

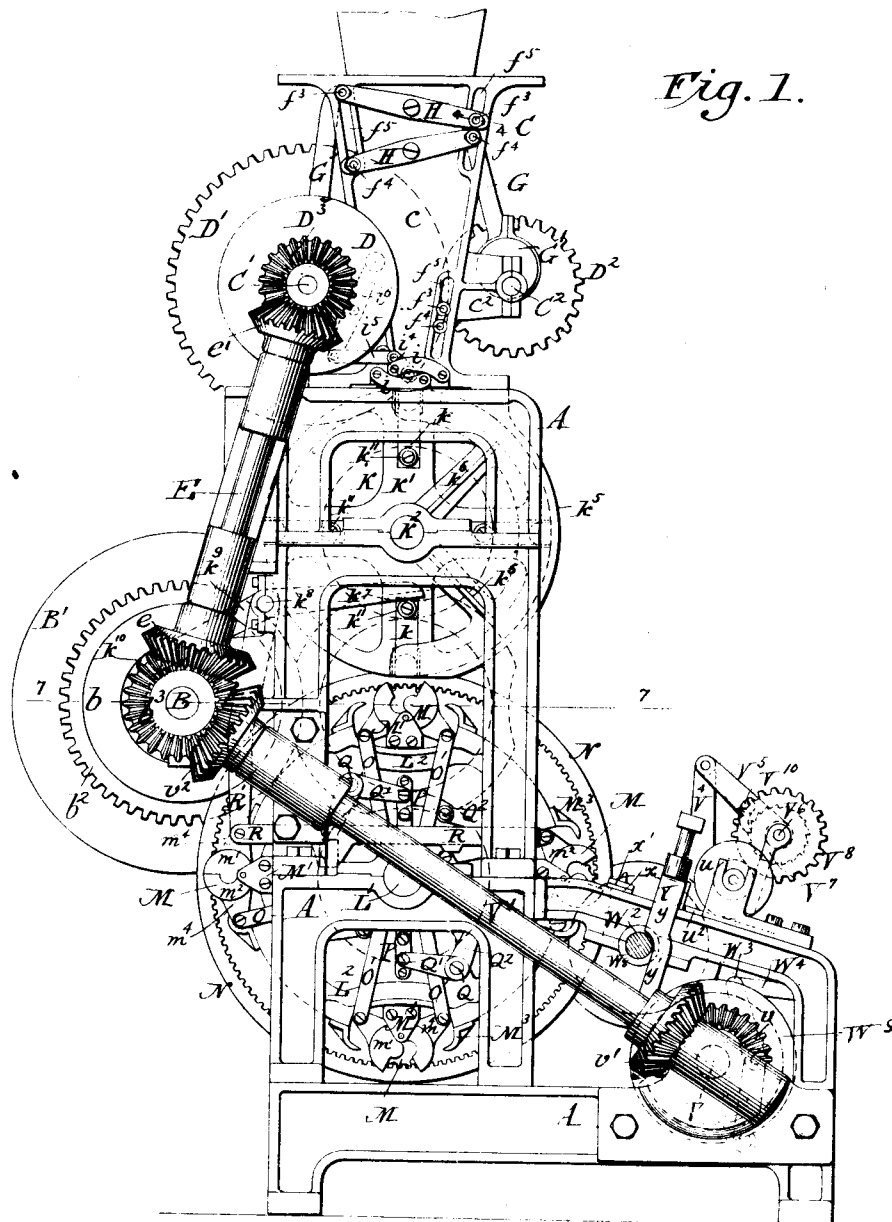
(No Model.)

7 Sheets—Sheet 1.

V. H. BAZERQUE.
CIGARETTE MACHINE.

No. 485,146.

Patented Oct. 25, 1892.



Witnesses
Sidney P. Hollingsworth
B. W. Miller

Inventor
VICTOR H. BAZERQUE
by his attorneys
Baldwin Sanders & Wright.

(No Model.)

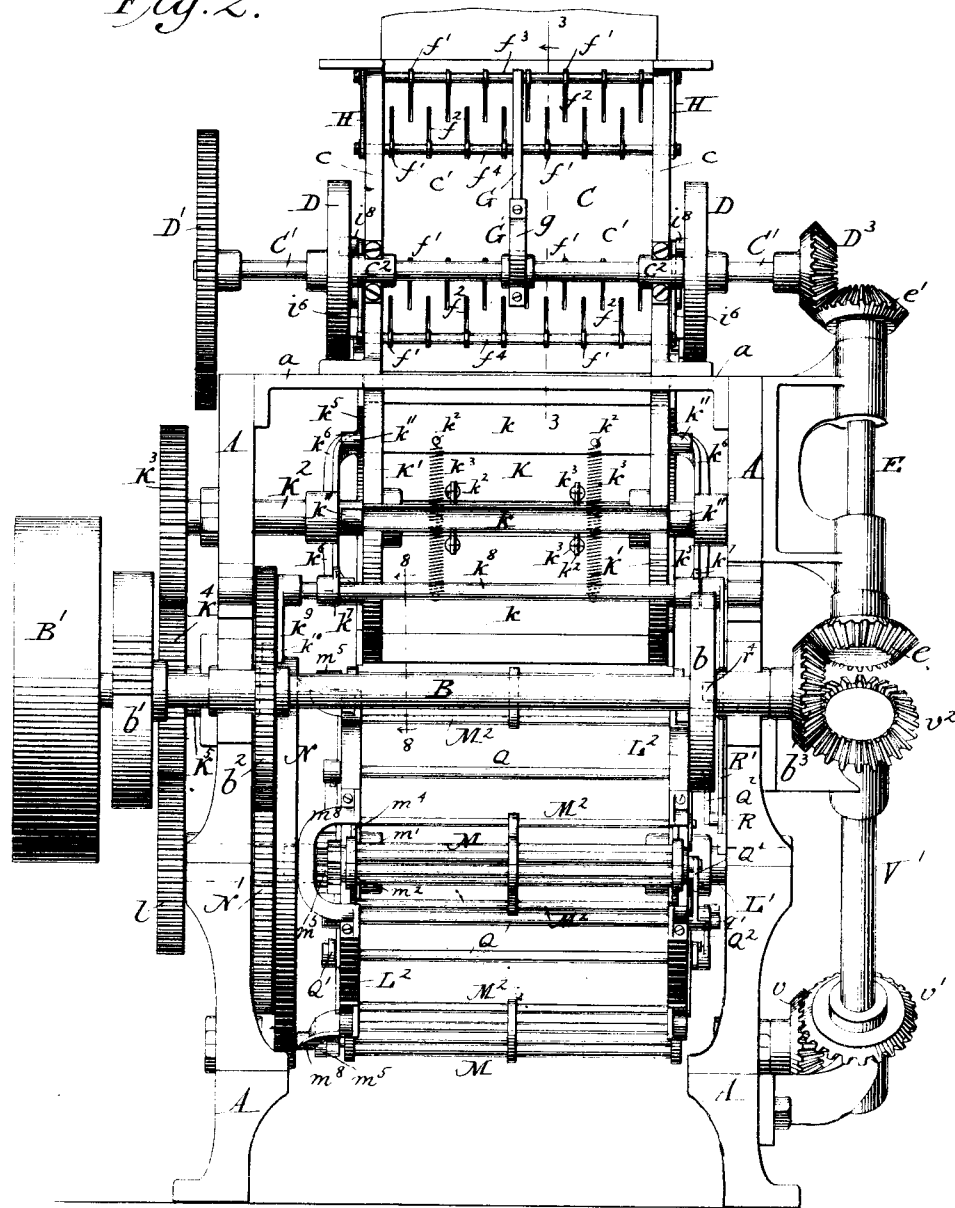
7 Sheets—Sheet 2.

