

(No Model.)

6 Sheets—Sheet 1.

W. MAXFIELD.
CIGARETTE MACHINE.

No. 544,818.

Patented Aug. 20, 1895.

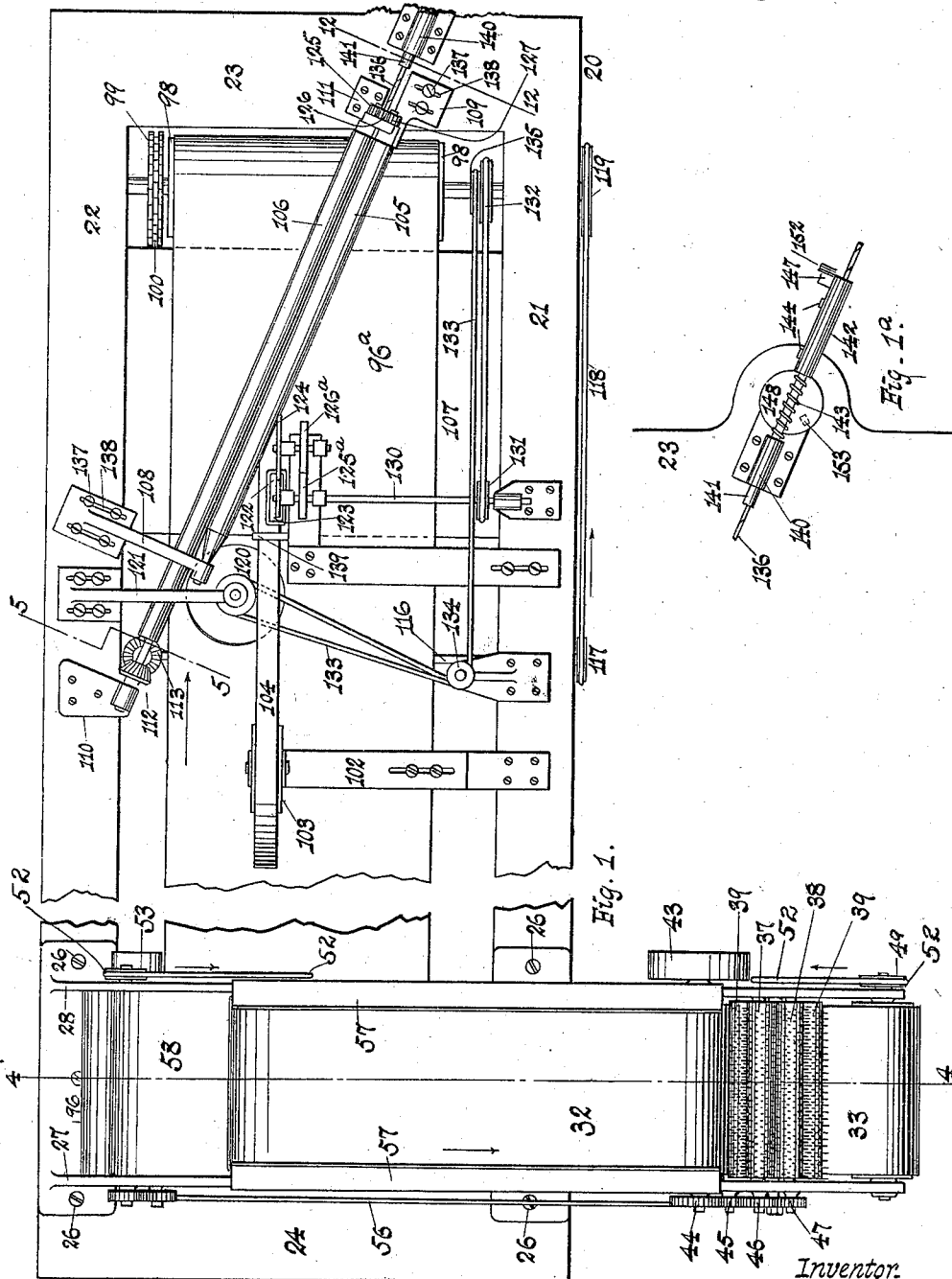


Fig. 1.

Fig. 1a.

Inventor.

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Witnesses:

