

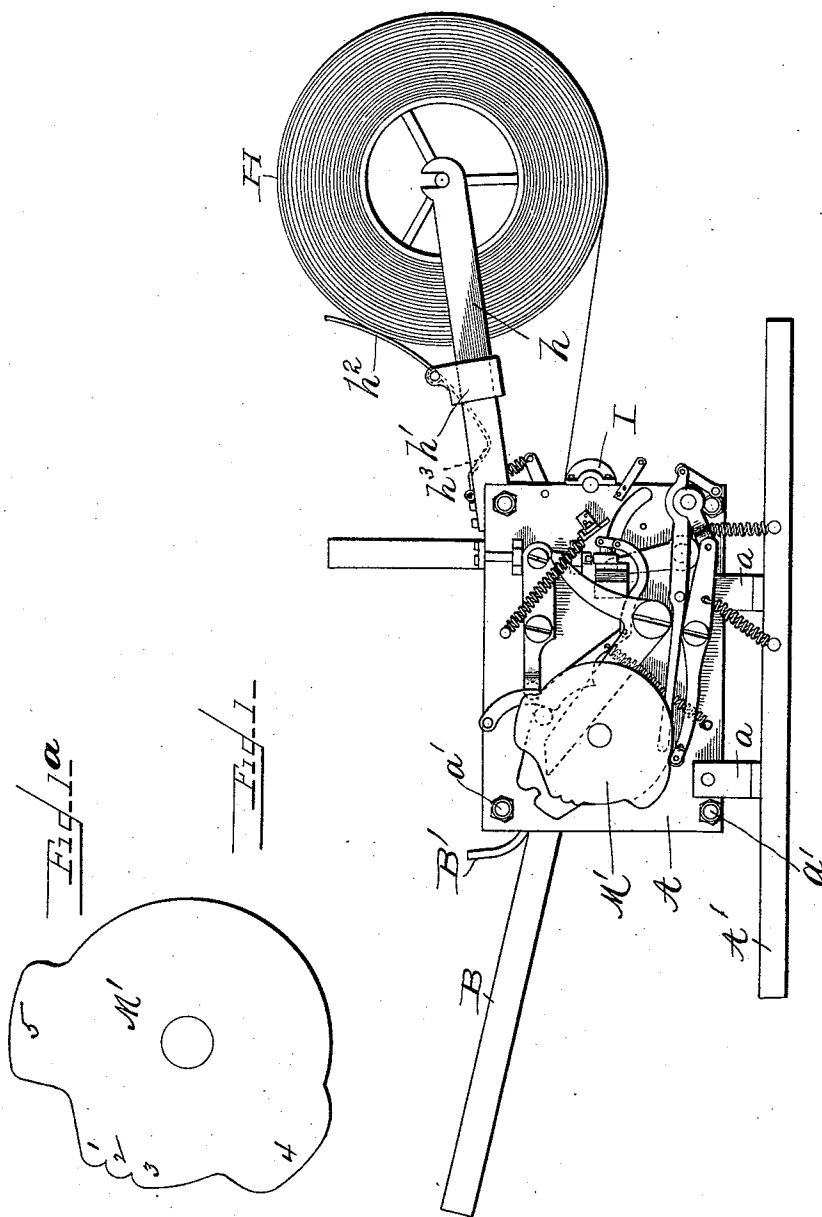
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8 Sheets—Sheet 1.

J. N. WOOD.
CIGARETTE MACHINE.

No. 537,097.

Patented Apr. 9, 1895.



Witnesses
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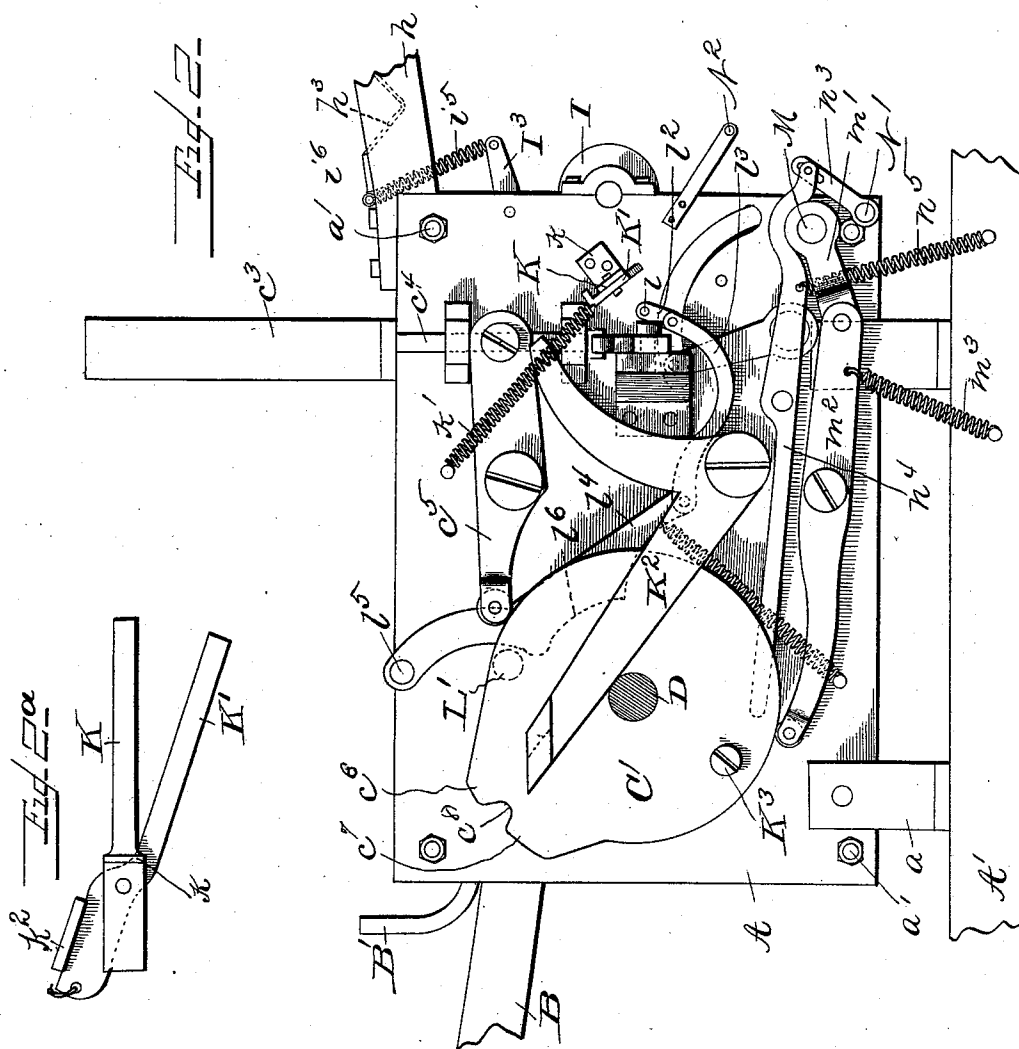
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8 Sheets—Sheet 2.