V. H. BAZERQUE.
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Fig. 2.



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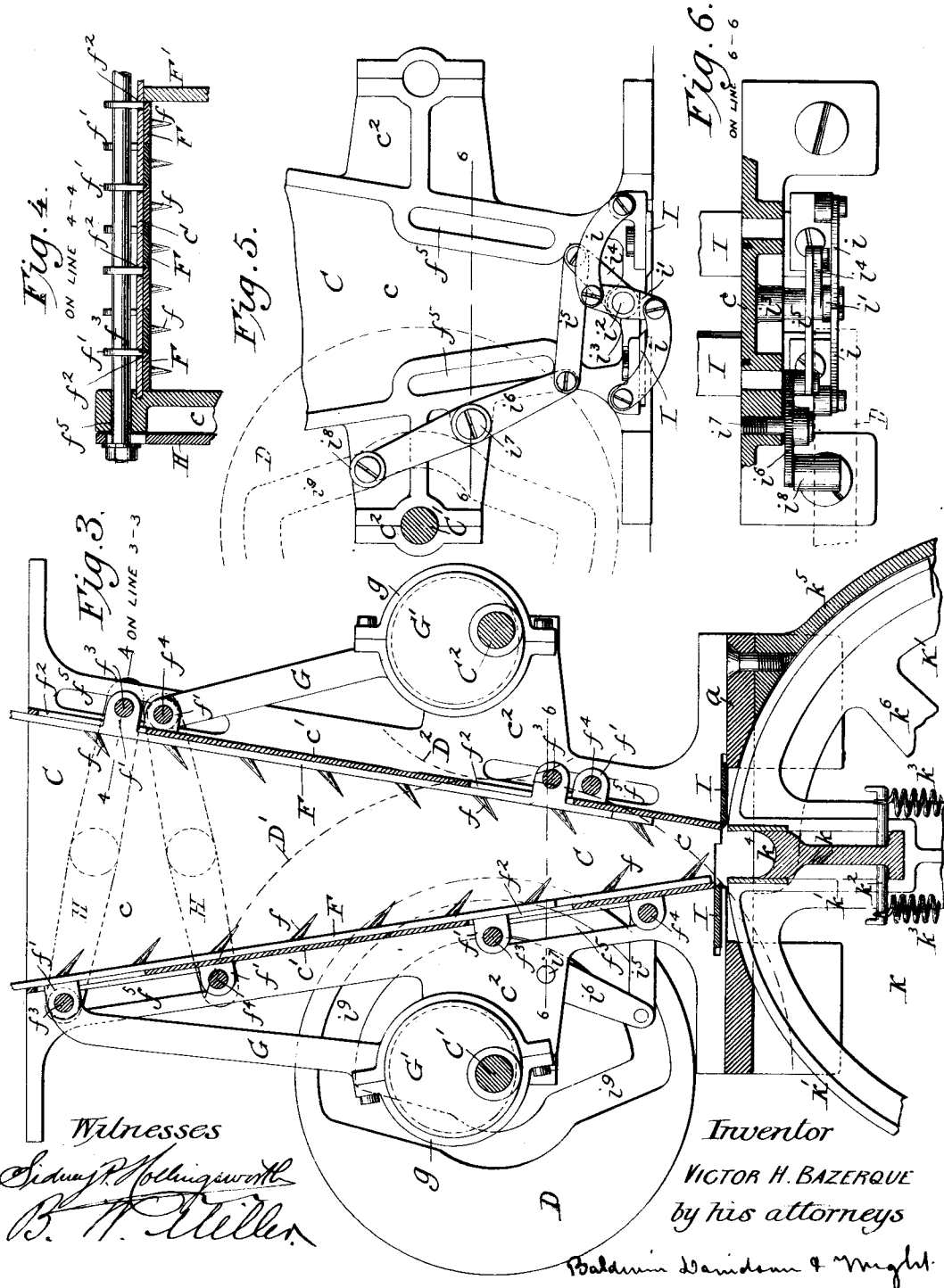
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7 Sheets—Sheet 4.

