2 Sheets—Sheet 1.

F. HAEHNEL.

CIGAR-MACHINE.

No. 188,893. Patented March 27, 1877.

Fig. 1.

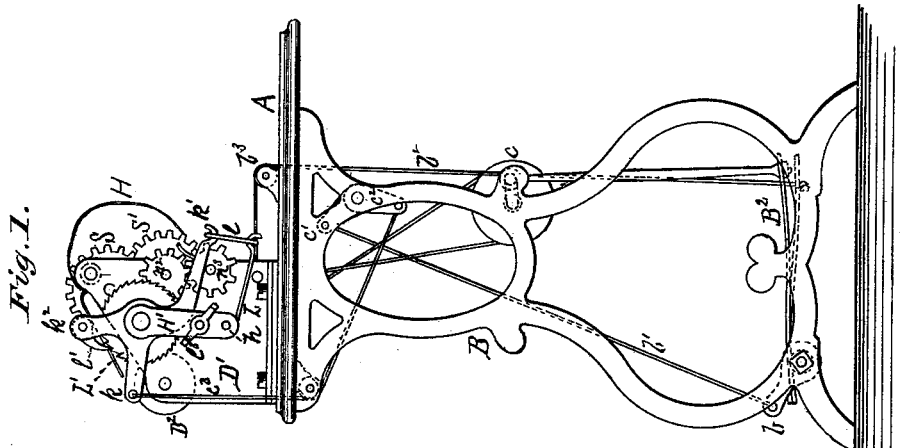
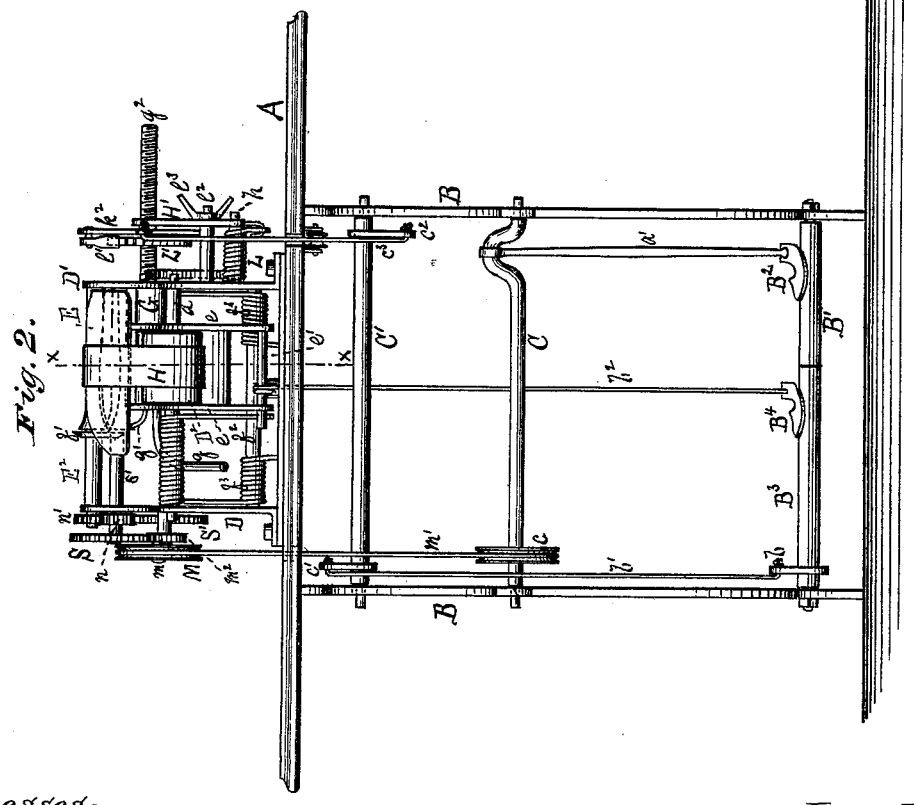


Fig. 2.



Witnesses:
John Dennisy.
John A. Jones.

Inventor:
Frederic Haehnel.
per Edwin James.
Attorney.

2 Sheets—Sheet 2.

F. HAEHNEL.

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No. 188,893. Patented March 27, 1877.

Fig. 3.