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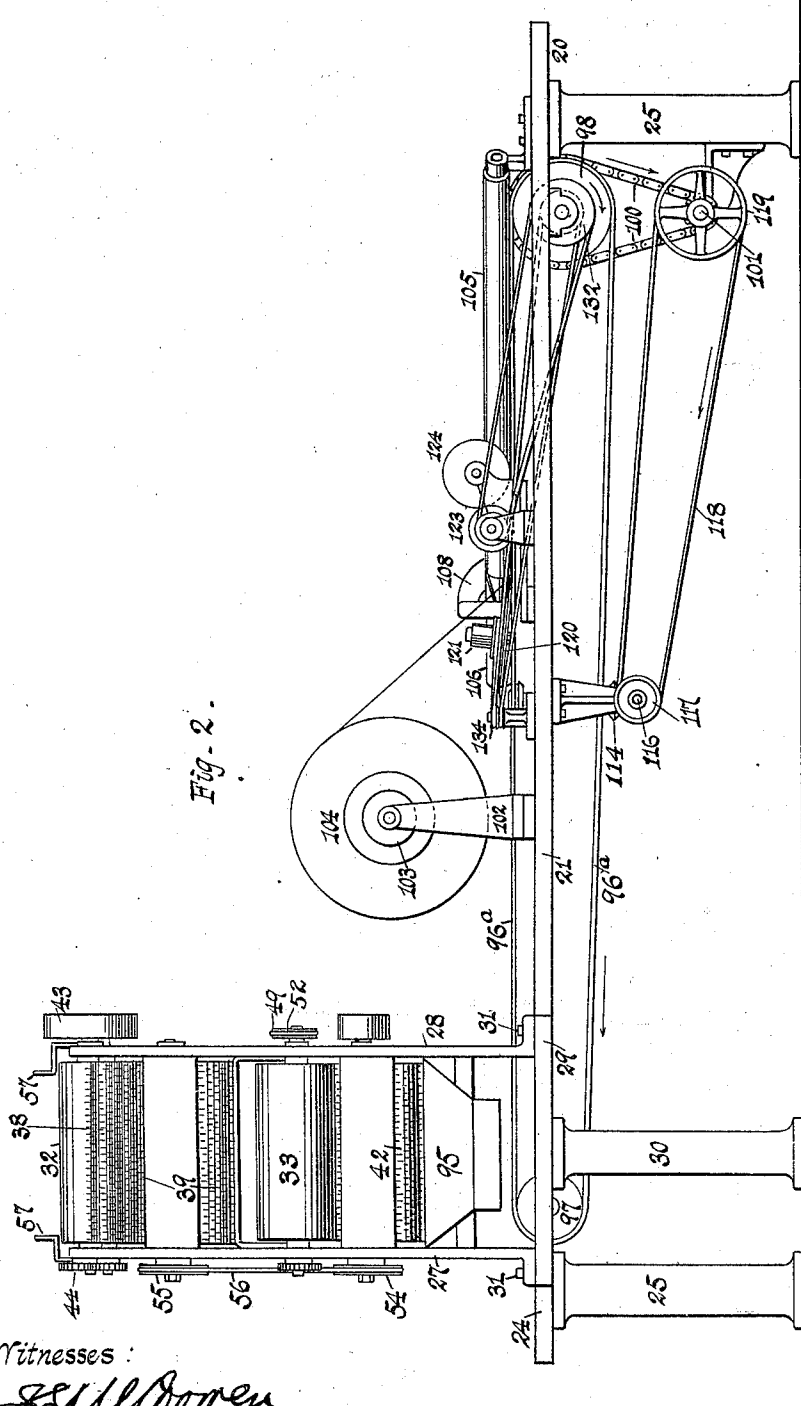
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6 Sheets—Sheet 2.

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6 Sheets—Sheet 3.

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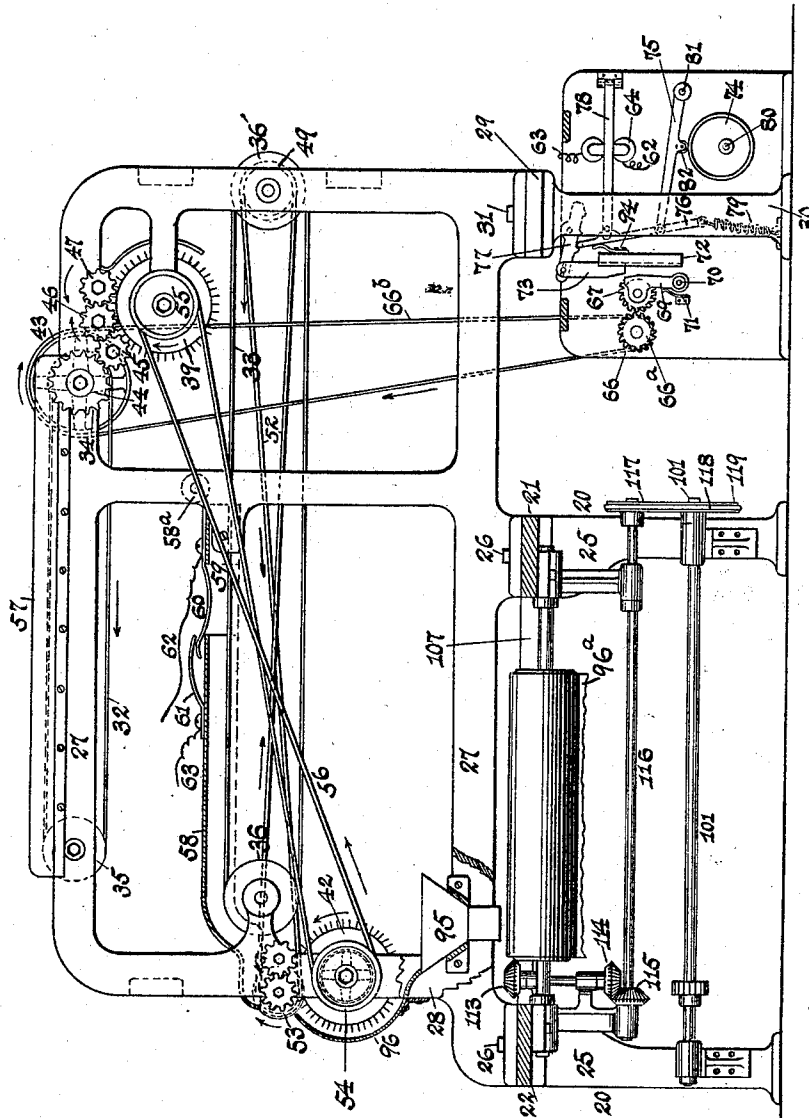


Fig. 3.

