No. 689,057. Patented Dec. 17, 1901.

H. H. H. BOBIN.

CIGARETTE MAKING MACHINE.

(Application filed Dec. 20, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1

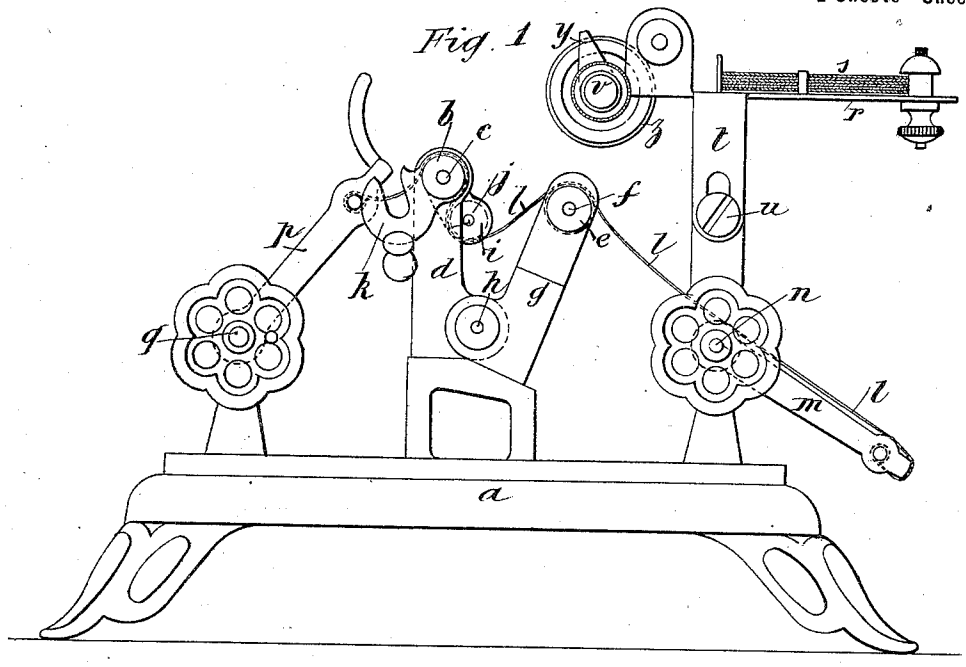
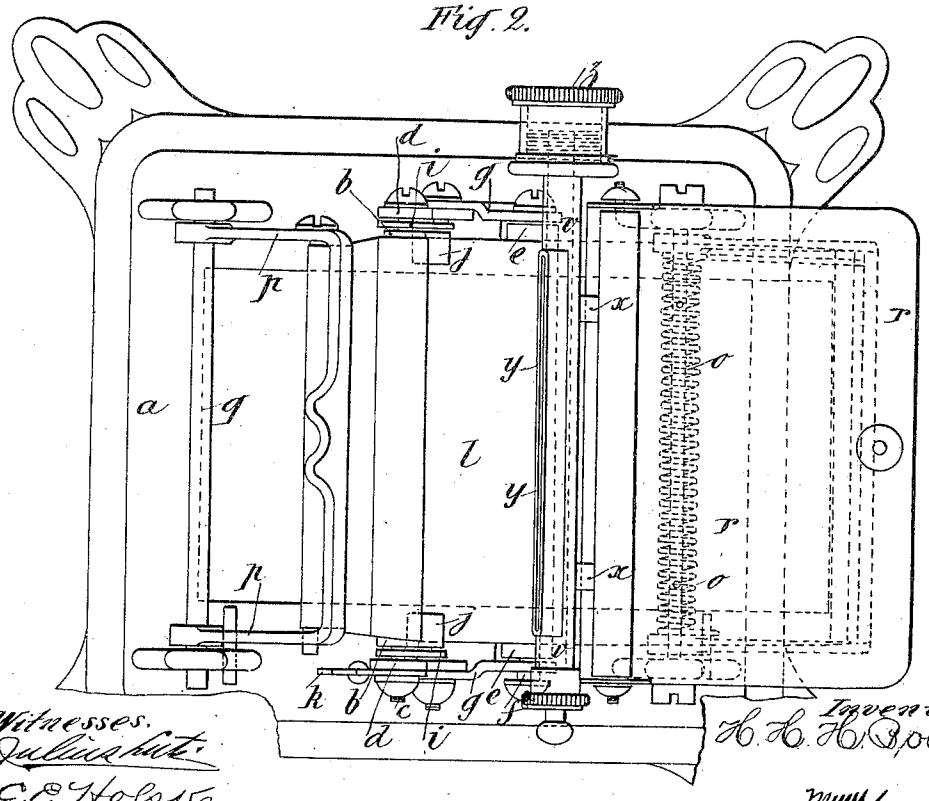


