

No. 767,331.

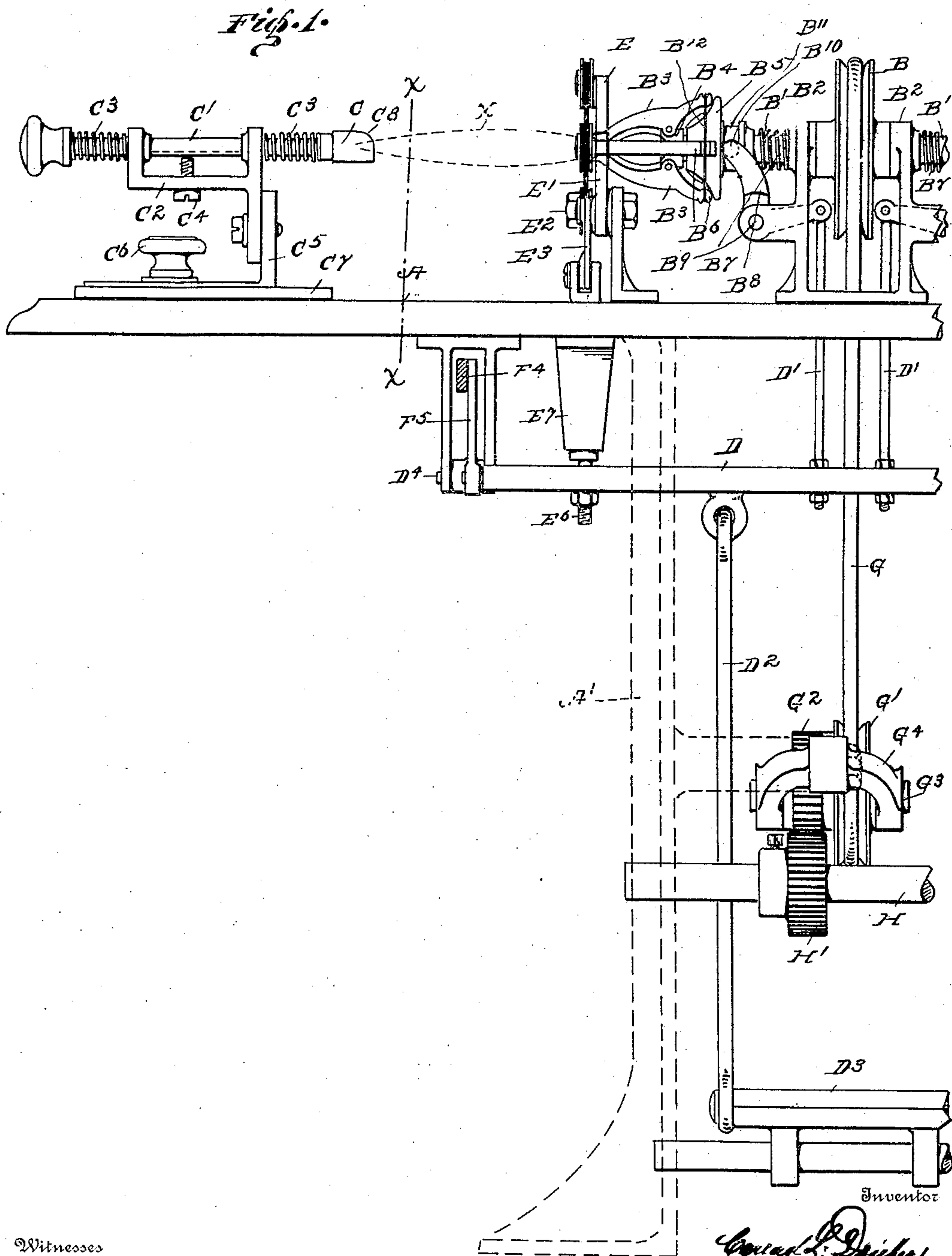
PATENTED AUG. 9, 1904.