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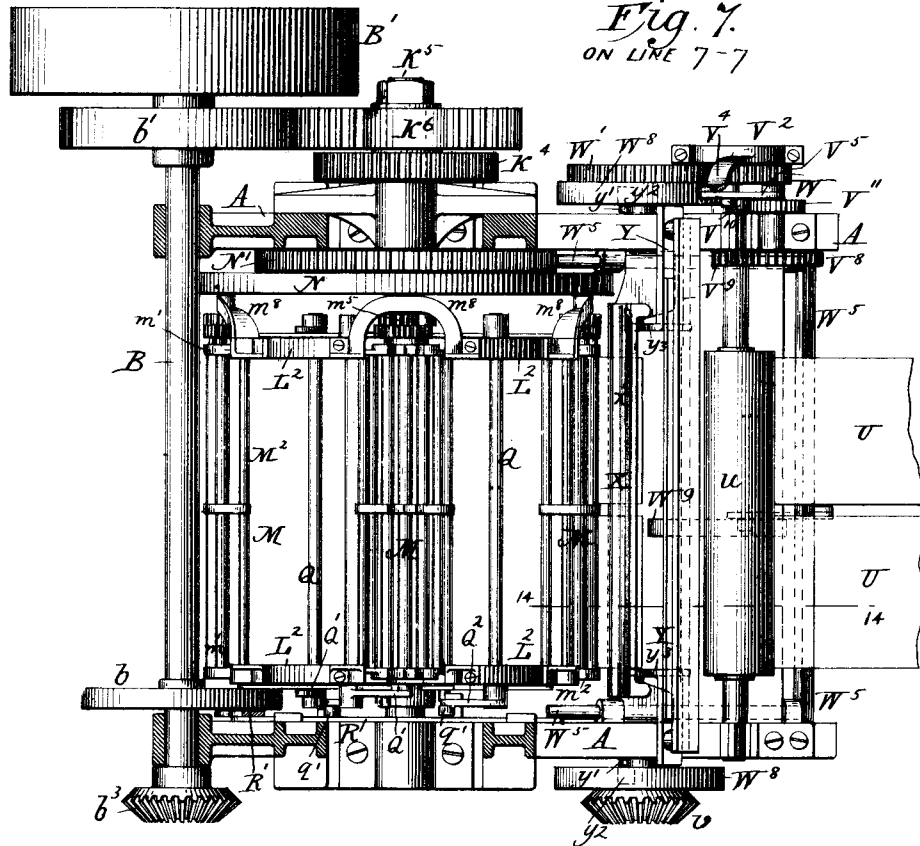
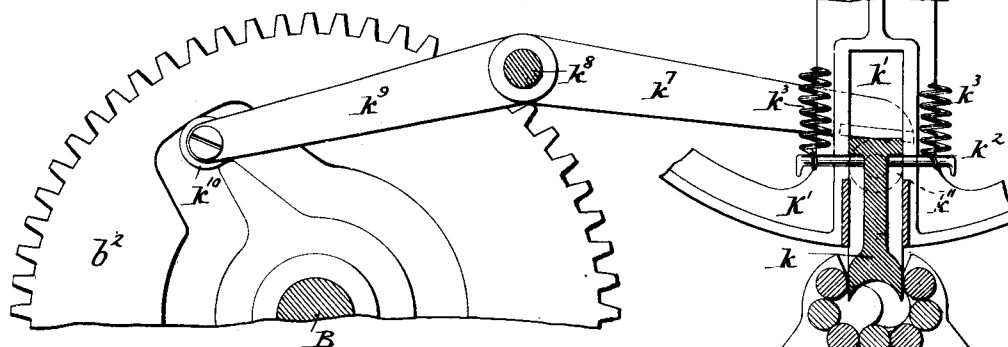


Fig. 8.
ON LINE 8-8



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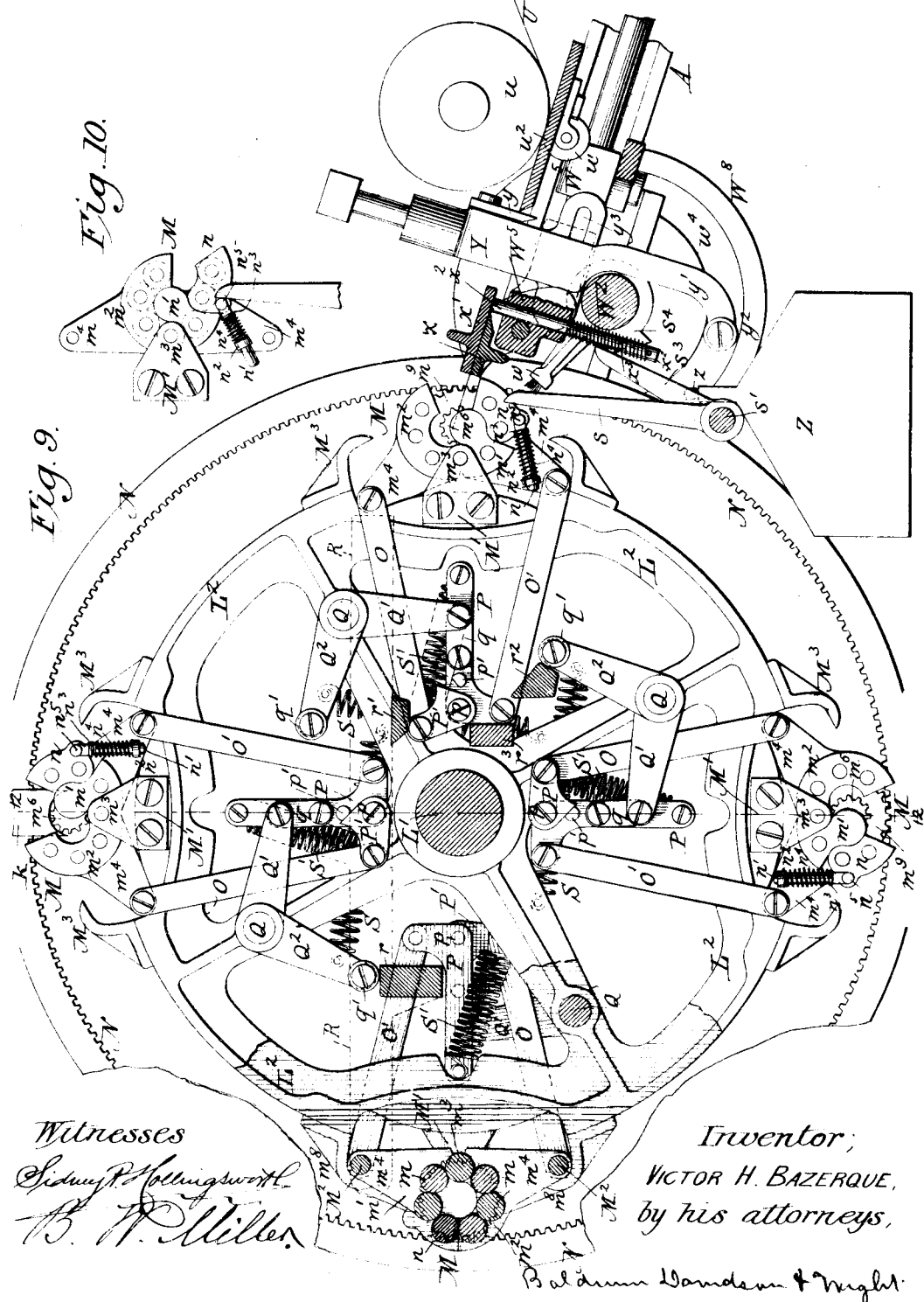
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V. H. BAZERQUE.
CIGARETTE MACHINE.

No. 485,146.