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

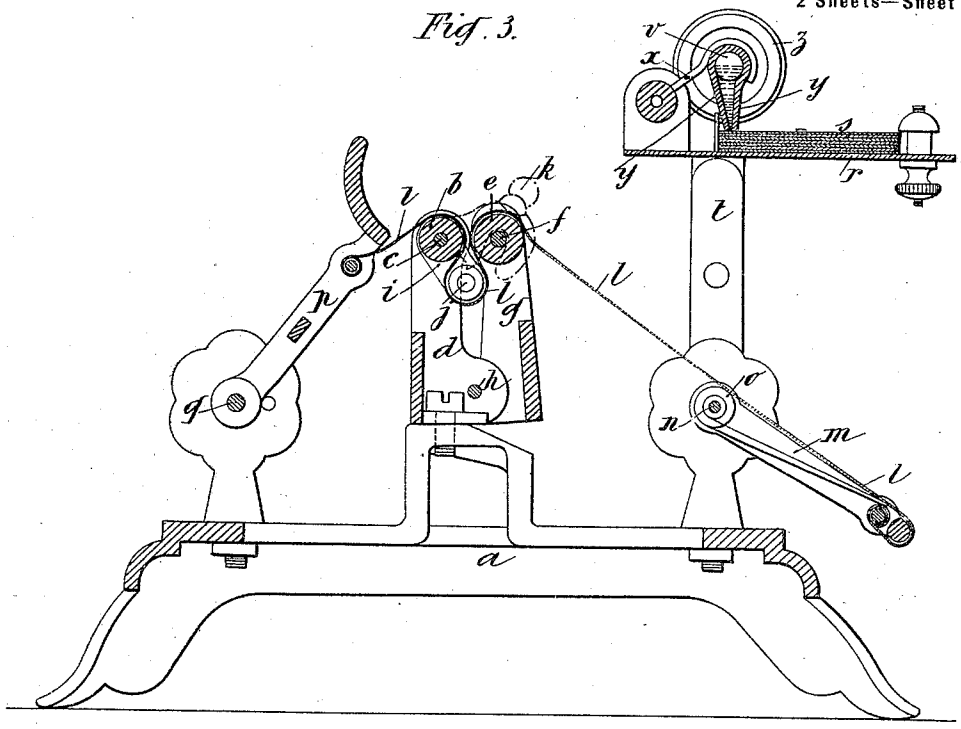
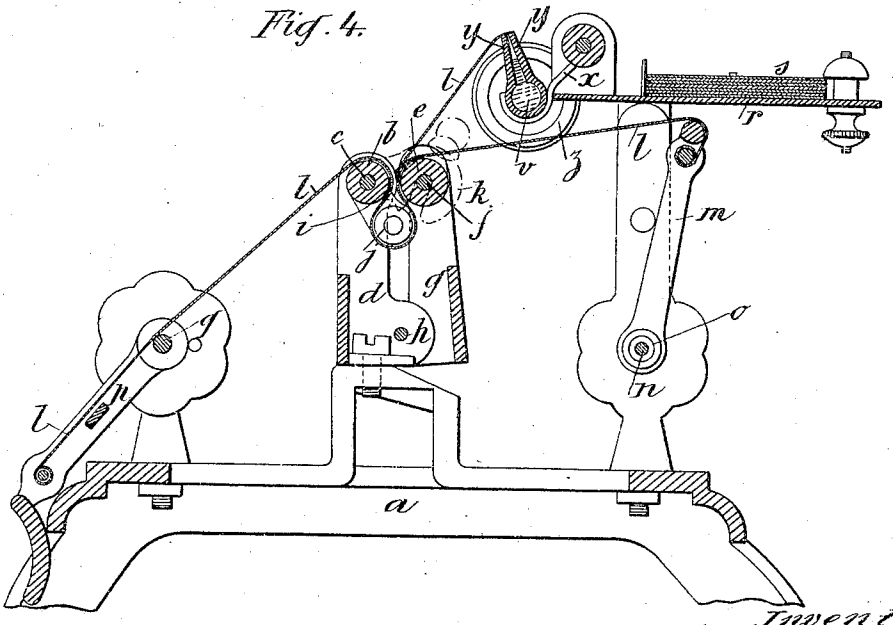


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRI HILAIRE HIPPOLYTE BOBIN, OF PANTIN, FRANCE.

CIGARETTE-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 689,057, dated December 17, 1901.

Application filed December 20, 1899. Serial No. 740,997. (No model.)