C. L. DRIEFER.  
CIGAR MAKING MACHINE.

APPLICATION FILED OCT. 31, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

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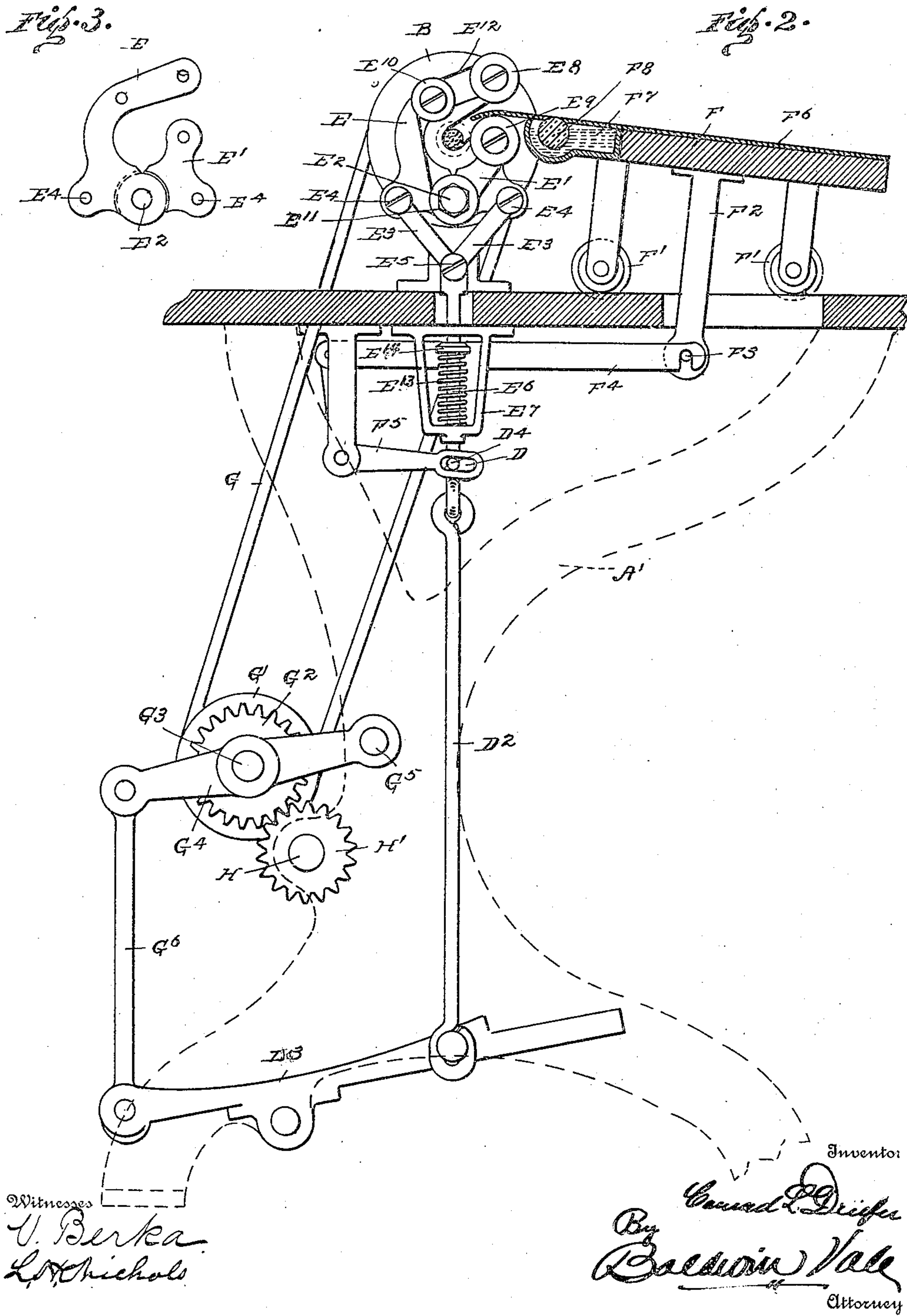
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# UNITED STATES PATENT OFFICE.

CONRAD L. DRIEFER, OF SAN FRANCISCO, CALIFORNIA.

## CIGAR-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 767,331, dated August 9, 1904.

Application filed October 31, 1903. Serial No. 179,413. (No model.)

*To all whom it may concern:*

Be it known that I, CONRAD L. DRIEFER, a citizen of the United States, residing at 610 Eighteenth street, in the city of San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Cigar-Making Machines; and I do hereby declare the following to be a full, clear, and exact description of the said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to cigar-making machines, and particularly to cigar-wrapping machines.

In the manufacture of cigars lengths of the tobacco-leaf are laid together and constitute the filler, which is bound and subjected to pressure in a form from which it emerges with the outlines of the cigar and is called the "bunch." A selected leaf is stripped of its midrib, which leaves the leaf divided into two equal parts, one of which constitutes a wrapper, which is wound spirally around the bunch, so that the natural edge of the leaf overlaps the stripped edge, finishing at the pointed or lip end of the cigar. In order to follow out the above actions, it is necessary to wrap one cigar spirally to the right and one spirally to the left in order to utilize both halves of the wrapping-leaf.

The objects of this invention are to mechanically wrap the bunch as above set forth and to paste and form a symmetrical lip end on the cigar.