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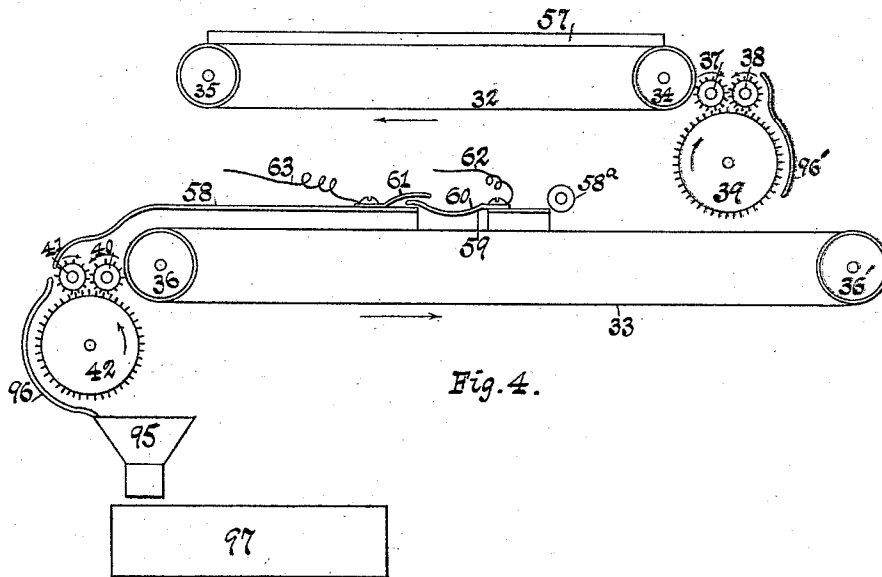
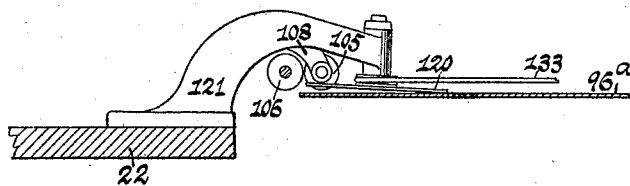


Fig. 4.

Fig. 5.



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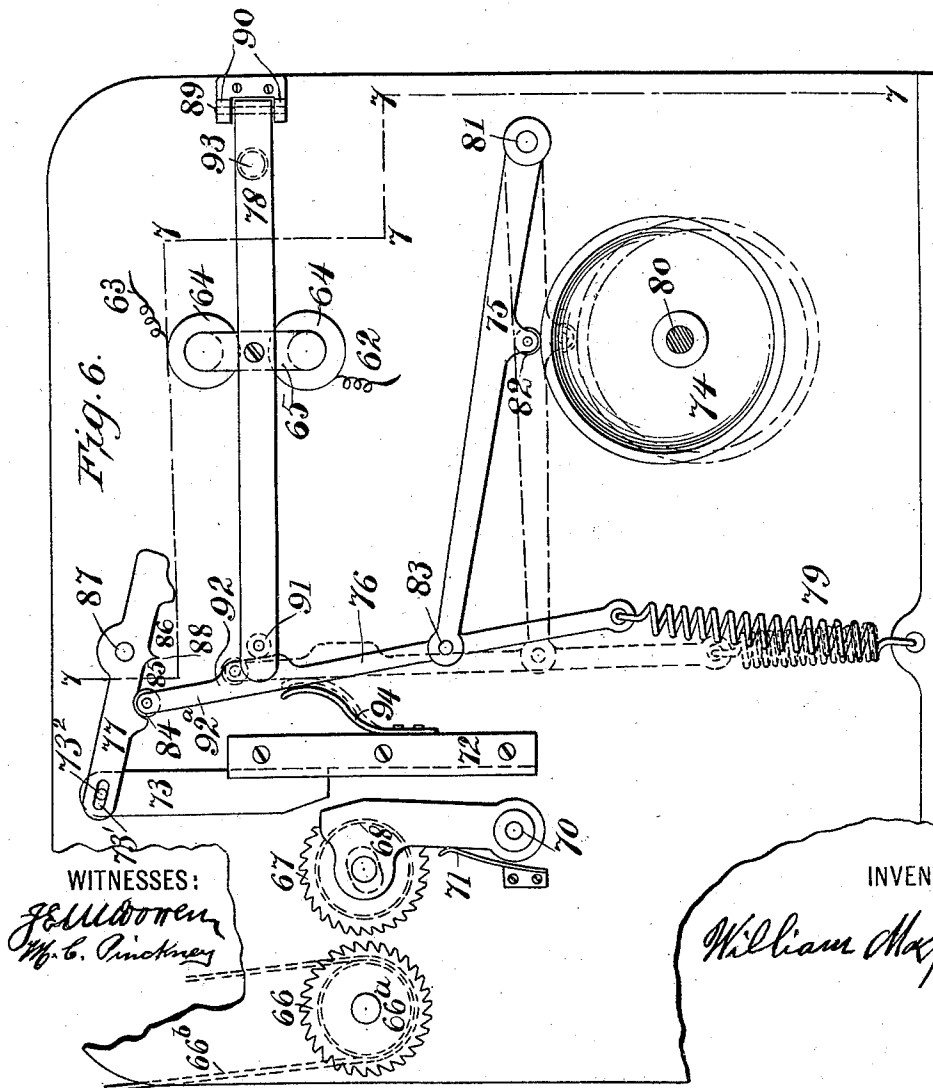
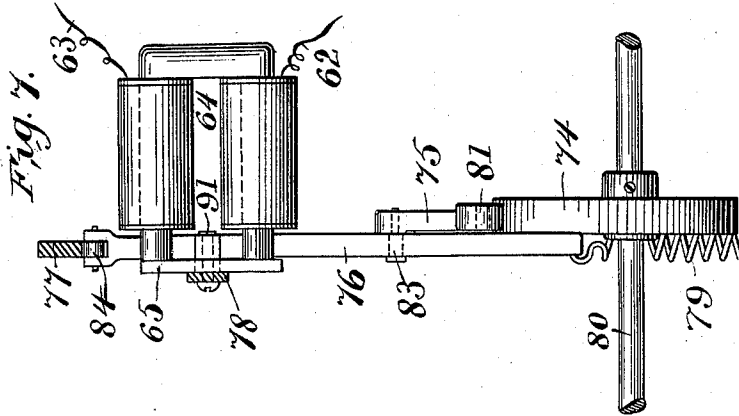
(No Model.)