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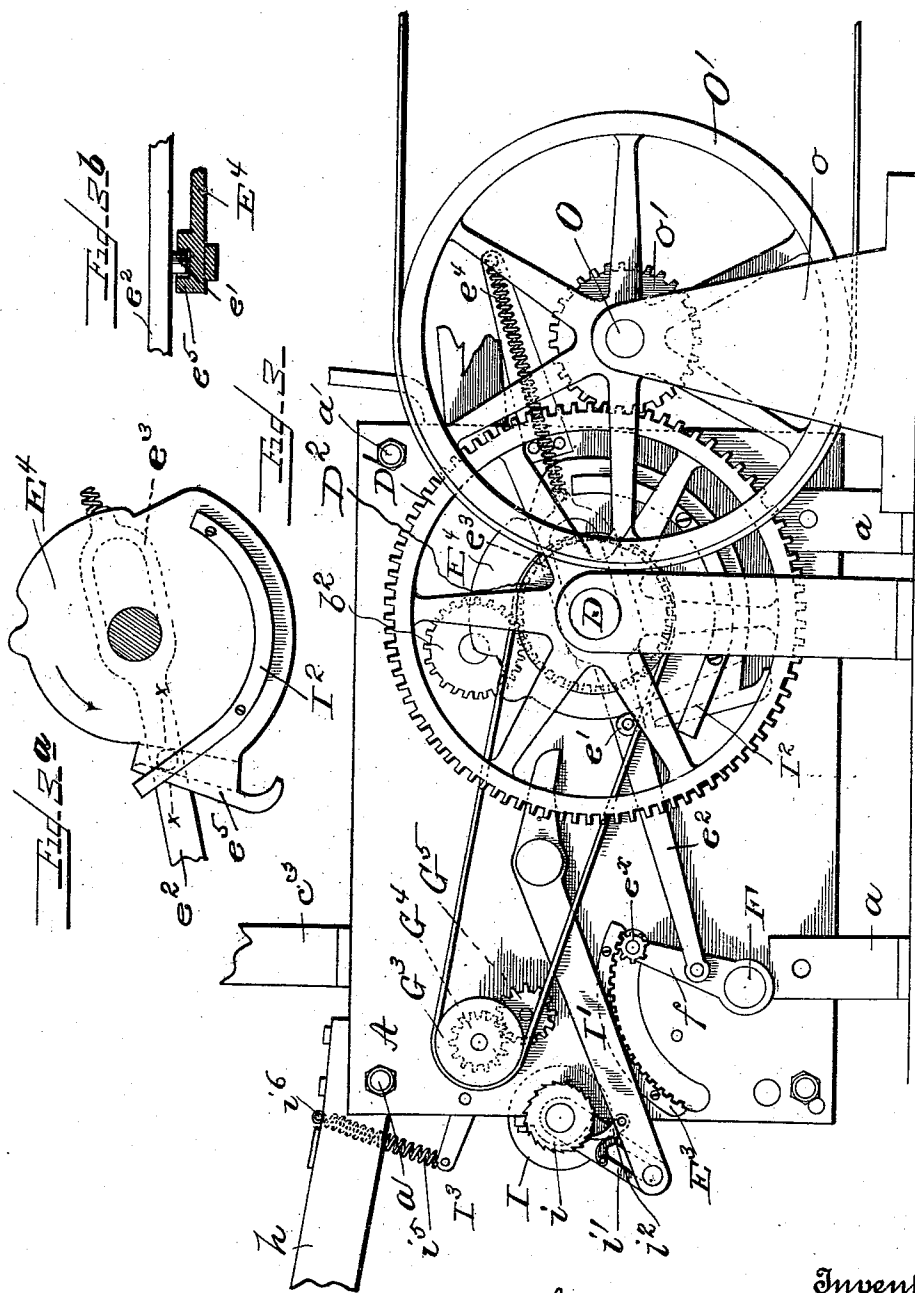
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8 Sheets—Sheet 3.

J. N. WOOD.
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No. 537,097.

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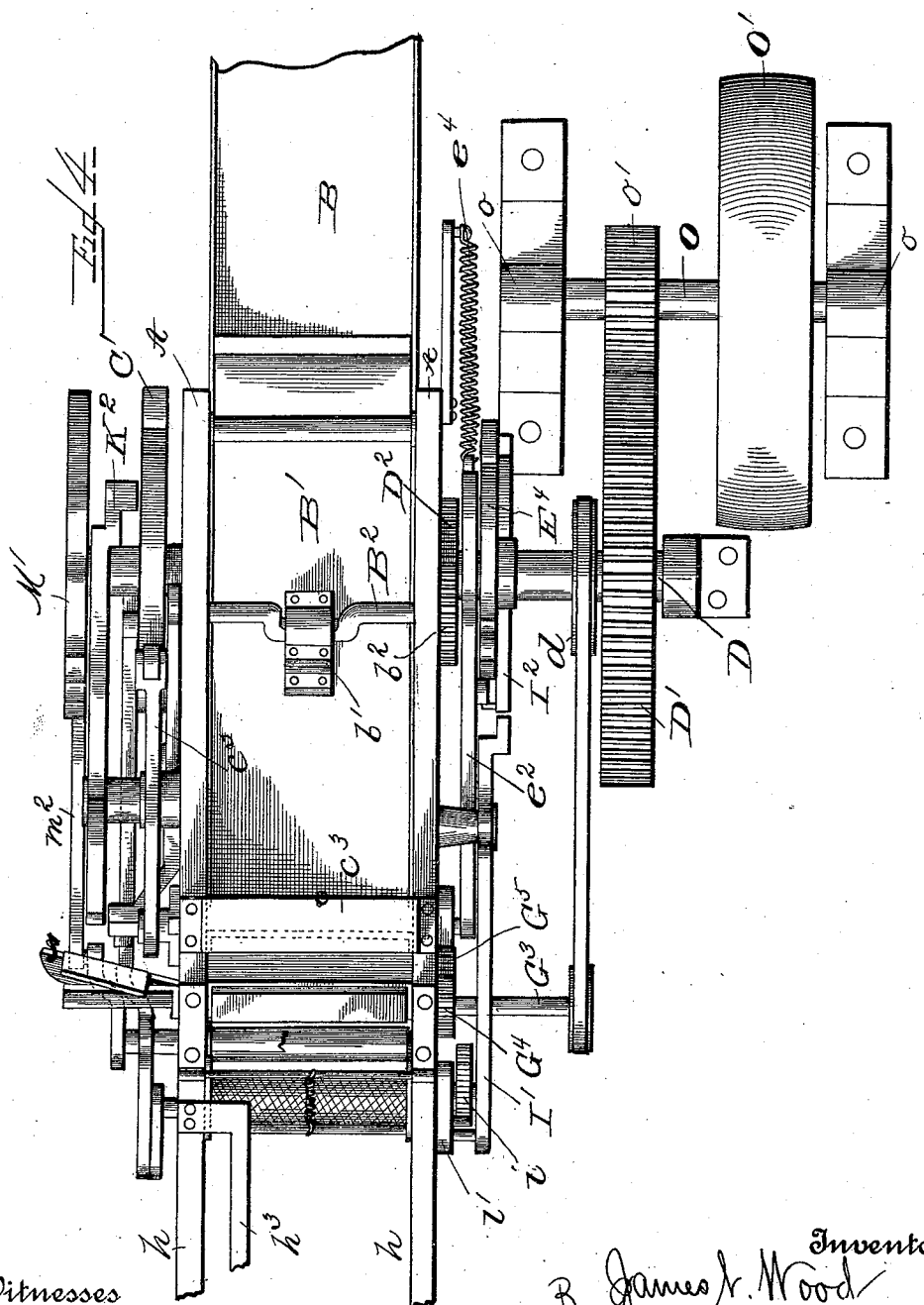
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8 Sheets—Sheet 4.