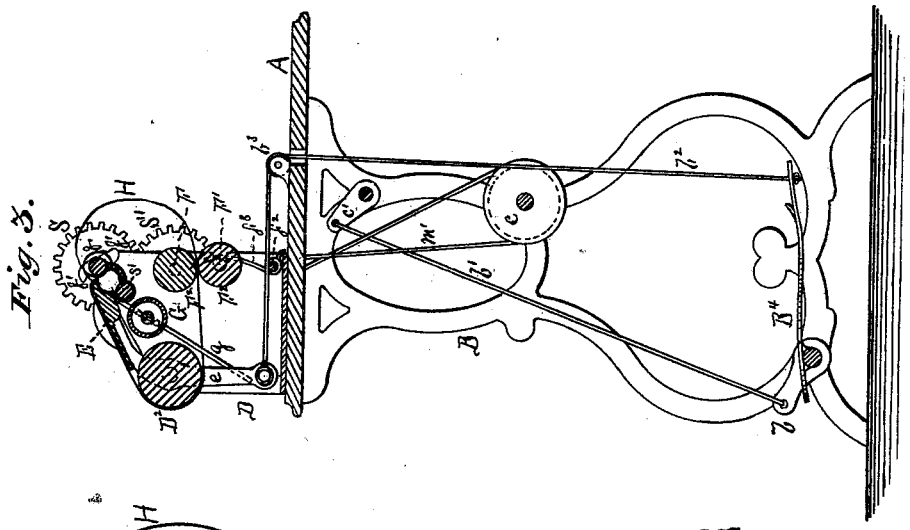


Fig. 4.

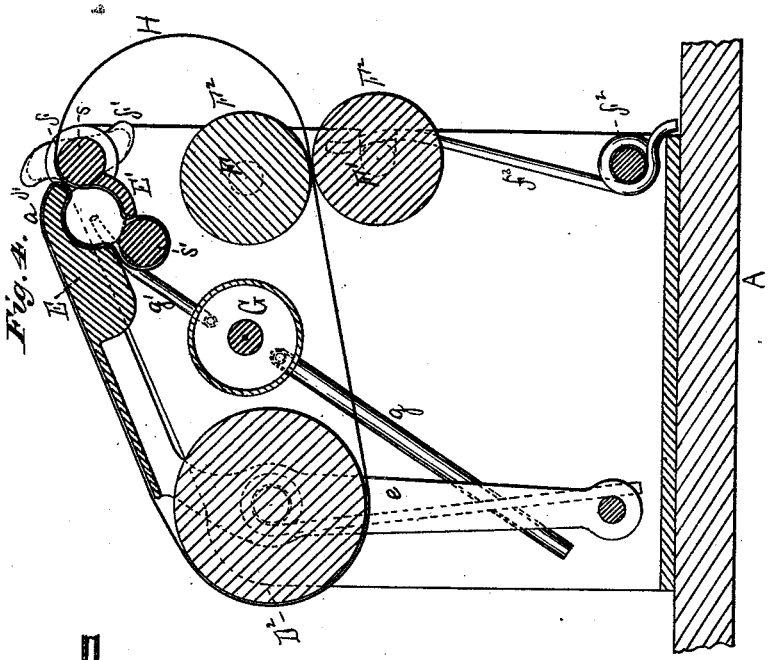
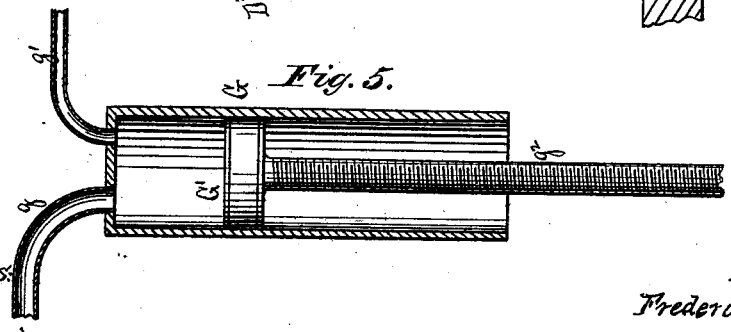


Fig. 5.



Witnesses:

John Dennis.

John R. Jones

Inventor:

Frederic Haehnel.

per Edwin James.

Attorney.

UNITED STATES PATENT OFFICE.

FREDERIC HAEHNEL, OF NEW ORLEANS, LA., ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY NORMAN, OF SAME PLACE.

IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. **188,893**, dated March 27, 1877; application filed March 21, 1877.