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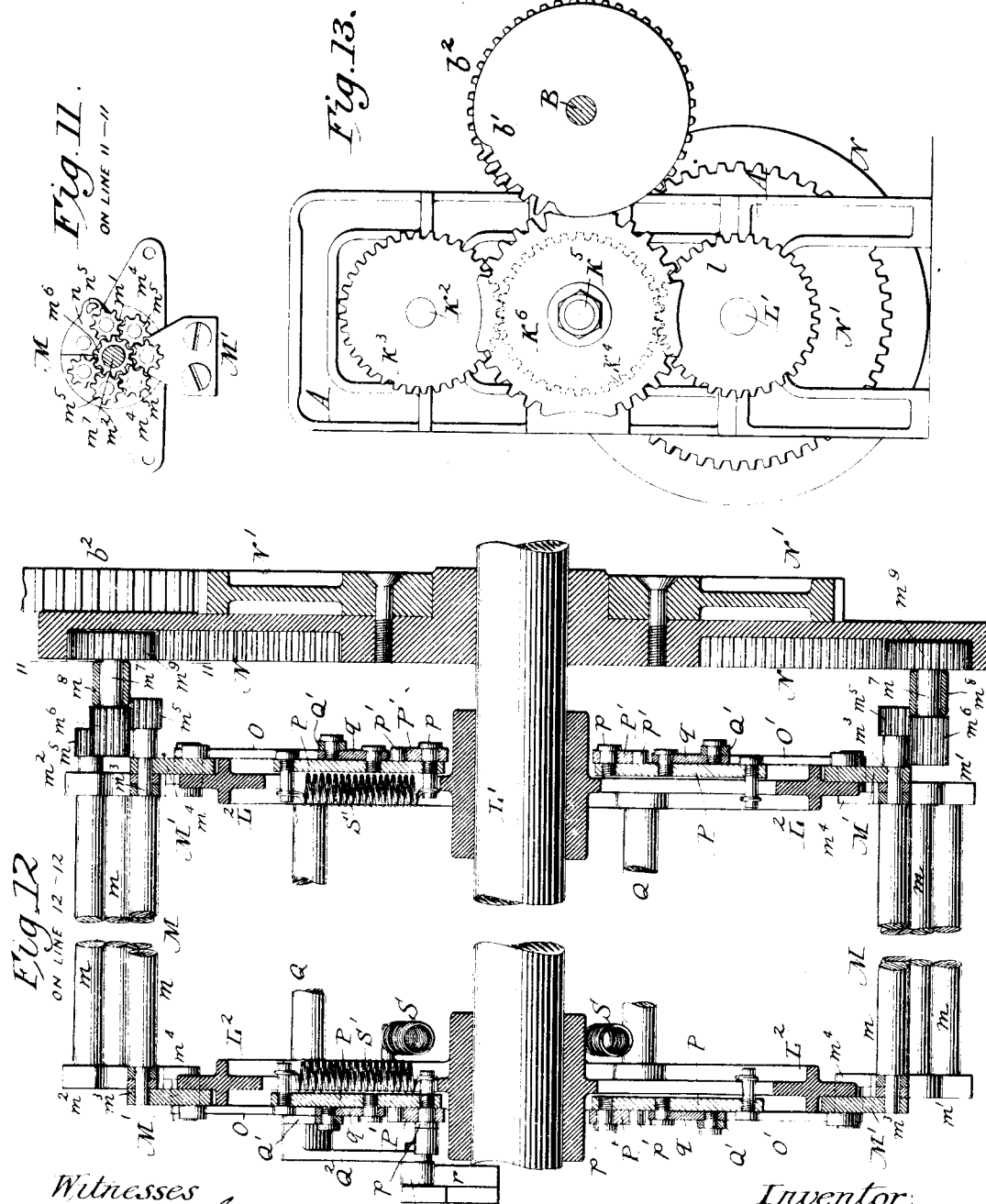
(No Model.)

7 Sheets—Sheet 6.

V. H. BAZERQUE.
CIGARETTE MACHINE.

No. 485,146.

Patented Oct. 25, 1892.



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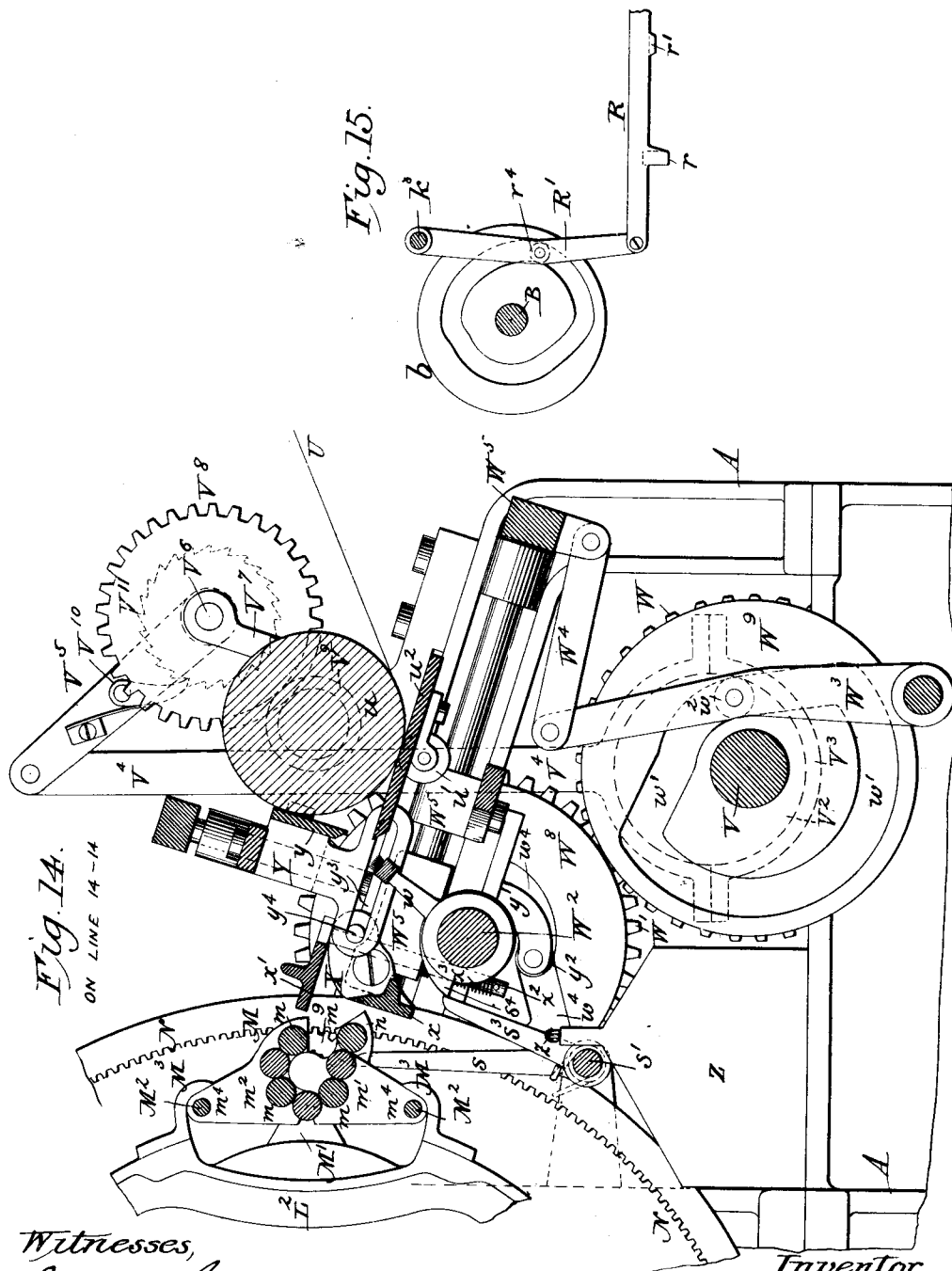
(No Model.)