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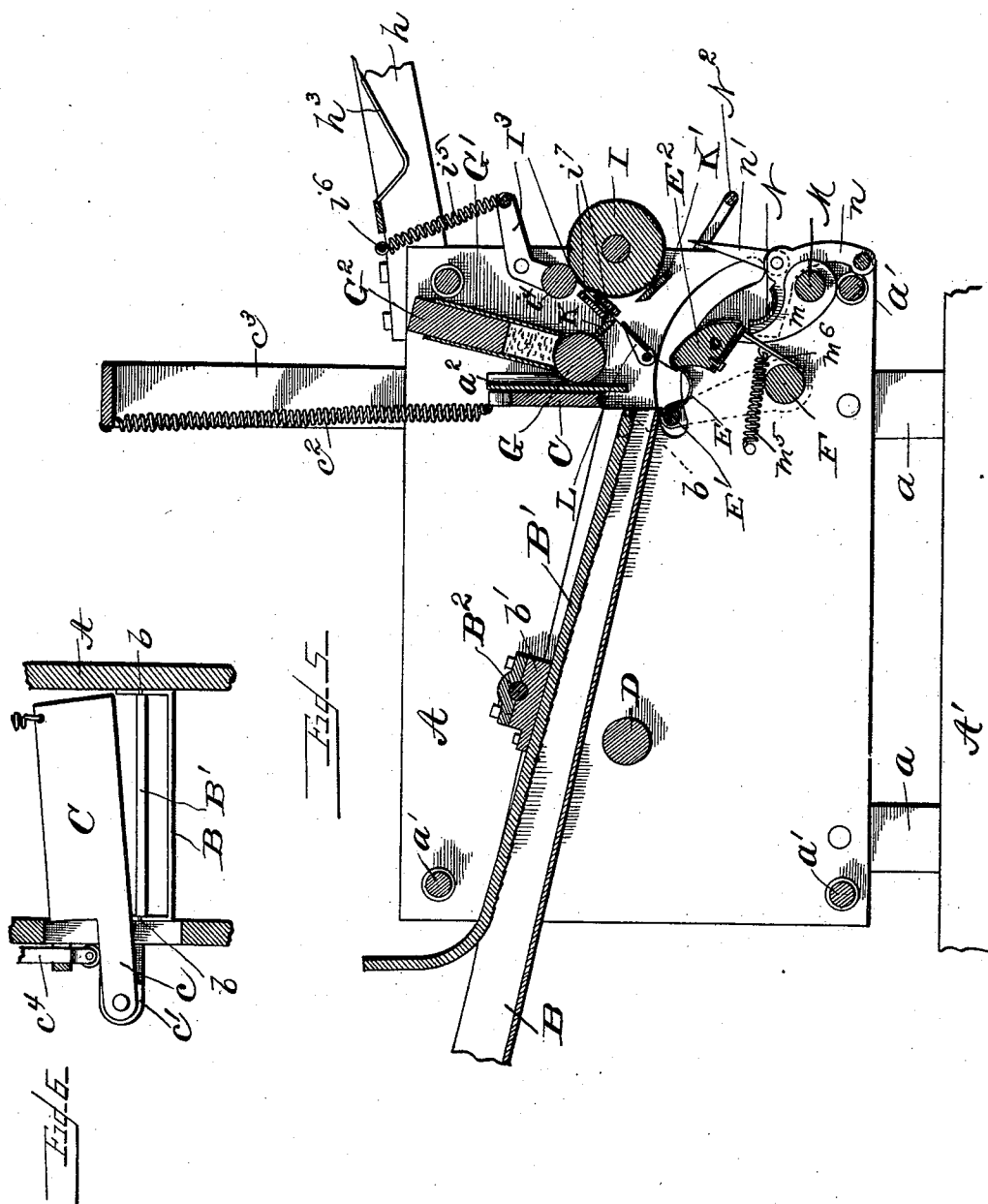
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8 Sheets—Sheet 5.

J. N. WOOD.
CIGARETTE MACHINE.

No. 537,097.

Patented Apr. 9, 1895.



