2 Sheets—Sheet 1.

F. HAEHNEL.
Cigar-Machine.

No. 200,054. **Patented Feb. 5, 1878.**

Fig. 1.

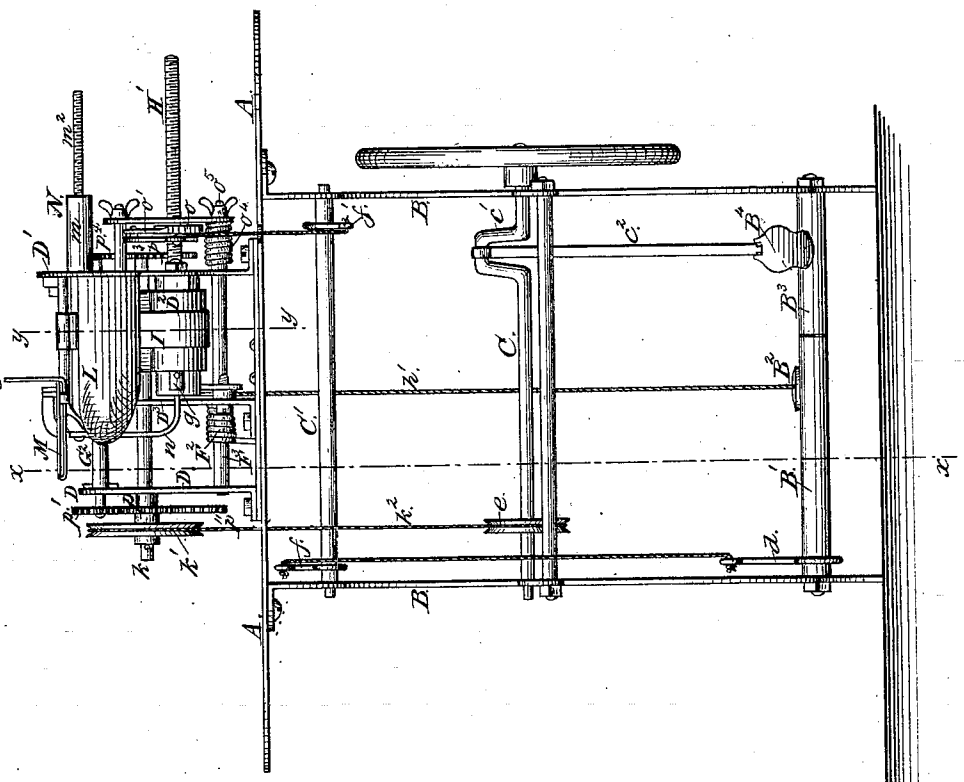
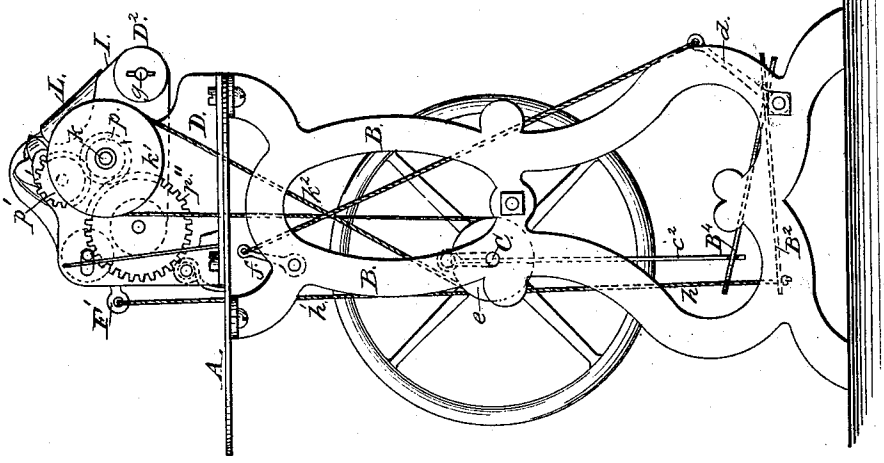


Fig. 2.



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Inventor:

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2 Sheets—Sheet 2.

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Fig. 3.