6 Sheets—Sheet 5.

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No. 544,818.

Patented Aug. 20, 1895.



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INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM MAXFIELD, OF BROOKLYN, NEW YORK.

CIGARETTE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 544,818, dated August 20, 1895.

Application filed March 14, 1895. Serial No. 541,668. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MAXFIELD, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Cigarette-Machines, of which the following is a specification.

My invention relates to machines for the manufacture of cigarettes, consisting of a filler of tobacco and a wrapper of paper, tobacco, or other suitable material; and the invention comprises means for properly disintegrating the tobacco after the same has been placed in its usual commercial condition upon the apparatus, and for properly limiting and regulating the amount of the tobacco to be loosened within the apparatus before depositing it upon that portion of the machine which serves to form the filler and to apply the wrapper thereto.

The invention further comprises novel mechanism whereby after the machine has applied the wrapper to the filler of tobacco the cigarettes are automatically cut off in suitable lengths from the continuous body of paper or otherwise enwrapped filler of tobacco which the machine is constantly producing.

By my invention the wrapper is applied to the filler of tobacco spirally, so that the pasted seam, instead of extending longitudinally of the cigarette, extends spirally around the same.

To enable those acquainted with the art to manufacture my cigarette-machine and to make use of the same, I have illustrated its construction and mode of operation in the accompanying drawings, forming part of this specification, and hereinafter describe the same, and in claims at the end hereof I have set forth the novel features and combinations for which I desire protection.

In the drawings, Figures 1 and 1^a jointly represent a plan view of the machine, Fig. 1 being such a view of the principal part of the apparatus, wherein the tobacco is loosened and afterward formed into a continuous body comprising a filler inclosed by a wrapper, while Fig. 1^a represents the part of the machine employed more particularly in cut-

ting such body into cigarettes of suitable lengths, the two figures appearing separated only for the purpose of illustrating the machine on a sufficiently large scale. Fig. 2 is a side elevation of the machine, the cutting mechanism, however, being omitted. Fig. 3 is an end view, partly in section, of the tobacco feeding and disintegrating mechanism, and of connecting portions of the part of the machine employed in forming the filler and in combining with it the wrapper. Fig. 4 is a vertical section along line 4 4 in Fig. 1. Fig. 5 is a vertical cross-section along line 5 5 in Fig. 1, looking toward the rollers employed in shaping the cigarette. Fig. 6 is an end view, and Fig. 7 a vertical section along line 7 7 in Fig. 6, of electrical mechanism for controlling the movement of a part of the appliances for disintegrating and feeding the tobacco. Fig. 8 is a vertical elevation, and Fig. 9 a bottom view, partly in section, of the mechanism for the cutting of the cigarettes to proper lengths, while Fig. 10 is an end elevation of the principal part of the same; and Fig. 11 is a vertical elevation illustrating the guiding devices for the band-knife employed in aforementioned cutting mechanism, looking at the same from the opposite side from which Fig. 8 is taken. Fig. 12 is a vertical section along line 12 12 in Fig. 1, looking toward the cigarette-shaping rollers. Figs. 1, 1^a, 2, 3, and 4 are drawn to the same scale, Fig. 11 being drawn to a smaller scale and all the remaining figures to larger scales.

Corresponding figures of reference throughout the different views refer to corresponding parts.

Referring to the drawings, 20 represents the main frame, upon which the operating mechanism is mounted and which may be of any suitable construction. It is here represented in the form of a rectangular table, with the larger and central portion of its top cut out, so as to leave only longitudinal side bars 21 and 22 and end cross-bars 23 and 24 connecting therewith and supported by legs 25 25. At one end of this frame the tobacco feeding and disintegrating mechanism is secured to bars 21, 22, and 24 by bolts 26. This mechanism comprises two upright frames 27 and 28, extending across and beyond the front

end of frame 20 and resting with their projecting ends on a sill 29 on top of a post 30, being secured there by bolts 31.