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 Improvements in Cigar-Making Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a side view. Fig. 2 is a front view. Fig. 3 is a vertical sectional view on the line *x x*, Fig. 2. Fig. 4 is an enlarged view of the mechanism for wrapping and finishing the cigar. Fig. 5 is an enlarged detached view of the paste-holding cylinder.

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

My invention relates to constructing a covered bed or holder in which the bunch is contained when the wrapper is to be put on and the cigar finished, said bed and its cover, when put together, being, in contour, in the form of the cigar, as hereinafter described and claimed.

My invention also relates to the employment of a narrow loose endless belt in connection with the covered bed, said endless belt passing around one or more pulleys and between pressure-rollers, as more fully hereinafter described and claimed.

My invention also relates to the construction of a cylinder to contain the paste, said cylinder being located in such position that a pipe leading from one end of the same shall convey the paste to the tip end of the cigar, and being operated by means of a screw piston-rod and head, as more fully hereinafter described.

My invention also relates to securing to a revolving shaft journaled in the upper section of the machine a knife whose purpose is to cut off the wrapper when an excess is used. This knife is located at the end of the covered bed or bunch-holder, where the tip end of the cigar lies.

My invention further relates to a novel arrangement of mechanism whereby the cigar is wrapped and finished, as more fully hereinafter described.

The construction and operation of my invention are as follows:

A is the bed-plate of the machine, which is seated upon standards B B. In the lower section of these standards, and in the front portion thereof, there is journaled a shaft, B^1, to which is secured the treadle B^2. On one section of this shaft B^1 is secured a sleeve, B^3, to which is secured a treadle, B^4, and an arm, *b*. At or about midway between the shaft B^1 and the bed-plate A is journaled the main shaft C, to which is secured, at one end, a grooved pulley, *c*. At the other end this shaft is so bent that, through its pitman-rod connection with the foot-treadle B^2, motion is imparted to the different parts of the machine. C′ is another shaft, which is journaled in the standards B B, and in the upper section thereof. To this shaft are secured the arms c^1 c^2. The arm c^1 is connected with the arm *b* by means of the cord or belt b^1. D D^1 are uprights, which are secured to the bed-plate A, and on top thereof. In the front of these uprights D D^1 is journaled a shaft, *d*, on which is placed the pulley D^2. The frame which carries the cover of the bunch-holder is also secured to this shaft *d*, and consists of two bent plates, *e e*, connected at their lower ends by a rod or bar, *e′*, one end of which extends out a short distance beyond the plate. Between these plates is placed the pulley D^2.

To the upper section of the plates *e e* is secured the cover E of the bunch-holder, which is slightly curved at the end where the tip of the cigar lies, as shown in Fig. 2, to conform to the contour of the cigar. Around one end of this shaft *d* is passed a coil-spring, one end of which is fastened to the upright D, while the free end presses against the extension of the bar *e′*. The purpose of this spring is to keep the cover E in position. This bar *e′* is connected with the treadle B^4 by means of the cord or belt b^2, which passes over the pulley b^3. In the rear of these uprights D D^1 are journaled two revolving shafts, F F^1, to which are secured pressure-rollers F^2 F^2. To the

rear and upper section of these uprights are secured two shafts, s s', upon one end of which rests the tapered bed E^1 of the bunch-holder, as clearly shown in Fig. 4. To the upper one, s, of the shafts is secured a revolving sleeve, E^2, to one end of which is attached the knife f, having two blades, f^1 f^1, whose object is to cut off any surplus wrapper. To the lower section of these uprights, and beneath the shaft F^1, is a shaft, f^2, around each end of which is coiled a spring, f^3, one end of which is secured to the bed-plate A, while their free ends constantly press against the shaft F^1, thus keeping the roller F^2 always in direct contact with the other roller F^2. G is the cylinder for containing the paste. One end of this cylinder is open, while at the other end are secured two pipes or tubes, g g^1. The pipe g is designed for filling the cylinder, while the pipe g^1 conveys the paste to the tip end of the cigar. For this reason the cylinder must be located in such position in the machine that the free end of the pipe g^1 shall be immediately in contact with that portion of the bunch-holder where the tip end of the cigar lies, as shown in Figs. 3 and 4. Through the open end of this paste-holding cylinder is inserted the piston-head G′, on whose rod g^2 are cut screw-threads. H is a narrow loose endless belt, which passes from the pulley D^2 between the pressure-rollers F^2 F^2 over the shaft s, and follows the contour of the bed of the bunch-holder; then around the shaft s' follows the contour of the cover of the bunch-holder back to the pulley D^2. The object of this belt is to keep the bunch constantly revolving while being wrapped and finished. To a shaft, h, attached to the upright D^1 is secured a standard, H′. In the upper section of this standard H′ is journaled the piston-rod g^2. To the rod g^2, and between this standard H′ and the upright D^1, is attached a double bell-crank lever. One arm, k, of this lever is attached by means of the cord c^3 to the arm c^2. Another arm, k^1, of this lever is attached, by means of a hooked wire, l, to the free end of the spring L, which is coiled around the shaft h, being fastened to the upright D^1. The other arm, k^2, of this lever has pivoted to its end a pawl, l^1, which engages in the teeth of the ratchet-wheel L′. This ratchet-wheel L′ has screw-threads cut in its center opening, which engage with the screw-threads cut on the piston-rod g^2.