To all whom it may concern:

Be it known that I, HENRI HILAIRE HIPPOLYTE BOBIN, engineer, of Rue de Paris, Pantin, France, have invented a certain new and useful Cigarette-Making Machine, of which the following is a full, clear, and exact specification.

This invention relates to a machine for making and finishing cigarettes.

Referring to the annexed drawings, Figure 1 is a side elevation of the machine. Fig. 2 is a plan view of the same. Fig. 3 shows it in longitudinal sectional elevation during one stage of working. Fig. 4 is a similar view at a second stage.

This machine consists of two parts, the one intended to prepare the roll of tobacco around which a leaf of paper is to be rolled and afterward to effect the rolling of this paper in order to form the cigarette. The other portion of the machine is intended to gum or fasten the paper leaf and during its transport to put it in a suitable position to be engaged by the previously-mentioned mechanism for forming the cigarette, as will be presently set forth.

The whole is mounted on a pedestal or base *a*.

The portion of the apparatus intended to form the roll of tobacco and to wrap it with the paper sheet comprises a cylindrical roll *b*, mounted on an axis *c*, supported by two fixed arms *d d*. To within a very slight distance of this roll *b* can be brought another roll *e*, mounted on an axis *f*, supported in arms *g g*, pivoted upon an axis *h*. This roll *e* can thus be brought into two positions, one in which it is separated from the roll *b* by a fairly large space, Fig. 1, and the other in which it is applied against this roll *b* or, more exactly, brought to within a very slight distance thereof, as shown on Fig. 3. When the rolls *b* and *e* are brought to their closest position, they can be maintained there by means of a hook *k*. Upon the axis *c* of the roll *b* and to the extremities thereof are pivoted two small arms *i i*, supporting two rollers *j j*, which when the rolls *b* and *e* are applied one against the other are immediately beneath them, Figs. 3 and 4. Around the two rolls or cylinders *b* and *e*, as well as around the rollers *j j*, passes a band, sheet, or apron of linen or other suitable material *l*, fixed at one of its ends to a frame *m*, pivoted at *n* and controlled by a spring *o*. At its other end this band is fixed to a frame *p*, pivoted at *q*. Upon causing this frame *p* to oscillate the band *l* can be moved, which tightens, travels around the rolls *b e* and the rollers *j*, and draws the frame *m*, which is recalled by the spring as soon as the frame *p* is released. This band *l* passes over the rolls *b* and *e* and the rollers *j*, as shown on the drawings. The rollers *j j* cause it to form a perceptibly cylindrical trough. Above this arrangement for shaping the cigarette is placed that for gumming and carrying the leaf of paper. The latter arrangement consists of a plate *r*, upon which are situated the packet of superposed paper leaves or sheets *s*. This plate is supported by two arms *t t*, provided with grooves, wherein are engaged screws *u*, which fix them. The position of the plate *r* can thus be regulated according to the sizes of the paper sheets which it is wished to use. To this plate *r* is fixed the device for coating or pasting each sheet at its edge and for carrying it over to the position in which it is taken by the rolls *b* and *e*. This device comprises a tube *v*, integral with arms *x x*, pivoted to a cross-shaft, and which tube contains the liquid adhesive material in a state of suitable fluidity. This material can issue through a narrow slit formed by two plates *y y*. The tube *v* is closed by means of a stopper or cap *z*. This latter is hollow and screwed in such a manner as to allow the capacity of the paste-tube *v* to be diminished when the supply of liquid has sensibly decreased. The whole is arranged in order that in one of the extreme positions, Fig. 3, which can be occupied by the tube *v* the two plates or strips *y y*, forming the nose or exit by which the paste passes out, are moved to the edge of the leaf to be gummed or pasted, and that in the other position, Fig. 4, the leaf which has been transferred or carried over by the double strip or nosepiece *y y*, to which it adheres, is engaged by the edge opposite to the gummed edge in the small space formed between the two rolls *b* and *e* when they are drawn together.

With this apparatus I proceed to make a cigarette in the following manner: The rolls *b* and *e* being separated, the parts are then in