The tobacco feeding and disintegrating mechanism comprises the following parts: 32 and 33 are endless belts adapted to travel over horizontal rollers 34 35 and 36 36', respectively. These rollers are journaled in suitable bearings provided on upright frames 27 and 28. 37 38 and 40 41 are small drums and 39 and 42 larger ones, all provided on their peripheries with pins or other suitable projections adapted to enter into and to separate, when coacting with each other, the small particles or fibers of the tobacco commonly used in the manufacture of cigarettes. Motion is imparted to the roller 34 from a pulley 43 on its shaft and which derives its motion from a pulley 66^a, hereinafter referred to. 44 is a cog-wheel on the same shaft, and 45, 46, and 47 additional cog-wheels, the latter two mounted on the shafts of pronged drums 37 and 38, respectively. 49 is a pulley on the shaft of roller 36'. Said roller and pulley receive motion from any suitable source of power, and said pulley imparts power through a crossed belt 52 to a pulley 53, provided on the shaft of pronged drum 41, whereby the latter is actuated. A pulley 54 on the shaft of pronged drum 42 imparts revolving motion, derived from any suitable source of power, to a pulley 55 on the shaft of pronged drum 39 through a belt 56. From the relative positions of the herein-described parts forming said mechanism it will be seen that the traveling of the belts and the revolving of the drums and rollers will take place in the directions of the arrows, as indicated particularly in Figs. 2 and 3. The pulleys and gearing are so proportioned that the peripheral speed of rollers 34 35 36 36' and drums 37 and 38 is the same, while that of drums 40 and 41 is slightly less and that of drums 39 and 42 is much greater.

The tobacco as it is first placed on belt 32 is conducted by said belt into the space between drums 37 38, and there, as well as when delivered therefrom upon drum 39, is picked or disintegrated by the action of the projections or points on said three drums and is then deposited upon traveling belt 33, which conducts it toward pronged drums 40, 41, and 42, where similar action takes place and the picking or disintegrating process is completed.

57 57 are stationary guard rails or flanges secured to frames 27 and 28 along the path of the upper branch of endless belt 32 for preventing the tobacco from dropping off sideways. There is likewise a device provided for confining the tobacco on the upper branch of endless belt 33 as the same approaches the pronged drums 40 and 41. This device is constructed in the form of a hood 58, extending substantially parallel with said belt and over said drums, its vertical sides extending close to and below the edges of the upper branch

of said belt, so as to guard against the tobacco passing beyond said edges.

58^a is a guide-roller which compels the tobacco to enter underneath hood 58.

As the upper part of the disintegrating device will supply the tobacco faster to endless belt 33 than the cigarette-forming part of the machine underneath the same can properly use, I employ, in connection with hood 58, a regulating device by the use of which packing of the tobacco underneath said hood can only take place to a certain desired extent and whereby the supply of tobacco to the cigarette-forming part of the machine can be regulated, and which regulating device is so affected by the tobacco moving on belt 33 toward drums 40 41 as to interrupt the supply of tobacco to the picking or disintegrating devices above belt 33 when a surplus of tobacco has accumulated on said belt and until the same has been properly disposed of. This regulating device is shown here to accomplish the intermittent movement of belt 32 by the following means: Near that end of hood 58 underneath which the tobacco first passes there is provided in its roof an opening 59 and an electric pole-piece 60, shown to be constructed as an elastic gate closing said opening and so screwed or otherwise attached to the end of said hood as to be capable of a slight outward movement when tobacco is accumulated and becomes packed underneath it.

61 is another pole-piece in the same electric circuit as pole-piece 60. Outward movement of the latter will bring it into operative contact with the former, thus establishing an electrical circuit capable of energizing, by means of conductors 62 and 63, an electromagnet 64, provided with an armature 65. (See Figs. 6 and 7.)

66 is a ratchet-wheel on the same shaft with a pulley 66^a, from which motion may be imparted to pulley 43 by a belt 66^b. 67 is another ratchet-wheel on the same axle with a pulley 68, which receives motion from the main shaft. Said ratchet-wheel 67 is mounted on lever 69, which lever is fulcrumed on axle 70. When wheel 67 is forced toward wheel 66, so as to make their teeth coact, the upper belt 32 will be kept in motion through the instrumentality of pulley 66^a, belt 66^b, and pulley 43, while when the two ratchet-wheels are moved apart the travel of said belt will necessarily stop.

71 is a spring for normally holding the two ratchet-wheels out of operative contact.

72 is a stationary rail, its channeled surface, facing toward lever 69, being adapted to receive and guide a slide 73, the lower end of which is wedge-shaped and capable of engaging with the side of lever 69, and of forcing said lever toward ratchet-wheel 66 until the two ratchet-wheels come in operative contact with each other and thereby insure the revolving movement of roller 34 and with it the travel of endless belt 32, while upward movement of slide 73 will permit the two ratchet-

wheels to separate, owing to the action of spring 71, which will cause stoppage in the movement of belt 32, thus cutting off the supply of tobacco from pronged drums 37 38 39, and consequently from endless belt 33.