7 Sheets—Sheet 7.

V. H. BAZERQUE.
CIGARETTE MACHINE.

No. 485,146.

Patented Oct. 25, 1892.



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UNITED STATES PATENT OFFICE.

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CIGARETTE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 485,146, dated October 25, 1892.

Application filed April 29, 1892. Serial No. 431,109. (No model.)

To all whom it may concern:

Be it known that I, VICTOR H. BAZERQUE, a citizen of the Republic of France, residing in Washington, in the District of Columbia, United States of America, have invented certain new and useful Improvements in Cigarette-Machines, of which the following is a specification.

My invention more especially relates to cigarette-machines in which the filler is formed and the wrapper applied by rolling devices.

The object of my invention is to most efficiently feed the suitably-prepared tobacco in granular, straight-cut, or other form from a hopper to a carrier, which conveys and delivers it in suitable quantities to reliably-acting rolling devices, which after having suitably formed the fillers firmly apply the wrappers and then discharge the completed cigarettes into an adjacent receptacle.

My invention involves improved tobacco-feeding devices, improved devices for conveying the tobacco in suitable quantities from the feeding devices to the rolling devices and delivering it thereto, improved devices for forming the tobacco into fillers and applying the wrappers, and improved devices for feeding, cutting, and pasting the wrappers.

My invention also involves, irrespective of the details of construction, certain novel organizations of instrumentalities which insure the efficient operation of the mechanism and simplify its construction.

The accompanying drawings show a machine embodying my improvements in the way now best known to me.

Some of my improvements may be used without the others and in machines differing somewhat in details of construction from that shown. Unless otherwise indicated the parts are of usual approved construction.

The feed or hopper end of the machine I term the "front" and the opposite or paper-feed end the "rear." That side on the right of a person facing the front I term the "right" and the opposite the "left."

Figure 1 is an elevation of the right side of the machine. Fig. 2 is a front elevation. Figs. 3, 4, 5, and 6 are detail views on an enlarged scale, Fig. 3 being in section on the line 3 3 of Fig. 2, and Figs. 4 and 6 being in section

on the lines 4 4 and 6 6 of Fig. 3. Fig. 7 is a plan view of the lower portion of the machine, showing the mechanism below the plane of the line 7 7 of Figs. 1 and 2. Fig. 8 is a diagram illustrating the construction and operation of the devices for delivering tobacco to the rolling devices, the section being taken on the line 8 8 of Fig. 2 and the parts shown on an enlarged scale. Fig. 9 is a detail view, on an enlarged scale, showing particularly the organization, operation, and details of construction of the tobacco-rolling and wrapper-applying devices; also, the mechanism for cutting, feeding, and pasting the wrappers. Fig. 10 is a detail view of one of the rolling devices. Fig. 11 is another detail view of one of the rolling devices, the section being taken on the line 11 11 of Fig. 12. Fig. 12 is a view, in section on the line 12 12 of Fig. 9, with the parts broken away, of the rolling devices and their actuating mechanism. Fig. 13 is a view of some of the gearing employed. Fig. 14 is a view, on an enlarged scale and in section on the line 14 14 of Fig. 7, of the wrapper feeding, cutting, and pasting devices. Fig. 15 is a detail view, on an enlarged scale, of the reciprocating bar and its mechanism, forming part of the devices for opening and closing the groups of rolling devices.

The main frame A is of suitable strength, size, and rigidity to firmly support all parts of the mechanism. It is preferably cast in sections, as shown, and bolted together, so that the mechanism may be readily put together and taken apart. The driving-shaft B is mounted in suitable bearings at the front end of the machine, preferably as shown, about midway between its upper and lower ends. The shaft B carries a driving-pulley B', a cam b, a mutilated gear b', a gear b², and a pinion b³ for communicating motion to the different parts of the mechanism, in a manner hereinafter explained. The hopper C, constructed of cast-metal end pieces c c and sheet-metal sides c', gradually tapers from its upper end downwardly, rests on the top plate α of the main frame, and its mouth registers with a slot or opening in said plate. Shafts C' C², mounted in brackets c² on opposite ends of the hopper, carry eccentrics D G', gear-

wheels $D^1 D^2$, and a pinion D^3 . Motion is imparted to the shaft C' from the main driving-shaft by an inclined shaft E , having on opposite ends pinions e e' , gearing, respectively, with the pinions b^3 and D^3 . The large gear-wheel D^1 on the shaft C' meshes with the smaller wheel D^2 on the shaft C^2 , which is thereby made to revolve at a higher speed.

A series of metallic slats or bars F , (see Fig. 4,) carrying downwardly-inclined spikes or teeth f , are arranged inside the hopper side by side and are free to move up and down and slide past each other at different speeds. The slats converge toward the bottom and are provided with guide-lugs f^1 , extending through slots f^2 in the casing, and these lugs are connected by rods f^3 f^4 , extending through and guided by inclined slots f^5 . Pitmen G , having straps g , connect the upper set of rods f^3 f^4 to the eccentrics G' on the shafts C' C^2 , and the rods on opposite sides of the hopper are connected by levers H , pivoted on the end castings. The arrangement is such that the alternate bars or slats on each side are connected to a different set of rods f^3 or f^4 , (see Fig. 4,) and as each set of rods is connected with and operated by different eccentrics on the shafts C' and C^2 , respectively, they will be caused to move at different speeds. The arrangement insures a regular and efficient feed. The tooth-carrying slats slide upwardly in an inclined direction past the tobacco in the hopper, and when moved downwardly bite into the material and carry it downward. The slow-moving teeth counteract any tendency of the tobacco to rise on the backward movement of the first-mentioned teeth. On opposite sides of the opening, just under the mouth of the hopper, are arranged a pair of sliding blades I , which sever from the tobacco in the hopper the charges for the carrier arranged below it. These blades are at each end connected by links i with a cross-head i' , carried by a short shaft i^2 , mounted in bearings i^3 in the hopper-frame. The shafts i^2 on both sides carry arms i^4 , connected by links i^5 with levers i^6 , pivoted at i^7 to the brackets c^2 and carrying rollers i^8 , entering cam-grooves i^9 in the cams D . The cam-grooves are so shaped as to reciprocate the blades at proper times to sever the charges just after they are delivered to the carrier. The mouth of the hopper is divided by a division-plate F' , in order that two separate charges of suitable length to form two separate cigarettes shall be delivered simultaneously to the filler-carrier.