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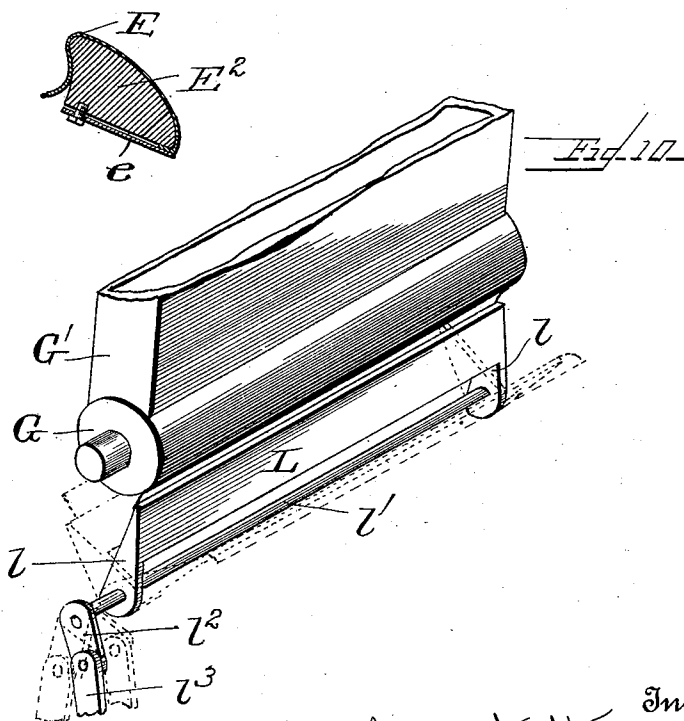
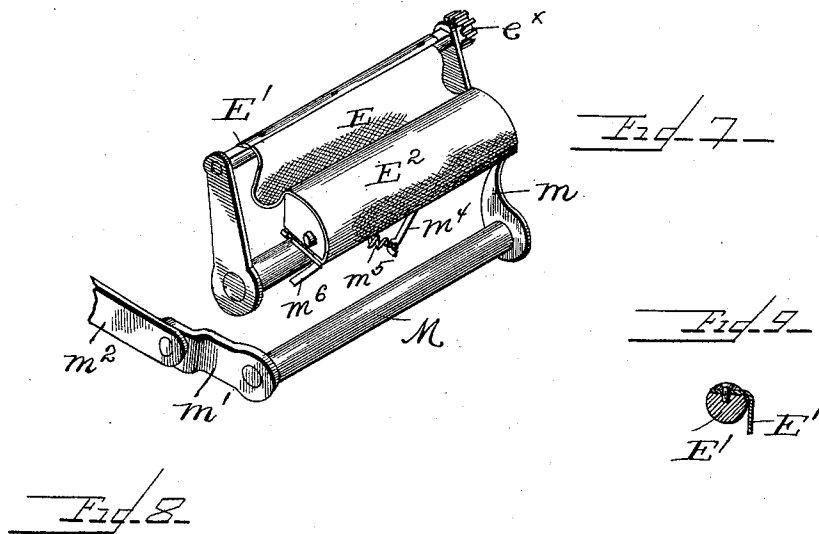
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8 Sheets—Sheet 6.

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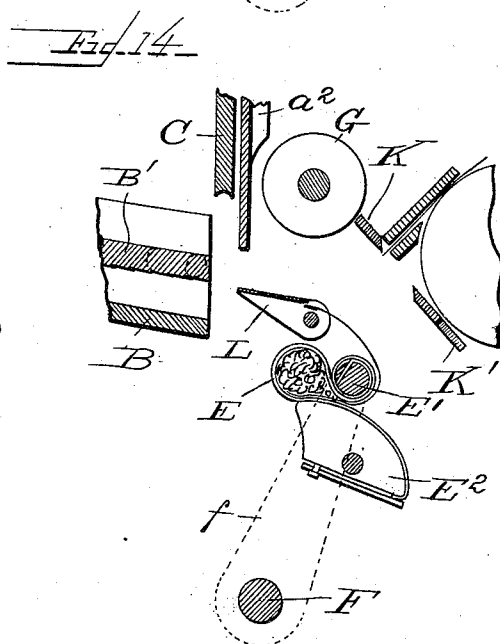
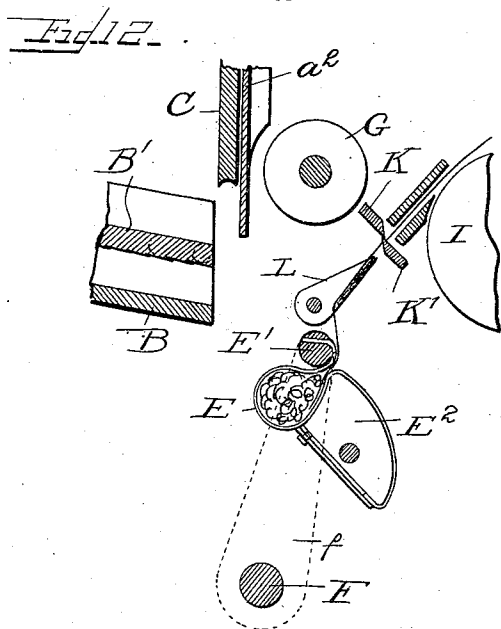
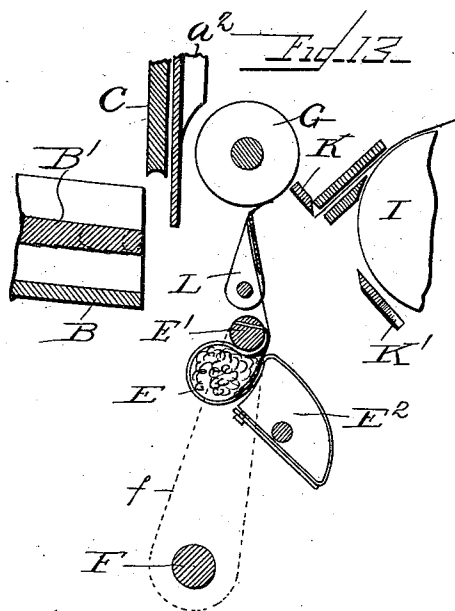
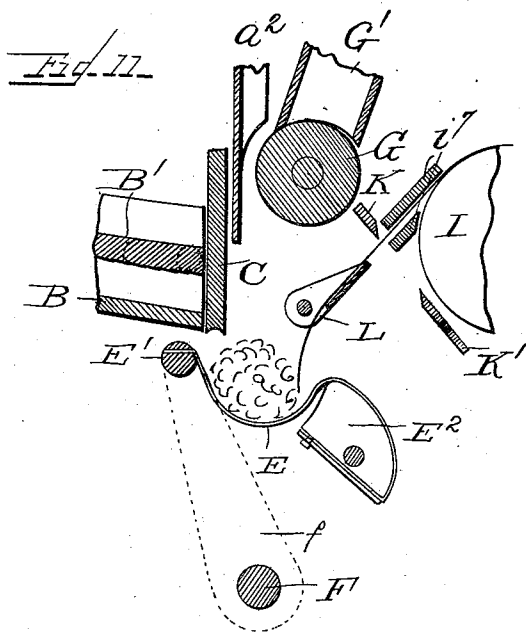
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J. N. WOOD.
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8 Sheets—Sheet 7.

No. 537,097.

Patented Apr. 9, 1895.