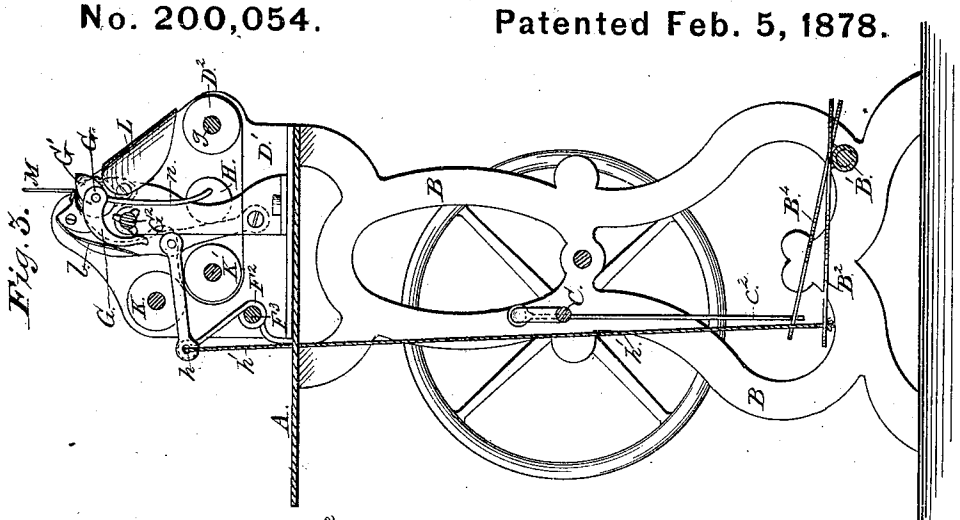


Fig. 4.

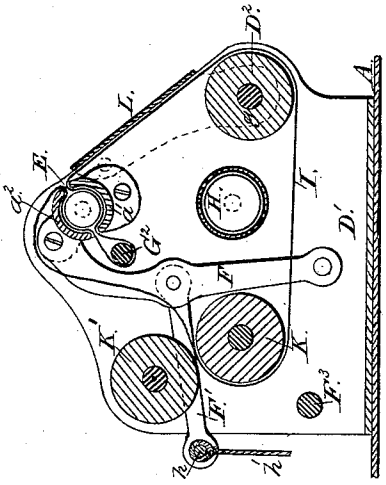


Fig. 5.

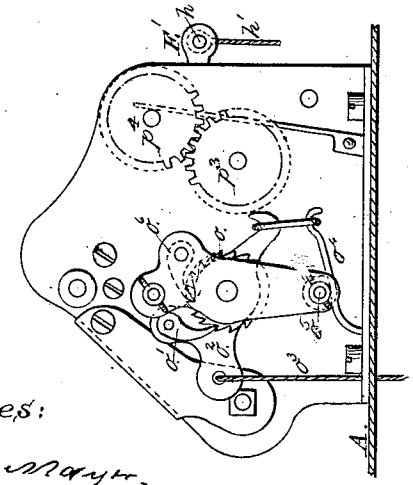


Fig. 6.

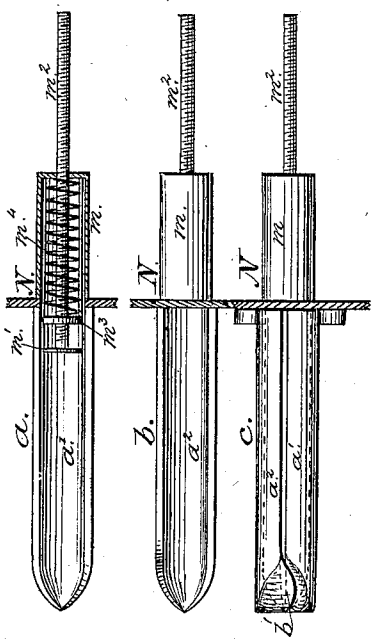


Fig. 7.

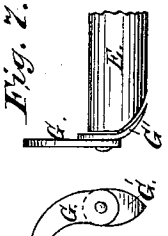
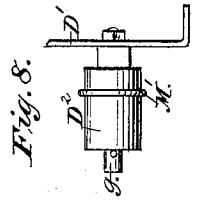


Fig. 8.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

FREDERIC HAEHNEL, OF NEW ORLEANS, LOUISIANA, ASSIGNOR TO MAYER BROTHERS & HAEHNEL, OF SAME PLACE.

IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. **200,054**, dated February 5, 1878; application filed January 28, 1878.

To all whom it may concern:

Be it known that I, FREDERIC HAEHNEL, of New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Cigar-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of cigar-machines in which the cigar is wrapped and finished.

The object is to produce a machine that is simple in its construction and operation, not liable to get out of order, and one that will do its work in a very thorough manner.

My invention consists in the construction and arrangement of certain parts of a cigar-machine, as will be hereinafter described, and more fully pointed out in the claims.

Figure 1 is a front elevation of my machine. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical cross-section on line *x x* of Fig. 1. Fig. 4 is an enlarged section on line *y y* of the pressure-rollers. Fig. 5 is an enlarged end view of the rear end of the upper part of the machine. Fig. 6 (*a b c*) represents face and side views of the bunch-holder. Fig. 7 is a detail view of the end of the bunch-holder and the vibrating knife. Fig. 8 is a detail view of the loose roller and removable band.

In the drawing, A is the bed-plate of the machine, secured to standards B B. In the lower part of these standards, and toward the front part thereof, is journaled a shaft, B^1, to which the treadle B^2 and arm *d* are secured.

On one section of the shaft B^1 is attached a sleeve, B^3, and to this is attached the treadle B^4. About midway between the shaft B^1 and the bed-plate A is journaled the main shaft C, provided with a grooved pulley, *e*, at one end. At the other end this shaft is provided with a crank, c^1, to which a connecting-rod or pitman, c^2, is attached, and through it motion is imparted by the treadle B^4.

In the upper part of the standards is journaled another shaft, C′, provided with arms *f* *f′*. The arm *f* connects with the arm *d* by a suitable cord.

To the top of the bed-plate are secured two standards, D D^1, in the front part of which is journaled a shaft, *g*, upon which the loose pulley D^2 revolves. Another standard, D^3, is placed about midway between the outer standards, and to it one end of the lower part a^1 of the bunch-holder E is secured, while the other end is attached to standard D^1.

The upper part a^2 of the bunch-holder is provided with a lip, *b′*, which curves down over the tip end of the lower part a^1, permitting the wrapper to pass through and onto the bunch. Said part a^2 is secured to two swinging or pivoted levers, F, to which two arms, F^1, are attached, connected at their outer ends by a small brace, *h*. To one end of this brace *h* a spring, F^2, on the brace F^3, is attached, by which the upper part a^2 of the bunch-holder is forced to its seat. To said brace *h* is also attached a cord, *h′*, which connects with treadle B^2, by which the upper bunch-holder is operated.

To the inner end of the upper part a^2 of the bunch-holder is pivoted a bent arm, G, to which is secured the curved knife G^1.

The bent arm G is operated by suitable cogs or cams on the shaft G^2, which is provided with a gear-wheel, p^1, on its outer end, and receives motion through another gear, *p*, on the shaft K through a pulley, K^1, operated by cord or belt K^2 and pulley *e* on the crank-shaft C. A suitable spring, *l*, presses the bent arm G against the cogs or cams on the shaft G^2.

To one side of the standard D^1 is secured the regulator N, consisting of a guide or holder, *m*, in which the regulator-head m^1 fits, which is adjusted by a screw, m^2, engaging with a nut, m^3, by which the length of the cigar can be altered, as desired. A spring, m^4, gives a slight end pressure to the cigar. A cylinder, H, open at one end, contains the paste, and is arranged in rear of the roller D^2. It is provided with a suitable piston-head, operated by a screw, H′, on the piston-rod, and by it the paste is forced through the pipe *n* against or onto the tip of the cigar.

The piston-head is automatically fed for-

ward by a ratchet, o, and pawl o^1, which is operated by an arm, o^2, to which a cord, o^3, is attached, and is connected to the arm f'. A spring, o^4, on the stud o^5 throws the pawl backward and in gear with the ratchet. A counter-ratchet, o^6, prevents the ratchet o from turning backward.

