frame, a platen on the frame, a web secured to the frame and overlying the platen, said web being adapted to receive a quantity of tobacco, a roller movably mounted on the frame and engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means on the frame for holding a supply of cigarette papers, means on the frame for holding a supply of fluid, means movably mounted on the frame and adhesively engageable with said papers for removing a paper from the supply and depositing it on the web in the path of movement of the rolling charge of tobacco, and means for transferring fluid from the supply to the removed paper and depositing it along an edge thereof.

12. A cigarette machine comprising a frame, a platen on the frame, a web secured to the frame and overlying the platen, said web being adapted to receive a quantity of tobacco, a roller movably mounted on the frame and engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means on the frame for holding a stack of cigarette papers, means on the frame for holding a supply of fluid, a carrier mounted on the frame and movable from a retracted position resting on said stack to an extended position resting on the web in the path of movement of the rolling charge of tobacco, said carrier having an adhesive surface for picking up a paper from the stack and depositing it on the web, and means for trans-

ferring fluid from the supply to the paper held by the carrier and applying it along the edge of the paper.

13. A cigarette machine comprising a frame, a platen on the frame, a web secured to the frame and overlying the platen, said web being adapted to receive a quantity of tobacco, a roller movably mounted on the frame and engaging said web and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means on the frame for holding a stack of cigarette papers, an absorbent pad on the frame, a carrier mounted on the frame and movable from a retracted position resting on said stack to an extended position resting on the web in the path of movement of the rolling charge of tobacco, said carrier having an adhesive surface for picking up a paper from the stack and depositing it on the web, and a wiper on the carrier adapted to contact the pad in the retracted position of the carrier and the edge of the paper held by the carrier in the extended position of the latter.

14. A cigarette machine comprising a base, a platen on the base, a web on the base and overlying the platen and adapted to receive a quantity of tobacco, a yoke-shaped operating lever pivotally mounted on the base and extending into a handle overlying the platen, a roller journaled between the arms of said lever and adapted to ride over the platen for rolling the tobacco into a cylindrically-shaped charge, means on the base for holding a supply of cigarette papers, a carriage movably mounted on the base for removing a paper from the supply and depositing it on the web, and means connecting the carriage for movement with said lever.

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