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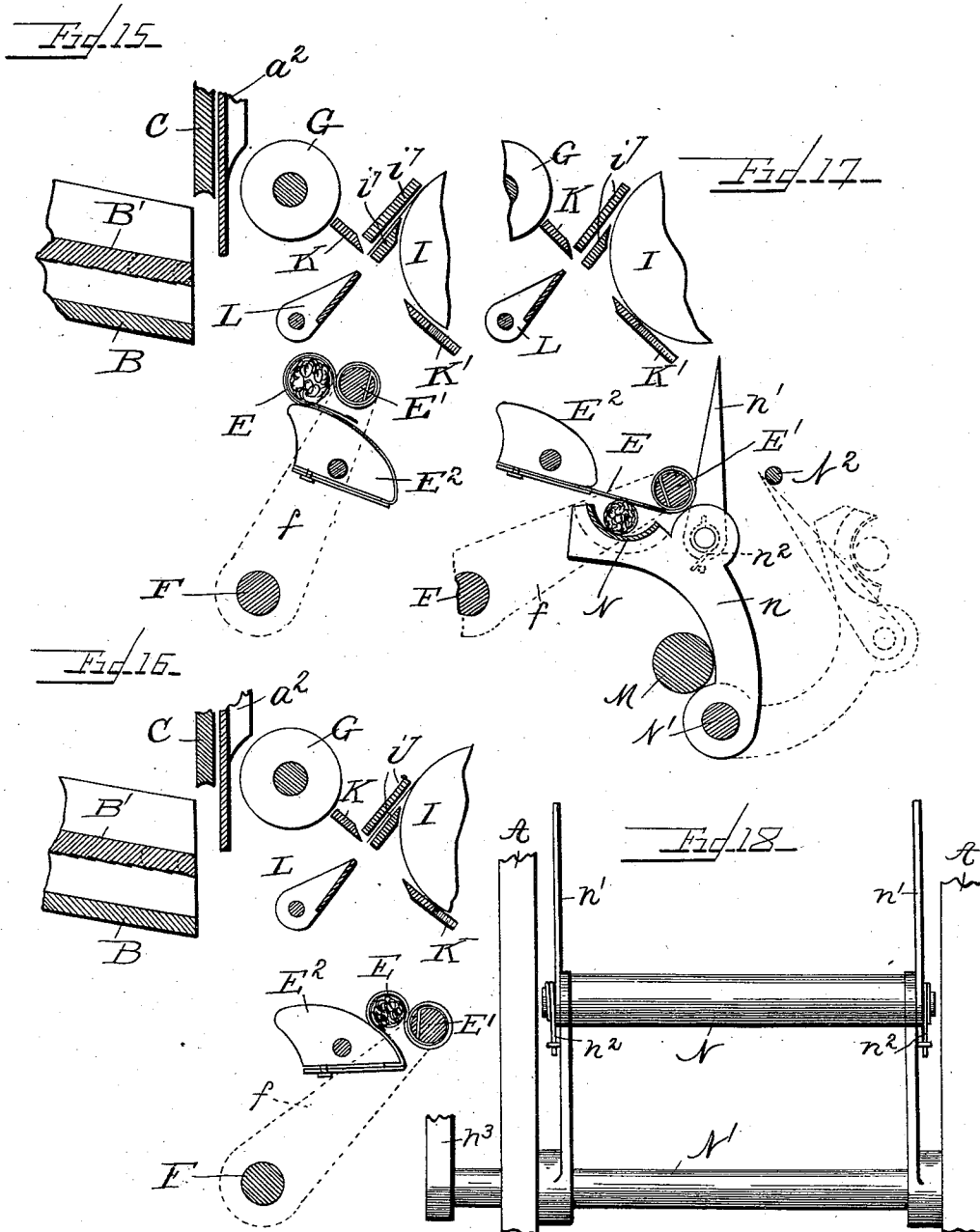
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8 Sheets—Sheet 8.

J. N. WOOD.
CIGARETTE MACHINE.

No. 537,097.

Patented Apr. 9, 1895.



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UNITED STATES PATENT OFFICE.

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CIGARETTE MACHINE COMPANY, OF SAME PLACE.

CIGARETTE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 537,097, dated April 9, 1895.

Application filed July 31, 1894. Serial No. 519,076. (No model.)

To all whom it may concern:

Be it known that I, JAMES N. WOOD, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Cigarette-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in cigarette machines and consists in the novel features of construction and combination of parts hereinafter fully described, reference being had to the accompanying drawings which illustrate one form in which I have contemplated embodying my invention and said invention is fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 represents a side elevation of a cigarette machine embodying my invention. Fig. 1^a is an enlarged view of the cam for operating the pivoted table, on which the cigarette is rolled. Fig. 2 is an enlarged side elevation of the central portion of the machine showing the same side illustrated in Fig. 1 with the table operating cam removed. Fig. 2^a is an enlarged detail view of the paper cutting device. Fig. 3 is a view similar to Fig. 2 showing the other side of the machine. Fig. 3^a is an enlarged detail view of the cam for operating the cigarette rolling devices and the paper feeding devices. Fig. 3^b is a section on line $x-x$ of Fig. 3^a. Fig. 4 is a top plan view of the central portion of the machine. Fig. 5 is a vertical sectional view of the same. Fig. 6 is a detail view showing the tobacco knife. Fig. 7 is a detail perspective view of the cigarette rolling devices showing them in position to receive tobacco. Figs. 8 and 9 are detail sectional views of the pivoted table and blanket roller respectively, showing the manner of securing the blanket thereto. Fig. 10 is a detail perspective view of the devices for pasting one edge of the paper wrapper. Figs. 11 to 16 are views of the cigarette forming devices showing the successive steps in the formation of the cigarette. Fig. 17 is a similar view showing the cigarette forming devices dis-

charging the cigarette into the trimming mechanism and illustrating in dotted lines the operation of the trimming mechanism. Fig. 18 is an end view of the trimming mechanism.

The main frame of my improved machine consists of two vertically disposed side plates A A supported by brackets $a a$ secured to a base plate A' and braced by cross bolts $a' a'$.

B represents a tobacco feeding trough or chute which is formed in this instance in the shape of a trough having a bottom and sides, and is held for a portion of its length between the side plates A, A at an angle to the base plate A' to facilitate the feeding of the tobacco. This chute or trough may be of any desired length and size which may be found desirable. The tobacco is fed positively along the trough or chute in this instance by a reciprocating feeding plate or rake B' of any desired length which is of a width to work between the sides of the chute B and is disposed at an angle to the bottom of the trough or chute. This plate is provided at its forward end with laterally projecting studs b which engage recesses in the sides of the chute B (see Fig. 5) and the said plate is reciprocated by a crank shaft B² journaled in the side plates A, and provided with a suitable crank engaging a bearing b' secured to the feeding plate B', as shown in Figs. 4 and 5.

The feeding plate or rake is provided on its under side with toothed portions having straight and inclined faces, adapted to feed the tobacco with the forward movement of the rake and to pass over the tobacco during its backward movement and said rake is curved upwardly at its rear end to enable it to take the tobacco readily.

By means of the trough B and rake B' it will be seen that the tobacco is fed forward and compressed into a compact stream and projected from the delivery end of the tobacco trough or chute and I prefer to term the said trough and feeding plate the compressing feeding chute. Adjacent to the delivery end of the said chute is located the tobacco separating knife or plunger C. (See Figs. 5 and 6 particularly.) This knife is preferably formed in cross section as shown in Fig. 5 having its

lower edge provided with a longitudinal groove and forming a sharp cutting edge on the side nearest the trough B.