The filler-carrier K is provided with a series of pockets or receptacles carried in a circular path around a single horizontal axis, and each receptacle is adapted to take two charges of tobacco from the hopper and deliver them to the rolling and wrapper-applying devices. The skeleton frame wheels or spiders K' are secured a suitable distance apart on the shaft K^2 , carrying a gear K^3 , meshing with a gear K^4 on a shaft K^5 . This shaft also carries a

mutilated gear-wheel K^6 , meshing with the mutilated gear-wheel b' on the driving-shaft. The plungers k (four being shown) extend from one spider to the other. They are each of suitable length to receive two fillers from the hopper and are free to move radially in the radial sockets or receptacles k' of the filler-carrier. The inner ends of the plungers are provided with cross-pins k^2 , to which are connected spiral springs k^3 , normally holding them inwardly or retracted. In their normal position the outer ends of the plungers are within the sockets k' , thus leaving pockets or receptacles k^4 in the filler-carrier for the charges of tobacco from the hopper.

The rolling and wrapper-applying devices are arranged below the filler-carrier and the charges from each receptacle or pocket of the filler-carrier are delivered at a point directly below the point at which it was received. In order to hold the charges in the pocket while it is passing from the receiving-point to the delivering-point, I provide the frame with a casing k^5 , fitting the periphery of the spiders closely and extending from one spider to the other. The casing is supported on arms k^6 , and not only covers the periphery of the spider and the outer ends of the pockets, but also covers both sides thereof between the receiving and delivering points, so that no tobacco can escape by accident.

In order to deliver the charges of tobacco from the filler-carrier, I provide plunger-operating devices consisting of a pair of levers k^7 , connected to a shaft k^8 , which carries an arm k^9 , provided with a roller k^{10} , entering a cam-groove in the gear-wheel b^2 on the driving-shaft B . At proper intervals motion is given to the arm k^9 , and the inner ends of the levers k^7 are made to engage the rollers k^{11} on the plungers to move them radially outward. By this arrangement the tobacco in suitable quantities to form fillers is carried from the hopper and delivered to the rolling and wrapper-applying devices located directly below. The rolling devices are arranged in groups and so mounted as to be carried in a circular path around a single horizontal axis. The horizontal shaft L' carries a gear-wheel l , meshing with the gear-wheel K^4 on the shaft K^5 , which carries another gear-wheel K^6 , as above stated, meshing with the mutilated gear-wheel b' on the main driving-shaft. Skeleton wheels or spiders L^2 , arranged a suitable distance apart, are secured to the shaft L' and carry the rolling devices on their peripheries.

I have shown four groups of rolling and wrapper-applying devices M on the peripheries of the skeleton wheels. Each rolling device is shown as comprising a group of rollers m , preferably having roughened surfaces, (seven rollers being shown in each group,) arranged in a circular series in sets of supporting-frames at each end and midway between. The supporting-frames are shown as consisting of semicircular plates m' m^2 , hinged to-

gether at m^3 and having outwardly-extending arms m^4 . The rollers are journaled in the plates and are revolved by gearing herein-after described. It will be observed that there are an uneven number of rollers in the frame-sections, the odd or center roller forming the pivot for the frame-sections on each side. Brackets M' , secured to the periphery of the frame-wheels L^2 , support the central or pivot roller of each group. Each roller of each group carries a small pinion m^5 , (see Figs. 11 and 12,) which meshes with a pinion m^6 on a shaft m^7 , mounted in a bracket m^8 , secured to the periphery of the frame-wheels L^2 . The shaft m^7 also carries a pinion m^9 , meshing with the teeth in the large internally-gear wheel N , surrounding and free to move on the shaft L' . The wheel end has secured to it a toothed wheel N' , which is driven by the gear-wheel b^2 on the driving-shaft B . As the rolling devices are carried around by the shaft L' , and as the toothed wheel N is revolved motion is imparted to the rollers m , and they are rotated in the proper direction to roll the fillers into compacted cylindrical form, and afterward the wrappers are applied. I provide means for opening and closing each group of rollers to receive a charge of tobacco to form the filler, to receive a wrapper, and to deliver the completed cigarette. For this purpose I connect to each pair of arms m^4 , at each end of each set of rollers, links $O O'$, the links O' being connected at their inner ends to the short arms of bell-crank levers P and the links O being pivotally connected with short levers or dogs P' , pivoted at p on the bell-crank levers P . Normally the dogs P' rest against stops p' on the bell-crank levers P . A cross-shaft Q , extending from one frame-wheel to the other and journaled therein, carries a pair of arms Q' , connected by links q to the bell-crank levers P . To the shaft Q is secured an arm Q^2 , carrying a roller q' , which is adapted to engage with the stop-pieces $r r'$, carried on the reciprocating bar R , and with the stationary stop-piece r^2 . The bar R is connected by means of an arm R' with the shaft k^3 , and a roller r^4 on the arms R' (see Figs. 1 and 2) enters a cam-groove in the cam b . (See Fig. 15.) A reciprocating motion is thereby imparted to the bar. A spring S normally draws the arm Q^2 inward so as to hold the links O and O' outward to close the group of rollers. Springs S of less tension connected to the upper ends of the bell-crank levers P and to the skeleton frame-wheels normally hold the stops p' against the dogs P' . It will be observed that the frame-plates m' m^2 on opposite sides of the pivot-roller are of approximately the same size; but on one side the plates are divided, one of the rollers being carried at each end on supplemental plates, pieces, or sections n , pivoted on another roller and to which are connected, by means of pins n^5 , rods n' , passing through perforated lugs n^2 on the adjacent arms m^4 .

Each pair or set of plates n is carried by and hinged to one set of frame-plates m' or m^2 . The rods n' are also provided with collars n^3 , and between the collars n^3 and the lugs n^2 are interposed spiral springs n^4 , which normally force the sections n outwardly or toward the opposite sections of the frame.

The rolling devices shown on the left-hand side of Fig. 9 are closed. As the rolling devices are revolved the arms Q^2 come in contact with the stop r and the bell-crank levers P are moved inward toward the axis of the shaft, thereby opening the rolling devices, as indicated at the top of Fig. 9, the sections n , however, not being moved relatively to the plates m' . While thus open the plunger of the filler-carrier delivers a charge of tobacco into the space between the rollers. The plunger is immediately withdrawn and at this moment the bar R is moved and the rollers are quickly closed by the spring S , which moves the links $O O'$ upwardly, as above explained. At the same time the stop r' comes in contact with one of the dogs P' on the set of rolling devices opposite the wrapper-supplying devices and moves them away from the stops p' . At the same time the short arm of one of the bell-crank levers P comes in contact with the fixed stop r^3 and the inward movement of the arms is arrested. Consequently that part of the rolling devices to which the links O' are connected cannot move, while that part connected with the link O can move the stop r' on the reciprocating bar R , drawing the link O inward, and thus moving the corresponding section of its rolling devices on its pivot. The object of this arrangement is to prevent the rolled filler from falling out when receiving the wrapper and to allow the wrapper to enter without applying paste to the rolling devices.