Automatic movement of slide 73 is accomplished by the action of electromagnet 64 in conjunction with a cam 74, levers 75, 76, 77, and 78, and spring 79. Cam 74 revolves continuously around shaft 80 during the operation of the machine, receiving its motion from any suitable source of power. Lever 75 rocks on fixed shaft 81 and coacts with the periphery of cam 74 through friction-roller 82. Through the swinging end of lever 75 passes a pin 83, which serves as a fulcrum for lever 76. Spring 79 so engages with the lower end of said lever as to constantly tend to pull the same downward, thus at all times holding friction-roller 82 in contact with the periphery of cam 74. The upper end of lever 76 is provided with a friction-roller 84, which is adapted to engage with and to travel along two elongated notches 85 and 86, which are provided on the under side of lever 77, symmetrical with reference to pivot 87, around which said lever is adjusted to rock, projection 88 between said two notches being located directly underneath said pivot. The left hand end of lever 77 contains an elongated eye 73', within which a pin 73², fixedly attached to slide 73, is adapted to travel for the purpose of making it possible to convert rocking motion of lever 77 into sliding motion of bar 73. Lever 78 carries armature 65 and is hinged at its right-hand end to a vertical pivot 89, secured to a bearing 90, being thus capable of swinging horizontally toward and away from electromagnet 64, according to whether the same is energized or not. Near its left-hand end said lever carries a friction-roller 91, which, when said lever is swung toward electromagnet 64, rests alternately against the elongated projection 92 and the narrower part 92^a of lever 76, thus causing said portions of such lever to travel in contact with roller 91, while lever 76 moves upward and downward, actuated by cam 74 and spring 79. The most elevated positions which cam 74 and levers 75 and 76 occupy while electromagnet 64 is energized are indicated in full lines in Fig. 6, while their lowermost positions under the same condition of the electromagnet are shown in said Fig. 6 in broken lines. When electromagnet 64 becomes de-energized, the force of a spring 93, applied to armature-bar 78, will throw the same outward, so as to remove friction-roller 91 from contact with lever 76, which will permit the spring 94, resting against the upper portion of lever 76, to force the same to the right, thus causing friction-roller 84, as soon as lever 76 again assumes its most elevated position, to enter into notch 86, thus throwing the right-hand end of lever 77 upward, and this will result in the sliding downward of bar 73 until it engages with lever 69, thus again bringing the two ratchet-

wheels 67 and 66 into operative contact and thereby again imparting movement to endless belt 32 and consequently again supplying tobacco to lower belt 33. As the energizing and de-energizing of electromagnet 64 is accomplished in accordance with and by the movement of gate 60, it will readily be seen that whenever the tobacco on belt 33 begins to pack sufficiently underneath said gate to force the same upward this will, through the instrumentalities above described, result in an interruption of the supply of tobacco to the disintegrating device until such condition has been relieved. This relief will take place promptly and automatically, owing to the fact that during the stoppage of feed-belt 32 the movement of belt 33, and with it the discharge of the tobacco from underneath hood 58, will continue.

When the electromagnet becomes energized, lever 78, with its friction-roller 91, will be drawn toward said electromagnet and against lever 76, and while said lever occupies its depressed position the friction-roller will be enabled to engage with the edge of the upper narrow part thereof, and while directly afterward said lever 76 is assuming its elevated position the friction-roller will travel along the edge of said lever until it comes to rest upon the edge of projection 92, whereby lever 76 will be forced toward the left, bringing friction-roller 84 into notch 85, thus throwing upward the left-hand portion of lever 77, withdrawing slide 73 from contact with lever 69, and permitting spring 71 to throw ratchet-wheel 67 out of engagement with ratchet-wheel 66, thus again interrupting the movement of feed-belt 32.

95 is a hopper placed underneath pronged drum 42. A shield 96, placed opposite the outer surface of said drum, serves to conduct the tobacco from drums 40 41 into said hopper, to be deposited by the same upon the cigarette-forming apparatus hereinafter described.

An endless apron 96^a is supported and travels on the rollers 97 and 98.

99 is a sprocket-wheel on the same shaft with roller 98 and receiving motion through sprocket-chain 100 from a wheel on main shaft 101.

102 is a bracket extending from bar 21 of the frame of the machine above and to near the central portion of apron 96^a. Said bracket carries a wheel 103, on which the material from which the cigarette wrappers are to be made is wound. In this case such material is assumed to be a strip of paper, and the same is shown to unwind in the same direction in which apron 96^a travels.

105 and 106 are two metal rollers placed parallel with and in close proximity to each other and also to apron 96^a, upon which roller 106 rests. To insure close contact between said roller 106 and the apron, a leaf 107 may be made to extend from bar 22 of the machine-frame close to and underneath the

upper branch of said apron in the vicinity of said roller. The forward end of roller 105 is cone-shaped and revolvably mounted in a bracket 108, extending from bar 22 of the frame, while its rear end is likewise mounted in a bracket 109 on bar 23. Roller 106 is mounted correspondingly in brackets 110 and 111 and carries a cog-wheel 112, by which revolving motion is imparted to it through cog-wheels 113, 114, and 115, shaft 116, pulley 117, belt 118, and pulley 119, mounted on main shaft 101. Roller 106 is longer than roller 105, extending forward beyond the conical end of the latter, the rear ends of the two rollers being even.