The shank *c* of the knife or plunger C is pivoted to a bracket *c'* secured to one of the side plates A (see Figs. 2 and 6) and the knife is held in its highest position by a spring *c²* secured thereto and to a yoke *c³* secured to the upper edges of the side plates A A. The tobacco separating plunger or knife C is depressed by the following instrumentalities: A vertical push bar *c⁴* is mounted in guides secured to one of the side plates A adjacent to the bracket *c'* to which the knife is pivoted, the lower end of said push bar having a friction roll engaging the shank *c* of the knife or plunger C as shown in Figs. 2 and 6. A knife operating lever *c⁵* is pivoted upon a stud secured to the side plate A and has its forward end pivotally connected to the push rod *c⁴* as shown in Fig. 2. The rear end of said lever is provided with a friction roll engaging a knife operating cam *C'* secured on a cam shaft D journaled in the side plates A and extending through both of said plates. It will be noted that the knife operating cam *C'* has two high grades *c⁶* *c⁷* each of which produces a depression of the knife, the grade *c⁷* depressing the knife farther than the grade *c⁶*. In operation when the grade *c⁶* strikes the lever *c⁵* the knife will be depressed and will cut off the tobacco projecting from the delivery end of the trough or chute B. The roll on the end of lever *c⁵* then strikes the cut away portion *c⁸* of the cam between grades *c⁶* and *c⁷* and allows the knife to rise so as to clear it from the tobacco and the grade *c⁷* then depresses the knife again and carries it farther down causing it, by reason of its concave lower face, to act as a plunger and positively press the tobacco into the cigarette forming devices which will be held in position to receive the tobacco as shown in Fig. 5.

The cigarette is rolled or formed in what I term a "rolling blanket" E of flexible material secured at its rear end to a traveling roller E' adapted to move in a curved path and passing forward over the pivoted rolling table E² has its forward end secured to said table. In order to allow said blanket to be readily removed and a new one inserted I prefer to construct the roller E' in two parts and to clamp the blanket between them as shown in Fig. 9, by means of screws, or I may employ any other suitable construction for this purpose. The table E² is pivotally mounted in the side plates A A and is provided on its under side with a detachable plate *e* between which and the bottom of the table, the forward end of the blanket E is clamped. (See Fig. 8.) The table E² is thicker at its rear edge than at its front edge providing a broad rear side of considerable width between which and the roller E' the rolling blanket is depressed to form the pocket to receive the tobacco filler. The table is also provided with a curved upper face which is given the same

curvature as the path of the roller E'. The roller E' is carried by two arms *ff* projecting from a rock shaft F journaled in the side plates A A and the shaft of the roller E' is provided at one end with a pinion *e^x* which gears with a toothed rack E³ secured to one of said side plates as shown in Fig. 3, so that as the roller is moved forward by the arms *ff*, the roller will be revolved rearwardly and caused to roll up the blanket E as it travels over the pivoted table E². The rear face of the table E² is given a slight inward curvature to accommodate the pocket of the rolling blanket, into which the tobacco is forced by the tobacco knife and said rear face meets the upper face of the table at a very considerable angle. The required movements of the roller E' are imparted to it by a roller operating cam E⁴, on the cam shaft D, (see Figs. 3, 3^a and 3^b) which cam engages a roller *e'* on a sliding bar *e²* having a slotted yoke *e³* engaging the shaft D, the said bar having its forward end connected with one of the arms *f* of the rock shaft F. A spring *e⁴* extends from the yoke *e³* to a suitable stationary support which holds the friction roll *e'* always in engagement with the cam E⁴ but in order to insure the positive retraction of the bar *e'* and the roller E', the cam E⁴ is provided with an auxiliary grade *e⁵* for this purpose. See Figs. 3^a and 3^b.

Forward of the tobacco knife or plunger C is a stationary shield or partition *a²* as shown to prevent tobacco from getting into proximity to the pasting devices and forward of this partition is the paste roller G having its shaft journaled in the side plates A. Motion is imparted continuously to this roller when the machine is in motion, in this instance from the cam shaft by the following means: A belt connects a pulley *d* on the cam shaft D with a pulley on a short shaft G³, provided with a pinion G⁴ engaging a similar pinion G⁵ on the shaft of the paste roller, as shown in Figs. 3 and 4. Above the paste roller G is the paste receptacle G' which consists of a box open at top and bottom secured to the side plates A and having its sides adjacent to the paste roller made to conform closely to said roller so as to allow only a thin film of paste to be taken by the said roller. G² is a weight fitting the interior of the paste box, for pressing the paste down into engagement with the roller G.

The paper is fed into the machine from a paper roll H and is of a width equal to the length of the finished cigarette. The said paper roll is mounted upon a suitable drum, the trunnions of which engage suitable recesses in the ends of supporting arms *h h* secured to the side plates A A at one end of the same. In order to prevent the paper from being drawn off too rapidly and causing slack, I provide the arms *h h* with adjustable slides *h' h'* carrying a pivoted brake shoe *h²* provided with a spring *h³* for causing it to exert a certain tension on the paper roll.

The paper is fed into the machine by a milled or roughened feed roller I journaled in the side plates A A and having its shaft provided with a ratchet wheel i and a pivoted arm i' carrying a spring pawl i^2 engaging said ratchet. The arm i' is slotted and is engaged by a stud i^3 projecting from the end of a lever I' pivoted on a stud projecting from one of the side plates A and having a beveled portion in position to be engaged by a grade I^2 on the cam E^4 which operates the roller E' , see Figs. 3 and 3^a, thereby feeding in sufficient paper to form a single wrapper at every operation.

In order to hold the paper in engagement with the feed roller I, I provide a yoke I^3 pivoted to the side plates A A and carrying a milled or roughened pressure roller i^4 which is held in engagement with the feed roller I by means of a spring i^5 having one end connected to a cross bar of said yoke I^3 and the other to a cross bar i^6 supported in this instance by the paper supporting arms h h . The paper is guided after leaving the rollers I, i^4 , between stationary guide plates i^7 i^7 , see Fig. 5, adjacent to which is located the paper cutting mechanism for severing the paper web into individual sheets sufficient each for a wrapper. This paper cutting mechanism consists of the shears illustrated in detail in Fig. 2^a.

K represents a horizontal stationary blade extending across the machine above the path of the paper and provided with a bracket arm k secured to one of the side plates A and K' is a movable blade pivoted to the stationary arm, the shears being set at an angle so as to cut in a direction perpendicular to the paper web, as illustrated in Fig. 5. A spring k' secured to the movable blade and to a fixed stud on plate A (see Fig. 2) serves to hold the shears open and allows the paper to be drawn between the blades. The movable blade is provided with a bearing surface k^2 which is engaged by one arm of a bell crank lever K² pivoted on a stud secured to the plate A, (see Fig. 2) the other arm having a projection in the path of a friction roll or stud K³ on the side of the tobacco knife operating cam. When this roll or stud K³ strikes the projection on the arm of the bell crank lever K² the other arm of said lever is brought into engagement with the bearing surface k^2 of the movable shear blade thereby operating to close the shears and sever the paper.