In the drawings, Figure 1 is a front elevation of a machine constructed in accordance with this invention, the sliding feed-table being omitted to better disclose the various mechanisms. Fig. 2 is a side elevation of the same, partly in cross-section, on the line X X, Fig. 1. Fig. 3 is a detail in front elevation of the two plates of the laying mechanism.

Inasmuch as the right and left wrapping mechanisms are identical excepting the direction of rotation, it is deemed sufficient to illustrate but one set of mechanisms.

In detail the construction consists of the table-top A, supported upon the side frames A'. The bunch-rotating mechanisms consist of the

driving-wheel B, fixed upon the shaft B', which is journaled in the pillars B<sup>2</sup>. The radial contracting-jaws B<sup>3</sup> are pivoted in the head B<sup>4</sup>, fixed on the ends of the shaft B', and are adapted to grasp the end of the bunch. The jaws are closed on the bunch by the spreading action of the cone B<sup>5</sup>, upon which the ends B<sup>6</sup> of the jaws ride as the cone is pushed forward by the expansion of the spring B<sup>7</sup>. The pointed end of the bunch X lies in the bur-nished hollow of the thimble C, within which it is free to revolve. The thimble is attached to the end of the shaft C', mounted in the bracket C<sup>2</sup>, within which it is centered by the opposing action of the two springs C<sup>3</sup>. Rotation of the thimble is prevented by the stop-screw C<sup>4</sup>, set loosely in a longitudinal cut in the shaft C'. The bracket C<sup>2</sup> is adjustable vertically in the slide C<sup>5</sup>, adjustable laterally by the set-screw C<sup>6</sup>, threaded in the guide C<sup>7</sup>, secured to the table-top.

The cone B<sup>5</sup> is operated back and forth by the action of the bell-crank lever B<sup>8</sup>, pivoted at B<sup>9</sup>, and having the yoke extension B<sup>10</sup> straddling the annular channel B<sup>11</sup> in the cone-hub. The lever B<sup>8</sup> is operated by the vertical rod D' on the cross-beam D, which is operated through the rods D<sup>2</sup> by the treadle D<sup>3</sup>.

The wrapper-laying mechanism consists of the plates E E', both pivoted on the pin E<sup>2</sup> in the pillar and operated by the toggle-joint, consisting of the arms E<sup>3</sup>, pivoted at E<sup>4</sup> to the respective plates and at E<sup>5</sup> to the rod E<sup>6</sup>. The rod E<sup>6</sup> extends downward through the bracket E<sup>7</sup> and is fixed to the cross-beam D. The plates E E' respectively carry the pulleys E<sup>8</sup> E<sup>9</sup> E<sup>10</sup> E<sup>11</sup>, around and about which the resilient band E<sup>12</sup> travels.

The sliding table from which the wrappers are fed to the machine consists of the top F, mounted upon the rollers F', which roll upon and are guided in grooves in the table-top A. The feed-table is operated by the bracket F<sup>2</sup>, extending through a slot in the table-top. The stud F<sup>3</sup> is engaged by a notch in the end of the connecting-arm F<sup>4</sup>, pivoted to the bell-crank lever F<sup>5</sup>, which engages the stud D<sup>4</sup> on the end of the cross-beam D. The feed-table is surmounted by a metal plate F<sup>6</sup>, the edge of which is bent to conform roughly to the



contour of the cigar. A paste-pot  $F^7$  is sunken into the top  $F$  and the plate  $F^6$  cut away to expose the roller  $F^8$ , rotating through the paste. The pasting mechanism is located near the pointed end of the cigar.

The driving-wheel  $B$  of the bunch-rotating mechanism is actuated by the belt  $G$ , engaging the pulley  $G'$ . The pulley  $G'$  and the pinion  $G^2$  are fixed on the pin  $G^3$ , which is journaled in the bracket-arm  $G^4$ , pivoted at  $G^5$  to the frame  $A'$  and thrown into and out of mesh with the driving-pinion  $H'$  on the constantly-rotating shaft  $H$  by the rod  $G^6$ , connected to the treadle  $D^3$ .