120 is a disk slightly inclined with reference to the upper surface of apron 96^a, and so supported by a shaft in bracket 121 as to bring the most elevated portion of its under surface close to the roller 106 and near to and underneath the conical end of roller 105. The position of hopper 95 is such as to cause it to deposit the loose tobacco near the edge of apron 96^a, approximately in line with such most elevated portion of disk 120, so that as said apron travels it will conduct the loose tobacco in the direction of the arrow in Fig. 1 toward such portion of the disk, and the tobacco will be guided by the said disk underneath the conical end of roller 105 and into the space formed between rollers 105 106 and apron 96^a. Said rollers are placed at an oblique angle to the direction of the strip of paper 104.

122 is a trough containing glue or paste, into which a roller 123 dips. Said roller transfers glue from its periphery to an auxiliary roller 124, the periphery of which applies said glue to one edge of the strip of paper 104 near a point where the same is made to pass underneath roller 105. Roller 106 imparts revolving motion to roller 105 by means of gearing 125 126 127. (Shown more particularly in Fig. 12, wherein the direction in which the gear-wheels and said rollers revolve is indicated by arrows.) Revolving motion of glue-applying rollers 123 and 124 is secured by means of the coacting friction-rollers 125^a and 126^a, mounted on their respective shafts, shaft 130 of rollers 123 and 125 carrying a pulley 131, which receives its motion from a suitable pulley 132 on shaft-carrying roller 98. Revolving movement is likewise transmitted from the same shaft to inclined disk 120 through a belt 133 passing around idlers 134 and pulley 135.

The operation of the above-described cigarette-forming portion of the machine is as follows: The tobacco, after passing underneath the elevated portion of disk 120, is conducted, owing to the simultaneous movement of apron 96^a and rollers 105 and 106, as described above, along the under sides of and between said rollers and on top of said apron toward the point where the strip of paper 104, by passing underneath roller 105, is introduced into such space. Said strip of paper, owing

to the oblique direction under which it is placed with reference to said rollers, will, by its contact with said rollers, be coiled spirally around the body of tobacco constantly moving toward it, tending at the same time to compress such body prior to the gluing together of its edges, which also takes place owing to the action of said rollers. From the point where filler and wrapper are thus united they travel together for a considerable distance toward the rear ends of said rollers, as will be seen more particularly from Fig. 1, and thus an opportunity is given to the glue to thoroughly unite the edges of the wrapper, and to the body of the filler to partake of a thoroughly homogeneous condition before the endless cigarette 136 leaves this part of the machine, as indicated in Figs. 1 and 12. It will be seen that the diameter of the cigarette so produced is determined by that of the largest circle which can be placed between rollers 105 and 106 and apron 96^a. The rollers must rest as closely as practicable upon said apron to keep the tobacco confined between them, it being, however, necessary to elevate roller 105 sufficiently above said apron—say about one-sixteenth of an inch—to guard against the glue on the wrapping-strip being deposited upon it while passing underneath said roller. Hence if it be desired to enlarge the diameter of the cigarette this is accomplished by slightly displacing said rollers laterally with reference to each other. For such purpose brackets 108 and 109 are secured to the machine-frame by screws 137 passing through suitable slots 138 in the bases of said brackets, whereby lateral displacement of roller 105 is made possible. A corresponding adjusting arrangement is also illustrated in Fig. 1 with reference to guiding-disk 120, so that its position may be varied slightly if desired. 139 is a presser-foot for confining the paper which is to form the wrapper close to apron 96^a.

The product resulting from the employment of the cigarette-forming portion of my machine is a continuous body comprising a suitably-packed filler of tobacco inclosed within a spirally-wound wrapper, and in order to cut the same up into cigarettes of proper lengths a suitable cutting mechanism may be combined therewith.

My preferred form of cutting mechanism is illustrated more particularly in Figs. 8, 9, 10, and 11, and is constructed as follows: Near the point where the continuous cigarette-body leaves rollers 105 and 106 a standard 140 is secured to bar 23. The upper extremity of said standard is adapted to receive and to fixedly confine tubes of interior diameters slightly in excess of the diameters of cigarettes which the machine is capable of producing. Such a tube is indicated by 141. The axis of such tube corresponds with the axis of the cigarette-body leaving the forming mechanism, so as to receive such cigarette-body readily.

142 is a tube of an interior diameter equal

to the exterior diameter of tube 141 and capable of sliding thereon.

143 is a spiral spring attached both to standard 140 and tube 142, with its tension so adjusted as to normally draw the latter toward the former. From the under side of tube 142 two hangers 144 extend downward and are provided at their lower extremities with suitable bearings for a shaft 145, to the ends of which are fixedly secured tappet-arms 146 and 147. A cam or eccentric 148 is mounted on a vertical shaft underneath the free portion of tube 141 and the same is kept revolving constantly by any suitable means. Its periphery, owing to the action of spring 143, constantly engages with a toe 149 extending downward from tube 142, and it will be seen that, owing to the combined operation of said cam and said spring, tube 142 will receive reciprocating motion, a total revolution of the eccentric corresponding with one forward and one backward movement of tube 142.

150 is an endless knife adjusted to travel vertically and over two pulleys 151 151. About midway between said pulleys the knife also travels in contact with the periphery of a small idler 152, which is secured to the upper end of tappet-arm 147, and it is by the rocking of this arm that the position of the band-knife in contact with said idler is so deflected intermittently as to pass across the path of the cigarette-body at the end of tube 142 and at each time cut off a cigarette of a predetermined length.