I is an endless narrow loose belt, passing around the roller D^2 to and between the pressure-rollers K K^1, following the inside of the upper part a^2 of the bunch-holder E, then over the loose shaft G^2, back through the lower part of the bunch-holder, and below the table L to the pulley D^2. A weighted roller may be employed, so as to give a slight tension to the narrow belt I. The object of this belt is to keep the bunch or cigar constantly revolving while being wrapped and finished. Motion is imparted to the pressure-rollers by suitable gearing p and p^1 p^2.

An adjusting-gage, M, is attached to the upper part a^2 of the bunch-holder, by which the endless belt I is regulated laterally, so as to keep the belt constantly at the forward end of the bunch or cigar. There may be one or more of these gages employed, and they may be placed in any other suitable position. On the loose roller D^2 may be secured one or more removable rings or bands, M′, of different sizes, and of rubber or any other suitable material, which permits the tightening of the loose belt I more or less on one side, thus permitting the cigars to be more or less curved or bulged. A suitable table, L, is detachably secured to the standard D^1, and extends at its upper end to within a short distance of the mouth of the bunch-holder. It is curved around the inner end to conform to the rounded tip end of the lower part a^1 of the bunch-holder, so as to permit the wrapper to be nicely curved for forming the tip of the cigar.

Instead of the oscillating or vibrating knife, a revolving curved knife may be employed, and, instead of the spring-regulator for determining the length of the cigar, one or more washers or other suitable devices may be employed.

The operation is as follows: The bunch being properly prepared, the foot-treadle B^2 is depressed, which raises the upper part a^2 of the bunch-holder E. The bunch is then placed in the lower part a^1 of the bunch-holder, resting on the narrow belt I, and the upper part is lowered. The paste-holding cylinder having been properly charged, motion is imparted to the shaft C by means of the foot-treadle B^4, and the pitman c^2 to the gear-wheel p, through pulleys e and k'. This gear-wheel imparts motion to the wheels p^1 and p^2, and thus to the shaft G^2, and it, by the cogs or cams, to the bent arm G and knife G^1. The gear-wheel p at the same time imparts motion to the wheel p^2, and it to the lower pressure-roller K, and by the pinion p^3, on the opposite end of shaft k, to the upper pressure-roller K^1 by the wheel p^4. The revolution of the pressure-rollers K K^1 causes the endless narrow belt I to be moved around in and to pass through the bunch-holder E, and this causes the bunch to revolve to be wrapped. The wrapper is spread or played out over the table L until it reaches the rounded end of the same, when the knife cuts off the surplus tobacco. The heel of the foot-treadle B^4 is depressed at the proper time, which causes, through the intermediate mechanism, the pawl o^1 to engage with the teeth of the ratchet-wheel o, turning the same. This, by means of its screw-threads on the piston-rod H′, forces the piston-head farther into the paste-holding cylinder, and causes the paste to pass out through the exit-pipe n to the tip end of the cigar, which finishes the operation. The upper part a^2 of the bunch-holder is then again raised and the cigar removed.

The advantages of my machine are, that it is very simple in its construction; easily and readily manipulated; it gives a very perfect, neat, and uniform finish to the cigars, and they may be varied in shape as may be desired; it can be operated by foot, steam, or other motive power; it can be made of any suitable material; a very important advantage is, that less wrapping material is required than by hand; and unskillful labor can be employed in making the cigars.

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

1. In a cigar-making machine, a bunch-holder, E, provided with a lip, b', and rounded end, as shown, and for the purpose specified.

2. In a cigar-making machine, an oscillating curved knife, G^1, in combination with a bunch-holder provided with a lip, b', and rounded end, substantially as shown, and for the purpose described.

3. The improved regulator N, composed of the guide or holder m, screw-rod m^2, regulator-head m^1, nut m^3, and spring m^4, in combination with a cigar-mold, as described.

4. In a cigar-making machine, the adjustable gage, M, in combination with the narrow shiftable belt I and bunch-holder E, substantially as shown and described.

5. In a cigar-making machine, one or more removable bands, M^1, applied to the loose cylindrical roller D^2, as and for the purpose set forth.

6. In a cigar-making machine, the removable table L, provided with the curved inner end, in combination with the bunch-holder E, provided with a lip, b', arranged substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

FREDERIC HAEHNEL.

Witnesses:

TH. D. MAYER,

SAML. C. MILLS.