In order to bring the severed end of the paper wrapper into engagement with the paste roller G, I employ a pivoted pasting flap or blade L. See Fig. 5 and Figs. 10 to 17 inclusive. This blade L is carried by two arms l on a shaft l' journaled in the side plates A A in the position indicated in the figures and when the paper is introduced into the machine it passes from the guide plates i^7 i^7 between the shear blades K and K', then over the pasting blade L and then projects into the pocket formed by the blanket E to receive

the tobacco. As soon as the paper is cut off, this pasting blade is turned rearward on its shaft and this brings the upper edge of the paper directly into contact with the paste roller and thoroughly pastes it. (See Figs. 10 and 13.) The blade is moved far enough to carry the pasted paper beyond the paste roll and holds it in this position until it is drawn out of engagement with the pasting blade by the rolling of the cigarette, thereby preventing the pasted portion from coming into contact with loose tobacco or any part of the machine that could become gummed up in consequence, see Fig. 14, after which the blade L returns to its normal position.

The proper movements are imparted to the pasting blade at the proper time by the following devices: The shaft l' is provided with an arm l^2 outside of the plates A A. (See Fig. 2.) This arm is connected by a link l^3 with the lower end of a lever l^4 pivoted to a stud l^5 and having a bearing surface l^6 to be engaged by a stud or roll L' on the inner face of cam C', the said bearing surface being long enough to hold the blade L in its rearward position until the paper is withdrawn from it by the rolling of the cigarette. A spring l^7 connected with the lever l^4 and with a stud on plate A restores the blade to its normal position after the stud L' releases it.

The operation of the cigarette forming devices I have illustrated progressively in Figs. 11 to 17 inclusive and I will now describe the operation of forming a cigarette.

The parts being in the positions shown in Fig. 5, the paper feeding devices are operated by their actuating devices to feed the paper into the machine until the end of the paper lies just within the pocket formed by the blanket E to receive the tobacco, when a sufficient amount of paper will have passed the shear blades K K' to form the wrapper for the cigarette. The tobacco knife is then operated. It descends far enough to cut off the tobacco projecting beyond the end of the hopper or trough B, then rises as before stated to clear itself from the tobacco and then descends carrying the tobacco cut off down into the pocket formed in the blanket as shown in Fig. 11. At this point the roller E' is moved forward by its operating cam E⁴ into engagement with the rear side of the table E² thus pressing the tobacco against the end of the paper and clamping it against the table. While the paper is thus held, the shear blade K' is operated and the paper severed from the web, see Fig. 12, and the pasting blade is then operated to move the end of the paper into engagement with the paste roller G as shown in Fig. 13 and to carry the pasted end of the paper beyond said paste roller as shown in Fig. 14. At this point the table E² is tipped up at its forward end thereby depressing the rear end below the plane of the roller E' so as to allow the rolling operation to begin. The proper movements are imparted to the table by an arm m on a rock shaft M mounted in

the side plates A A (see Figs. 2, 5 and 7) which has an arm m' outside of the plates A A connected pivotally with an operating lever m^2 , having its rear end provided with a friction roll held in engagement with a cam M' (see Figs. 1 and 1^a) by a spring m^3 secured to the lever m^2 and to a stud on the base plate. The cam M' is provided with a grade indicated at 5 to impart the desired movement to the table.

10 The table is provided with an arm m^4 to which a spring m^5 is secured to hold the table in engagement with the arm m and to return it after it has been operated by said arm and said table is also provided with an arm m^6

15 which engages in this instance a portion of the shaft F, to limit the forward movement of the table under the influence of the spring. The spring m^5 holds the table normally in a position with the broad rear side in the path

20 of the roller E' and with the curved face of the table away from the path of said roller. Returning to Fig. 14, as soon as the table is tilted as previously described to bring the upper curved face of the table concentric with

25 the path of the roller E' the said roller is moved forward over the table E^2 , the roller being caused to revolve rearwardly during its forward movement by the rack and pinion before described thus rolling the tobacco

30 within the blanket into cylindrical form and rolling the paper wrapper around the tobacco as shown in Figs. 14 and 15. As soon as the paper has been drawn far enough into the blanket E to disengage it from the pasting

35 blade L, the said blade is returned to its normal position as shown in Fig. 15 and the paper will fly over into the position shown in this figure and lie upon the table E^2 with the pasted portion uppermost. The continued

40 forward movement of the roller E' and consequent winding up of the apron as it moves forward draws the paper entirely within the blanket and rolls the pasted portion upon the wrapper forming a complete cigarette as

45 shown in Fig. 16. At this juncture the forward end of the table E^2 is given one, two or more (in this instance three) upward movements to compress the cigarette at the point where the pasted edge is rolled down (see

50 Fig. 16) by means of three small grades indicated by 1, 2 and 3 in Figs. 1 and 1^a, thus insuring the accurate pasting of the wrapper. The further forward movement of the roller E' carries it beyond the end of the table E^2

55 and discharges the finished cigarette from the blanket E and in order to facilitate the discharge of the cigarette I prefer that the table E^2 should be tilted up slightly by its operating cam as shown in Fig. 17, the grade of the cam M indicated at 4, being employed for this purpose. In order to trim the tobacco

60 which is liable to project from the ends of the cigarette, I provide a trimming device best shown in Figs. 17 and 18, into which the cigarette is discharged from the blanket E. In

65 this instance the trimming mechanism includes a trough N carried by two arms $n n$

secured to a rock shaft N' journaled in the side plates, or I may dispense with a trough N and deposit the cigarette in two recesses in the upper ends of the arms $n n$. To the arms $n n$ I pivot a shear or knife blade n' at each end of the trough, the said blades being mounted on suitable studs and held away from the trough N by springs n^2 as shown.

75 The rock shaft N' is provided outside of the plates A A with an operating arm n^3 , see Figs. 1 and 2, which is engaged by a stud on a lever n^4 having its rear end in position to be engaged by the stud or roll L' on the cam

80 plate C' to depress said arm and bring the trimming mechanism into the position shown in full lines, Fig. 17, to receive the cigarette. A spring n^5 secured to a stud on the base

85 plate A' or other rigid support and to the lever n^4 draws down said lever when it is released by the roll L' and throws the arms $n n$ of the trimming mechanism forward into the position shown in dotted lines in Fig. 17. A

90 cross bar N^2 is supported by suitable arms secured to the side plates A A in position to be struck by the shear blades or knives $n' n'$ as indicated in Fig. 17, thereby stopping them while the arms $n n$ continue to move forward causing said knives or blades to cut off the

95 projecting portions of the tobacco after which the cigarette falls from the trough N of the trimming mechanism and may be deposited in any suitable receptacle.