If the group of rollers were opened fully, as shown at the top of Fig. 9, the filler would be apt to fall out; but a partial movement only is given to the lower section of the rollers, as shown in Fig. 9, sufficient to permit the insertion of the wrapper, but not enough to allow the filler to fall out or to permit the wrapper to apply paste to the rolling devices. Arms s , carried on a shaft s' , are adapted to disengage with the pins n^5 , which secure the rods n' to the section n , Fig. 10. When the arms s thus engage, they move the sections n on their pivots against the force of the springs n^4 . The shaft s' carries an arm s^3 , which is actuated by a cam s^4 , hereinafter referred to. When the groups of rollers are closed, the rods M^2 , which connect the links $O O'$ to the arms m^4 , rest against brackets M^3 , secured to the periphery of the spiders.

After a group of rollers leaves the wrapper-supplying devices they are closed and the rollers are revolved by reason of their connection with the gear-ring N , which revolves continuously, as above explained. They are again opened when directly under the shaft L' to deliver the completed cigarette. For

opening the rollers at this time I provide a fixed stop r^2 , with which the rollers q' engage, causing the links $O O'$ to be drawn inwardly to open the rollers in a manner analogous to that above explained, and the completed cigarettes are readily dropped out.

I wish to call especial attention to the fact that the rollers are roughened, so as to grasp the tobacco and the wrapper and most efficiently form the cigarette. Each group has an uneven number of rollers, the central roller forming a pivot on which each set of rollers on each side is hinged. By this arrangement the rollers are opened or spread apart equally, the filler is delivered to the center of the group, and the completed cigarette is dropped easily when the group is opened.

The wrappers are formed from two continuous webs of paper U , which pass under a large feed-roll u and over a smaller feed-roll u' . The roller u is mounted in bearings over a fixed table u^2 , which is slotted to allow the roller u' to pass through it, so that the paper may be held between the rollers u and u' and fed forward by both of them. A shaft V carries a pinion v , meshing with a pinion v' on an inclined shaft V' , carrying at its upper end a pinion v^2 , meshing with the pinion b^3 on the driving-shaft. The shaft V carries an eccentric V^2 , around which is a strap V^3 on the end of a rod V^4 , the upper end of which is connected with a link V^5 , pivoted on a shaft V^6 , mounted in bearings in uprights V^7 . This shaft carries a gear-wheel V^8 , meshing with a gear V^9 on the shaft of the feed-roll u . The link V^5 carries a spring-pawl V^{10} , engaging a ratchet V^{11} , secured to the gear-wheel V^8 or its shaft V^6 . As the shaft V is revolved motion is imparted to the feed-roll u to feed forward the webs of paper at a proper speed. A gear-wheel W on the shaft V meshes with a gear-wheel W' on a shaft W^2 , which carries the paste-brush w . A cam W^3 on the shaft V is provided with a cam-groove w' , into which extends a roller w^2 on a lever W^3 , which is connected by a link W^4 to a reciprocating frame W^5 . To the inner end of this frame is pivoted the lower member x of the clamp X . The upper member x' is carried by rods x^2 , which extend through the frame W^5 and are adapted to move up and down therein. The rods carry springs x^3 , which tend to draw the member x' downwardly toward the frame. The cutting-knife y is carried by a reciprocating frame Y , the lower ends y' of which carry rollers y^2 , working in cam-groove w^4 in the cam-wheels W^8 . The grooves are so shaped as to impart a vertically-reciprocating motion to the frame Y to sever wrappers of proper length at the proper times from the webs U . The frame Y on each side has a slot y^3 , into which projects a stud y^4 on the inner end of the clamp-bar x . When the frame W^5 is moved back and forth, the stud y^4 moves in the slot without effecting any pivotal movement of the member x ; but when the frame Y

is moved vertically the member x is moved on its pivot and made to assume the position shown in Fig. 14.

The paste-pot Z is located on the main frame below the brush w , and as the brush revolves paste is taken from the wick z by the brush and delivered to the edge of the wrappers.

The mechanism is so timed that immediately after a wrapper is severed by the knife y it is clamped between the members $x x'$, and then the frame W^5 is moved forward to advance the clamp to the rolling devices, which have paused immediately in front of them. The end of the wrapper projects from the clamps, and when the rolling devices are open, as shown in Fig. 14, the wrapper is taken hold of by the rollers, the knife-frame rises, and the clamp member x turns on its pivot, releasing the wrapper, which is then drawn inwardly by the rollers and wrapped around the filler. Just before the wrapper is released, however, the paste-brush applies a line of paste to the edge of the wrapper. The cam s^4 on the shaft W^2 actuates the arms s , which open and close the frame-sections n , as above explained.

I will now briefly describe the operation of the entire machine. Tobacco is fed in any suitable way in a granular, straight-cut, or other suitable form into the hopper C . The reciprocating tooth-carrying bars or slats F feed the tobacco downwardly and compress it at the lower end of the hopper. At the proper time the blades I are drawn back and a charge or charges of tobacco are fed from the mouth of the hopper into the pocket or receptacle k^4 in the filler-carrier K . When this is filled, the knives come together and cut the charge from the tobacco remaining in the hopper. During this operation the filler-carrier K has paused. After the pocket is filled the filler-carrier moves on and completes a quarter-revolution, when another pocket is filled in a similar manner. The first-mentioned pocket is then moved into position directly over a group of rolling devices, as shown in Fig. 1. This set of rolling devices is then opened by the links $O O'$ and their connections, as above explained. The plunger k is then operated by the arms k^7 and their connections to deliver the charges of tobacco into a group of rollers. The plunger having been withdrawn, the group of rolling devices is closed, in the manner before explained, and the frame-wheels move on, carrying this group of rolling devices to the wrapper-supplying devices. During this movement the rollers m are revolved at high speed and the filler is properly formed. After reaching the wrapper-supplying devices the upper section of the group of rollers is raised and the roller in the hinged section n is lowered in the manner before described to admit the wrapper, which is delivered by the clamp X in such manner that no paste is applied to the rolling devices. Having received the wrapper

the group of rollers is closed and is moved onward to the delivery-point below the axis of the carrying-frame. On its way to this point from the wrapper-supplying devices the rollers are revolved at high speed and the cigarette is completed. Upon reaching the delivery-point the group of rollers is opened and the completed cigarette dropped from it.

I have shown each of four groups of rollers, and I have shown them of sufficient length to each form two cigarettes. I may, however, make the rollers of sufficient length to form three or a larger number of cigarettes or to form only one.

It will be understood that while one of the rolling devices is receiving a charge the other is receiving a wrapper, and a third is delivering the completed cigarette to any suitable receptacle. The fourth group of rollers is inactive.