The operation of forming a cigar with this machine is as follows: The heel of the treadle is depressed, bringing down the beam  $D$ , which simultaneously depresses the bell-crank  $F^5$ , backing the feed-table away from the laying mechanism, retracts the cone  $B^3$ , opening the jaws  $B^3$  by the contraction of the rubber band  $B^{12}$ , and opens the laying mechanism against the expansion of the spring  $E^{13}$  between the bracket  $E^7$  and button  $E^{14}$ , fixed on the rod  $E^6$ , and also throws the pinion  $G^2$  out of engagement with the driving-pinion  $H'$ . The whole mechanism is thus thrown open for the reception of the bunch  $X$ . The pointed end of the bunch is then inserted in the thimble  $C$  and the other end of the bunch forced against the resilient band  $B^{12}$ , between the rollers  $B^8$   $B^9$ , until the overhanging ends of the bunch are within the grasp of the jaws  $B^3$ . With the bunch thus set the treadle is released, permitting the rise of the beam  $D$ , closing the jaws about the bunch, closing the laying mechanism, and advancing the feed-table simultaneously, synchronized with the engagement of the driving-pinions  $G^2$  and  $H$ , which starts the bunch revolving. The wrapper is laid obliquely across the feed-table, with the raw or stripped edge forward. The forward corner of the wrapper is pushed forward until engaged by the bight of the resilient band with the bunch, which winds the wrapper spirally around the bunch. The extreme end of the wrapper in passing from the feed-table encounters the roller  $F^8$  of the pasting mechanism, which coats it lightly with paste. From the feed-table the properly-trimmed end of the wrapper passes through the slot  $C^8$  in the thimble  $C$ , which is manipulated backward and forward against the bunch until the requisite pasted point is formed on the cigar. This much accomplished, the heel of the treadle is again depressed and the bunch released by the same actions described before as following the depression of the treadle. Removed from the machine the bunch ends are clipped off, and a perfect cigar results.

Attention is called to the play allowed in the attachment of the rods  $D^2$  and  $G^6$  to the treadle, so that the jaws close on the bunch before the engagement of the driving-gear in

starting, and the driving-gear is released before the jaws in stopping the machine.

Having thus described this invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a cigar-making machine, a bunch-holding mechanism mounted upon a rotatable shaft, and consisting of pivoted jaws opened and closed by a cone slidable on the said shaft, and a driving-pulley fixed upon said shaft; a point-forming mechanism consisting of a burnished thimble to receive the end of the bunch, and mounted upon the end of a slidable shaft capable of vertical, and lateral adjustment; a laying mechanism consisting of vertical plates pivoted at a common center and opened and closed about the bunch by a toggle connection; a resilient band engaging the bunch, and adapted to travel on sheaves attached to said plates; a feed-table carrying a pasting-pot with a roller therein exposed through the top of the said table, with means for advancing and receding said table to and from the bunch; a driving-shaft having a pinion thereon; a swinging pinion adapted to swing into and out of engagement with the said driving-pinion, and fixed to a pulley belted to the said driving-pulley of the bunch-rotating mechanism; and a treadle mechanism adapted to synchronously actuate the various mechanisms above set forth.

2. In a cigar-making machine, a bunch-holding mechanism consisting of pivotal jaws mounted upon a rotatable shaft, and opened and closed by a cone slidable on said shaft; a point-forming thimble capable of lateral, and vertical adjustment; a laying mechanism consisting of a resilient band engaging the bunch, and traveling on sheaves attached to pivoted plates straddling the bunch; a feed-table carrying a pasting mechanism; a driving-shaft having a pinion fixed thereon; a swinging pinion belted to the rotatable shaft of the bunch-holding mechanism; and a treadle with intermediate mechanisms adapted to synchronously actuate the various mechanisms above set forth.

3. In a cigar-making machine, an expandible bunch-holding mechanism, means for rotating the same, an adjustable point-forming thimble, and a laying mechanism comprising pivoted plates adapted to straddle a bunch and supporting a resilient band adapted to engage the bunch.

4. In a cigar-making machine, a rotatable shaft, pivoted jaws mounted thereon, a slidable cone adapted to operate said jaws, an adjustable point-forming thimble, and a laying mechanism comprising pivoted plates adapted to straddle the bunch and supporting a resilient band adapted to engage said bunch.

5. In a cigar-making machine, an expandible bunch-holding mechanism, means for rotating the same, an adjustable point-forming



thimble, a laying mechanism comprising pivoted plates adapted to straddle a bunch and supporting a resilient band adapted to engage said bunch, and a feed-table carrying a pasting mechanism, all synchronously cooperating with suitable intermittently-actuated mechanism.

6. In a cigar-making machine, an expandible bunch-holding mechanism, means for rotating the same, a point-forming thimble ca-

pable of lateral and vertical adjustment, and a laying mechanism comprising pivoted plates adapted to straddle the bunch and supporting a resilient band adapted to engage said bunch.

In testimony whereof I have hereunto set my hand this 15th day of September, 1903.

CONRAD L. DRIEFER.

Witnesses:

BALDWIN VALE,  
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