l^2 is another short shaft secured to the upright D^1, which passes through a hole in the standard H′. This shaft l^2 has screw-threads cut on its outer end, and secures the standard H′ in position by means of the nut l^3. To the end of a short shaft, m, attached to the upright D, is secured a grooved pulley, M. This pulley is connected, by the cord or belt m^1, with the grooved pulley c. On this shaft m, and between the pulley M and the upright D, is secured a pinion-wheel, m^2. This pinion-wheel m^2 meshes with a gear-wheel, S, which, with the pinion-wheel n, is secured to a revolving sleeve attached to the extension of the shaft s'. This pinion-wheel n meshes with the pinion-wheel n^1, secured to the extension of the sleeve E^2, which carries the knife f, and also with the gear-wheels S′ secured to the extension of the shaft F. On the extension of this shaft F, and outside of the upright D^1, is secured a pinion, n^2, which meshes with a pinion, n^3, secured to the extension of the shaft F^1.

The operation is as follows: The bunch being properly prepared, the foot-treadle B^4 is depressed, which, by means of the cord b^2, raises the cover E of the bunch-bed. The bunch is then placed in the bed E^1, resting on the belt H, and the cover lowered. The paste-holding cylinder G, having been properly charged and placed in position, motion is imparted to the main shaft C, by means of the foot-treadle B^2 and the pitman-rod a'. The motion imparted to this shaft C is communicated, through the pulley c and belt m^1, to the pulley M, and, through the pinion m^2, to the gear-wheel S. This gear-wheel S, through its pinion n, imparts motion to the pinion n^1, and, through it, to the knife f. This pinion n, at the same time, imparts motion to the gear-wheel S′, which revolves the shaft F, carrying the upper pressure-roller F^2, motion being imparted to the shaft F^1, carrying the lower pressure-roller F^2, by means of the pinions n^2 n^3. This revolution of the pressure-rollers F^2 causes the endless narrow belt H to be moved around in the covered bed E E^1, and this causes the bunch to revolve, wrapping the cigar-cover. The cigar cover or wrapper is played out over the rounded edge a of the cover of the bunch-bed until it reaches the tip end of the same, when the knife f cuts it off. Then the heel of the foot-treadle B^4 is depressed, which causes, through the intermediate mechanism, the pawl l^1 to engage with the teeth of the ratchet-wheel L^1, turning the same. This, by means of its screw-threads and the screw-threads cut on the piston-rod g^2, forces the piston-head G′ farther into the paste-holding cylinder, and causes the paste to pass out through the exit-pipe g^1 to the tip of the cigar, which finishes the operation. The cover E is then again raised and the cigar removed.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a cigar-making machine, the loose belt H, in combination with a bunch-holder, E E^1, which conforms to the contour of the bunch or cigar, while the narrow belt rotates the same, substantially as described.

2. In a cigar-making machine, the paste-holding cylinder G and an intermittingly-working piston, having an exit-pipe, g^1, said cylinder located as specified, in combination with a covered bed or bunch-holder, E E^1, and narrow belt H, substantially as described.

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3. The combination of the bunch-holder E E^1 and narrow belt H, the movable part E of the holder having a rounded end, as and for the purpose set forth.

4. The independently-rotating knife *f*, located as specified, in combination with the bunch-holder E E^1, and narrow belt H, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of March, 1877.

FR. HAEHNEL.

Witnesses:
EDWIN JAMES,
J. W. HAMILTON JOHNSON.