The main driving mechanism of the machine is as follows: O represents the driving shaft which is mounted in bearings $o o$ secured to the base plate A' and is provided with a driving pulley O' to which power is applied for driving the machine. Upon the

100 driving shaft O is a pinion o' which gears with a gear wheel D' on the cam shaft D and imparts motion thereto, as shown in Figs. 3 and 4. Upon the cam shaft D is a gear wheel D^2 gearing with a pinion b^2 on the crank shaft

110 B^2 which imparts motion to the reciprocating feed plate or rake B' .

The operation of the machine will be readily understood from the foregoing description.

I do not desire to be limited to the exact details of construction herein shown and described as variations may be made therein without departing from the spirit of my invention.

What I claim, and desire to secure by Letters Patent, is—

1. In a cigarette machine the combination with tobacco supplying devices, of the blanket or apron, the traveling cigarette forming device secured to one end and the movable table secured to the other end of said blanket or apron, substantially as described.

2. In a cigarette machine the combination with the blanket, of the pivoted table having the broad rear side, and the traveling roller said blanket being mounted in operative relation to said roller and table, said roller, in one extreme of its movement lying in a posi-

tion relatively to the said table to form a pocket for the reception of the filler, between said roller and the said rear side of the table, substantially as described.

3. In a cigarette machine the combination with tobacco and wrapper supplying devices, of the rolling blanket mounted in operative relation to the roller and the table, the traveling roller, the movable table having a broad rear side, normally held in the path of said roller and means for moving the said roller to clamp the wrapper against the rear side of the table, substantially as described.

4. In a cigarette machine the combination with tobacco and wrapper supplying devices, of the rolling blanket mounted in operative relation to the roller and table, the traveling roller, the movable table having a broad rear face in the path of the roller, means for moving the roller and means for withdrawing the table from the path of the roller, substantially as described.

5. In a cigarette machine the combination with tobacco and wrapper supplying devices, of the rolling blanket, the traveling roller secured to one end of said blanket, the pivoted table secured to the other end of said blanket and having a broad rear face in the path of said roller, and means for tilting said table to withdraw it from the path of said roller, substantially as described.

6. In a cigarette machine the combination with tobacco and wrapper supplying devices, of the rolling blanket, the traveling rotating roller secured to one end of said blanket, the pivoted table secured to the other end of said blanket and having a broad rear face in the path of said roller, means for tilting said table to withdraw it from the path of said roller, and means for rotating said roller in a direction to wind up the blanket, substantially as described.

7. In a cigarette machine the combination with the rolling blanket, of the traveling rotating roller secured to one end of said blanket, the movable table, said blanket being mounted in operative relation with said table, means for moving said table into and out of the path of the roller, and means for rotating said roller in a direction to wind up the blanket, substantially as described.

8. In a cigarette machine the combination with the rolling blanket, of the rotating traveling roller secured to one end of said blanket and adapted to move in a curved path, the table having its upper face of the same curvature as the path of the roller and a broad rear face lying at an angle to said curved face, said blanket being mounted in operative relation to said table, means for moving said roller and for rotating it to wind up the blanket, means for holding said table in position with its broad rear face in the path of the roller, and means for moving said table out of the path of the roller to allow said roller to pass over said curved face, substantially as described.

9. In a cigarette machine the combination with wrapper supplying devices, of the rolling blanket mounted in operative relation with the roller and the table, the roller, the movable table provided with a broad rear side normally in the path of the movable roller, means for moving the roller to clamp the paper between different portions of the blanket against the rear side of the table, a knife and means for operating it to cut the paper when so held by roller, blanket and table, substantially as described.

10. In a cigarette machine the combination with the cigarette rolling devices adapted to grasp one end of the wrapper, of the wrapper supplying devices adapted to feed the wrapper into the bite of the rolling devices, a pasting device, cutting mechanism for severing the paper while held in the rolling devices, and means for carrying the severed end of the wrapper into engagement with the pasting device while the other end of the wrapper is held in the rolling devices, substantially as described.

11. In a cigarette machine the combination with the cigarette rolling devices adapted to grasp one end of the wrapper, of the wrapper supplying devices adapted to feed the wrapper into the bite of said rolling devices, a pasting device, cutting mechanism for severing the paper while held in the rolling devices, a pasting blade for carrying the severed end of the wrapper into engagement with and past the pasting device, and means for holding said blade in its extreme position until the wrapper is withdrawn therefrom by the rolling of the cigarette, substantially as described.

12. In a cigarette machine the combination with the rolling blanket, of the traveling roller adapted to move in a curved path, the pivoted table secured to one end of the blanket and having a face of the same curvature of the path as the roller, said face lying normally away from the path of the roller, and means for bringing said face into operative relation with the path of the roller, substantially as described.

13. In a cigarette machine the combination with the rolling blanket, of the traveling roller adapted to move in a curved path, the pivoted table secured to one end of the blanket and having a face of the same curvature as the path of the roller, a spring holding said table in position with said curved face away from said path, and operative means for moving said table from an eccentric to a position concentric with the path of the roller, substantially as described.

14. In a cigarette machine the combination with the rolling blanket, of the traveling roller adapted to move in a curved path, the pivoted table having a curved face, of the same curvature as the path of the roller, said face lying normally away from the path of the roller, devices for moving said table into a position to bring said face concentric with the path of the roller and devices for moving said

table out of said concentric position toward the roller to compress the pasted portions of the cigarette, substantially as described.

15 In a cigarette machine the combination with the rolling blanket mounted in operative relation to the roller and the table, the traveling roller, the pivoted table and devices for moving said table toward the roller to compress the pasted edges of the wrapper against the cigarette, substantially as described.

16 In a cigarette machine the combination with the compression feeding chute comprising among its members the stationary trough having guiding recesses, and the movable feed plate disposed at an angle to said trough and provided at one end with studs engaging said guiding recesses, of an operating crank shaft connected to said feed plate adjacent to its other end, substantially as described.

17 In a cigarette machine the combination with the cigarette rolling devices, of tobacco feeding devices, a tobacco separating plunger

and operating means for the same, giving said plunger a forward movement, then a retrograde clearing motion and a further forward movement to press the tobacco into the rolling devices, substantially as described.

18 In a cigarette machine the combination with the cigarette rolling devices, of the trimming mechanism including among its members, the pivoted arms for receiving a cigarette and discharging it from the machine, a knife blade pivotally secured to each arm for trimming the cigarette and stops for engaging said knives to force them into engagement with the cigarette during the movement of said arms to eject the cigarette, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES N. WOOD.

Witnesses:

EDWARD W. SCOTT, Jr.,
C. E. PLEASANT.