Rocking motion of tappet-arm 147 is produced by means of a projection 153 on the under side of eccentric 148, which at each revolution of said eccentric comes in contact with tappet-arm 146 and thereby imparts to the latter, and consequently to arm 147, such rocking motion. It will be seen that the body of the cigarette emerges from that end of tube 142 nearest to the endless knife, and that while said tube is being forced toward its extreme position to the right of that shown in Fig. 8 the blade of the knife will be deflected by it laterally in the same direction, and that when rocking movement of tappet-arm 147 occurs and the cutting of the cigarette is thus accomplished the cutting will take place at right angles to the cigarette, owing to the movements in two directions and at right angles to each other of the operative portion of the blade of the knife at the time. The tension of the knife will assist in springing back tappet-arm 147 as soon as projection 153 has cleared tappet-arm 146.

The lengths of the cigarettes to be cut off may be varied by employing eccentrics of varying eccentricities, and such eccentrics should, therefore, be made detachable and interchangeable. All the different functions of the machine are performed automatically, and the cigarettes produced by it are of a superior manufacture in every respect.

While I have shown the rollers 105 and 106 placed diagonally with reference to apron 96^a,

such rollers might be placed parallel to the direction in which such apron travels and the same results obtained, provided the strip of paper designed to serve as wrapper be introduced underneath roller 105 in an oblique direction with reference to said roller.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cigarette machine, the combination with a traveling apron upon which the tobacco is deposited, of two parallel rollers on said apron in close proximity to each other and means for conducting a wrapper underneath one of the rollers at an oblique angle to the direction of said roller, substantially as set forth.

2. In a cigarette machine, the combination with a traveling apron upon which the tobacco is deposited, of two parallel rollers placed at an oblique angle to the direction under which the apron travels and means for guiding the tobacco into the space between said rollers and said apron, the paper being fed in at an angle oblique to the rollers, substantially as set forth.

3. In a cigarette machine, the combination with a traveling apron, of two parallel rollers adjusted to revolve close to said apron, means for guiding the tobacco toward the head of one of said rollers, and into and along the space between said rollers, and adjusting devices for varying the relative positions of said rollers laterally, substantially as set forth.

4. In a cigarette machine, the combination with a traveling apron, of two parallel rollers adjusted to revolve close to said apron, one of said rollers having a conical end which extends along the body of the other roller, and means for guiding the tobacco into the space between said conical end and the opposite roller, substantially as set forth.

5. In a cigarette machine, the combination with a traveling apron, of two parallel rollers adjusted to revolve close to said apron, one of said rollers having a conical end which extends along the body of the other roller, and a disk adjusted to revolve above the apron for guiding the tobacco into the space between the rollers, substantially as set forth.

6. In a cigarette machine, the combination with a traveling apron, of two parallel rollers adjusted to revolve close thereto, one of said rollers being provided with a conical forward end, and a guide disk inclined with reference to the operative face of the apron, substantially as set forth.

7. In a cigarette machine, the combination with a traveling apron, of a roller adjusted to revolve in contact therewith and a second roller adjusted to revolve in the same direction with aforesaid roller and slightly elevated above said traveling apron, appliances for introducing the tobacco between said rollers, and means for applying the wrapper to the filler between said rollers, substantially as set forth.

8. In a cigarette machine, the combination with a traveling apron, of two rollers adjusted to revolve close thereto and parallel to each other, mechanism interposed between said
5 rollers for imparting revolving motion of one to the other appliances for conducting the tobacco into the space between apron and rollers, and means for applying the wrapper to the filler between said rollers, substantially
10 set forth.

9. In the feeding and disintegrating mechanism of a cigarette machine, the combination with a picking device for disintegrating the tobacco and adapted to be operated intermit-
15 tingly, an endless traveling belt upon which the tobacco is discharged by the picking device, a wall placed along said belt and comprising a movable portion, and means for causing stoppage of the feed belt by the
20 movement of said movable portion, substantially as set forth.

10. In a feeding and disintegrating mechanism of a cigarette machine, the combination with the feed belt, of a picking device for dis-
25 integrating the tobacco, an electro-magnet mechanism interposed between its armature and the feed belt, adapted to produce stoppage of said belt, an endless traveling belt upon which the tobacco is discharged by the
30 picking device, a wall placed along said belt and comprising a movable portion, and elec-

trical connections between said portion and the electro-magnet, substantially as set forth.

11. In a feeding and disintegrating mechanism of a cigarette machine, the combination
35 with a wheel 66 for actuating the endless feeding belt, of a picking device, wheel 67 mounted in a movable bearing and adapted to coact with wheel 66, slide 73, notched lever 77, spring and cam actuated bar 76, levers 78 in varying
40 contact therewith, armature 65 attached to said lever, electro-magnet 64, traveling apron 33, hood 58 extending along the same, movable portion 60 and electrical connections between the same and electro magnet, substan-
45 tially as set forth.

12. In a cigarette machine, the combination with mechanism for forming the filler and applying the wrapper, of stationary tube 141, sliding tube 142 mounted thereon and pro-
50 vided with hangers 144, rocking shaft 145 carrying tappet arms 146 and 147, cam 148 with projection 153, spring 143, idler 152 and endless knife 150 passing over suitable pulleys and said idler, substantially as set forth.
55

Signed at New York, in the county of New York and State of New York, this 11th day of March, A. D. 1895.

WILLIAM MAXFIELD.

Witnesses:

J. E. M. BOWEN,
L. HOLLOWAY.