position shown in Fig. 1. I place within the chamber or cavity formed by the band *l* between the cylinders *b* and *e* and rollers *j* the quantity of tobacco necessary, according to the thickness of the cigarette which it is wished to make. Then I bring the rolls *b* and *e* together, and they are held in such position by means of the hook *k*. An oscillating movement is then imparted to the frame *p*, and the band *l* thus travels upon the rolls *b* and *e* and rollers *j*. By means of this movement the mass of tobacco is formed into a cylindrical roll. The leaf of paper is then arranged in place. I move the gumming or pasting tube *v* in such a manner as to coat a sheet of paper, as previously explained, Fig. 3, then to transfer the sheet and to carry it by its ungummed side into the space between the rolls, Fig. 4. The removal of the cigarette is materially facilitated by swinging the crank-arms *i*, carrying the rollers *j*, which arms may be turned about the axis *c* without affecting the position of the roll *b*. As the rollers *j* engage the ends of the cigarette the latter will be raised out of the bight of the apron *l* by swinging the arms *i* on their axis. By means of the frame *p* the band *l* is then moved, the paper leaf is drawn along and wrapped around the roll of tobacco, and the cigarette is formed very regularly. Upon separating the rolls *b* and *e* it may be withdrawn, and I proceed as before. It will be remarked that these different stages succeed very rapidly and that a single to-and-fro movement of the band suffices to form the tobacco-roll and to wrap it in the paper leaf. The parts being in the position of Fig. 1, the tobacco is inserted, the cylinders, Fig. 3, are brought together, the frame *p* is oscillated and brought to the position indicated on Fig. 4, and the tobacco-roll is then formed, while maintaining the frame *p* so as to prevent the return of the band, the leaf of paper is inserted, the frame *p* is then freed, the band is recalled by the frame *m*, and this movement suffices to wrap the sheet of paper around the tobacco-roll.

I wish to state that the gumming of the paper leaf takes place in the most favorable conditions. In fact, when the nosepiece *y y* is placed upon the paper leaf the fluid paste or gum which is upon the slit of the nosepiece *y y* is squeezed between this and the leaf, and when the leaf is drawn by the band it slips from the nose *y*. This movement assures the renewal of the paste or other medium at the slit of the nosepiece and prevents its thickening at this point.

I do not restrict myself strictly to the details of the construction of the machine which I have just described, and I may modify them in any manner without changing the essential characteristics of the parts set forth.

The arrangement for forming the tobacco-roll and wrapping the same with the paper leaf is not necessarily connected to the gumming and carrying device, and I may use either of these arrangements independently.

The adhesive material employed may be paste, gum, or any of the other media usually used for this purpose, and the paper sheets herein referred to may be made of rice-paper or other substance used for the wrappers or containers of the tobacco rolled to the shape of the cigarette.

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

1. In a cigarette-making machine, an arrangement for coating with paste or gum at one of its edges, a sheet of paper and for bringing it to a position in which it can be seized by its opposite and ungummed edge, consisting essentially of a reservoir-tube mounted upon arms turning around an axis, the liquid adhesive passing from this tube between two strips forming a nosepiece, which strips are so placed that the slit between them rests upon the edge of the sheet to be gummed and carried over, substantially as above set forth with regard to the annexed drawings.

2. The combination with cigarette-forming mechanism, of a pasting mechanism, consisting of a paste-receptacle mounted to swing, said receptacle serving to apply paste to the paper and carry said paper to a position with its unpasted end in position to be taken up by the cigarette-forming mechanism.

3. In a cigarette-machine, the combination of bight-forming rollers and two rocking frames one at each side of said rollers and one capable of an independent movement relatively to the other, with an apron having its ends secured to said frames, and its intermediate portion in contact with said rollers, and a tension device having a tendency to bring one of said frames back to its normal position.

4. In a cigarette-machine, the combination of separable bight-forming rollers and spaced alining short rollers pivoted to one of said bight-forming rollers eccentrically and capable of an independent movement relatively thereto, with two rocking frames, one at each side of said rollers and one capable of an independent movement relatively to the other, an apron having its ends secured to said frames, and its intermediate portion in contact with said rollers, and a tension device having a tendency to bring one of said frames back to its normal position.

5. In a cigarette-machine, the combination of an apron, bight-forming rollers engaged by the apron, and means for operating the apron, with a wrapper-support, and a paste-receptacle supported pivotally in a plane between the wrapper-support and the bight-forming rollers and formed with a nozzle, to take a wrapper from said support and present it in an inverted position to the apron at the bight thereof.

6. In a cigarette-machine, the combination of bight-forming rollers and two movable

frames one capable of an independent movement relatively to the other, with an apron having its ends secured to said frames, and its intermediate portion in contact with said rollers, and a tension device having a tendency to move one of said frames so as to exert a pull on the apron.

7. In a cigarette-machine, the combination of bight-forming rollers, and two movable frames, with an apron having its ends secured to said frames, and its intermediate portion in contact with said rollers, and spaced alining short rollers pivoted to one of said bight-forming rollers eccentrically and capable of an independent movement relatively thereto.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRI HILAIRE HIPPOLYTE BOBIN.

Witnesses:

GUSTAVE DUMONT,

EDWARD P. MACLEAN.