I have described in detail a machine embodying my improvements, and the organizations and details of construction shown and described are simple and efficient; but obviously changes may be made in them without departing from the novel features of my invention.

I claim as my invention—

1. The combination, substantially as hereinbefore set forth, of a feed-hopper, a series of groups of tobacco-rolling and wrapper-applying devices, a supporting-frame on which they are mounted and by which they are carried around in a circular path, and a filler-carrier interposed between the feed-hopper and the rolling devices, comprising a frame, a series of pockets or tobacco-receptacles carried around by the frame in a circular path, a series of plungers in the tobacco-receptacles, means for moving one of the plungers outwardly while another is moving radially inward, and means for moving the rolling devices into the path of the outwardly-moving plunger, whereby charges of tobacco to form the fillers are successively taken from the feed-hopper and successively delivered to the rolling devices located below them as they are carried past.

2. The combination, substantially as hereinbefore set forth, of a feed-hopper, means therein for delivering tobacco therefrom, rolling devices, a frame which carries them around a single horizontal axis, a filler carrier or conveyor having a pocket or receptacle carried around a single horizontal axis in a circular path, a plunger, means for actuating it to move it into the inside of the group of rolling devices to deliver a charge of tobacco thereto, wrapper-supplying devices, and means for actuating the tobacco-feeding, filler-carrying, and wrapper supplying and rolling devices.

3. The combination, substantially as hereinbefore set forth, of a feed-hopper, two alternate sets of tooth-carrying bars arranged therein on opposite sides thereof, and means for actuating one set of bars at a higher speed than the other set.

4. The combination, in a cigarette-machine, of a hopper, a set of tooth-carrying bars on each side of the hopper, a second set of tooth-carrying bars on each side alternating with the first-mentioned set, and means for moving one set of bars on each side faster than the other set.

5. The combination, in a cigarette-machine, of a feed-hopper, two sets of tooth-carrying bars arranged therein, shafts on opposite sides of the hopper, eccentrics thereon connected with the two sets of tooth-carrying bars, and means for actuating the shafts at different speeds to move one set of tooth-carrying bars faster than the other alternate set.

6. The combination, substantially as hereinbefore set forth, of a hopper, a series of tooth-carrying bars arranged on each side thereof and provided with lugs extending through slots in the hopper-casing, rods connecting the lugs and moving vertically in guide-slots in the hopper-frame, shafts carrying eccentrics to which the rods are connected, and means for driving the shafts, whereby one set of tooth-carrying bars on each side of the hopper is caused to move at a different speed from the other set on the same side.

7. The combination, substantially as hereinbefore set forth, of a hopper having an open bottom or mouth, a pair of blades arranged at the mouth of the hopper, a cross-head, pivot-links connecting the blades to the cross-head, a cam, means for rotating it, and connections between the cam and the cross-head for reciprocating the blades.

8. The combination, substantially as hereinbefore set forth, of a series of groups of rolling devices, each comprising rollers, and a pair of hinged frame-plates in which they are mounted, means for moving both frame-plates on their pivots, means for rotating the rollers, devices for feeding tobacco to the rolling devices, mechanism for supplying wrappers thereto, and means for moving the groups of rolling devices from the tobacco-feeding to the wrapper-supplying devices.

9. The combination, substantially as hereinbefore set forth, of a series of groups of rolling devices, each comprising a series of rollers mounted in hinged frames, links connected to the frames for opening and closing them, an arm, a stop with which it engages, connections between the arm and the links, means for actuating the arm, and mechanism for rotating the rollers and revolving the groups of rolling devices.

10. The combination, substantially as hereinbefore set forth, of the hinged frame-plates, a group of rollers carried thereby, means for revolving them and carrying them around a single horizontal axis, the bell-crank levers, links connecting the bell-crank levers to the frame-plates, the dogs carried by the bell-crank levers, links connecting them to the frame-plates, a stop-bar, an arm engaging therewith, a shaft on which the arm is mounted,

arms connecting this shaft with the bell-crank levers, and springs connected to the bell-crank levers and to the arm which engages with the stop-bar.

11. The combination, substantially as hereinbefore set forth, of the sets of hinged frame-plates m' m^2 , a group of rollers mounted therein, the roller-carrying plates n , secured to one set of the frame-plates and movable relatively thereto, and means for actuating the plates.

12. The combination, substantially as hereinbefore set forth, of the frame-wheels, the hinged frame-plates mounted thereon and carrying a group of rollers, means for opening the frame-plates to permit the group of rollers to receive a charge of tobacco, the spring-controlled plates n , hinged to the frame-plates, means for moving the frame-plates on one side to open the group of rollers, means for moving the hinged plates n to receive a wrapper, and means for supplying the wrapper to the group of rollers.

13. The combination, substantially as hereinbefore set forth, of the frame-wheels, the hinged plates mounted thereon, rollers carried by these plates, means for rotating the rollers and for revolving the group, the stop-bar and stops, the links connecting the frame-plates for opening and closing them, a lever engaging with the stops, connections between this lever and the links, the plates n , hinged to the frame-plates, means for opening and closing them, and means for supplying wrappers to the rollers.

14. The combination, substantially as hereinbefore set forth, of the paper-feed rollers, means for actuating them, the reciprocating knife, means for actuating it, the clamp having the vertically-moving members, one of which is hinged, means for moving the hinged member about its pivot, and devices for reciprocating the clamp, whereby the wrapper is fed to the clamp while the hinged member is lowered and whereby the clamp is moved for-

ward or reciprocated while the clamp members are closed or parallel with each other and the hinged member is again moved on its pivot to release the wrapper.

15. The combination, substantially as hereinbefore set forth, of the paper-feed rollers, means for actuating them, the reciprocating knife, means for actuating it, the clamp having a hinged member, means for reciprocating the clamp, means for moving the hinged member on its pivot, a paste-brush, and means for revolving it, the organization being such that the wrapper is cut and received by the clamp, while the hinged member is separated from the other member, the clamp is reciprocated and moved forward while the clamp members are together, and the hinged member is depressed or moved away from the other member to release the wrapper and to allow the paste-brush to pass without applying paste to the clamp.

16. The herein-described rolling devices, comprising an uneven number of rollers, the central one of which is a pivot-roller, frame-plates supporting the rollers and hinged on said pivot-roller, means for revolving the rollers, and devices for opening and closing the group.

17. The rolling devices herein described, comprising a group of rollers, hinged frames in which they are mounted, and supplemental plates n , hinged to the frames, and means for revolving the group of rollers, opening and closing the frame-plates and actuating the supplemental plates, whereby the group is left partially open when the wrapper is supplied to allow the pasted wrapper to enter without applying paste to the rolling devices.

In testimony whereof I have hereunto subscribed my name.

VICTOR H. BAZERQUE.

Witnesses:

LLOYD B. WIGHT,
B. W. MILLER.