

MULLER & MAJER.
Cigar Machine.

No. 31,518.

Patented Feb. 19, 1861.

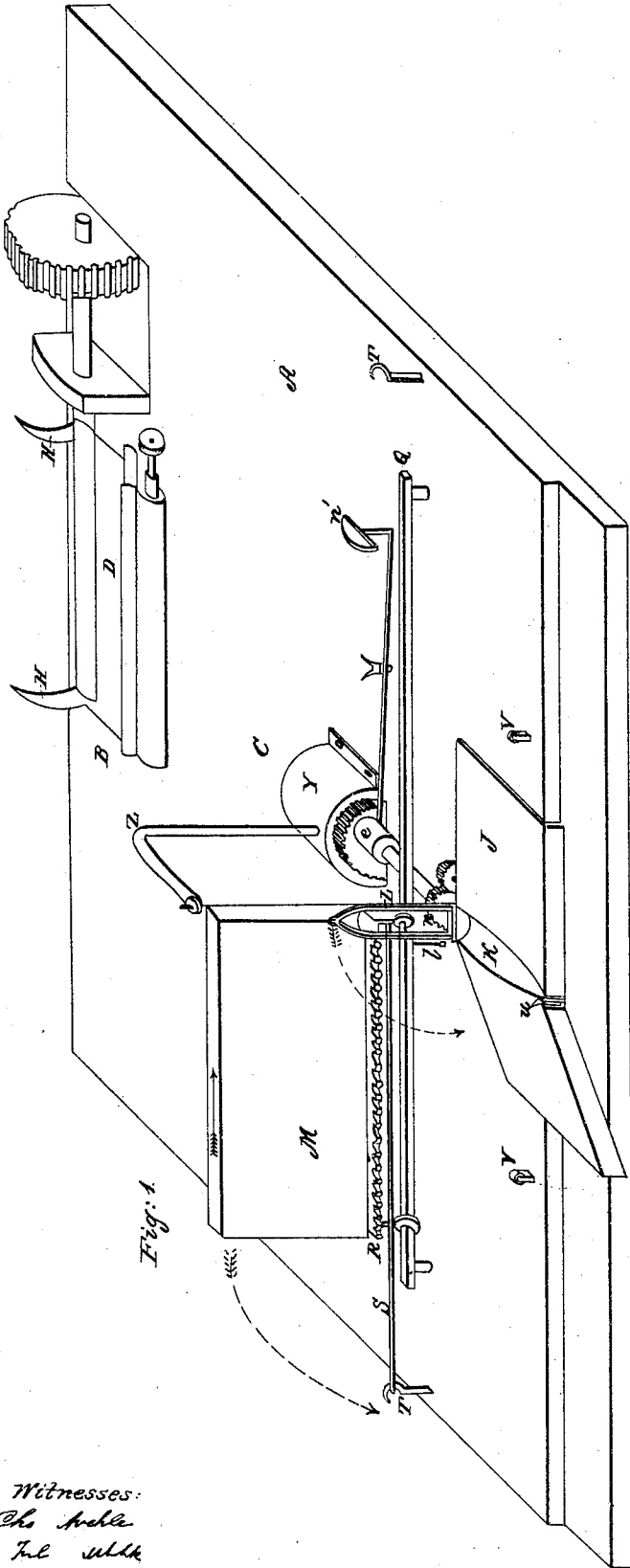


Fig. 1.

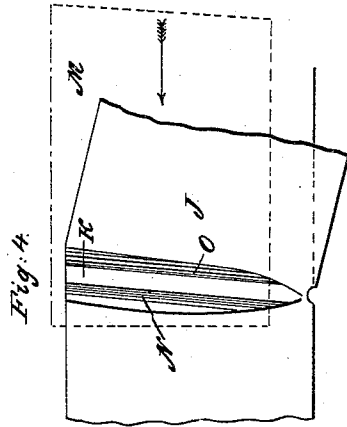


Fig. 4.

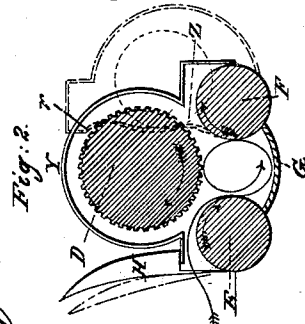


Fig. 2.

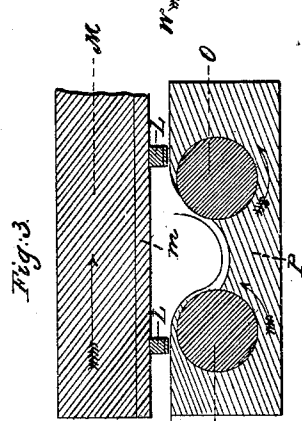


Fig. 3.

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UNITED STATES PATENT OFFICE.

H. MÜLLER AND C. MAJER, OF NEW YORK, N. Y., ASSIGNORS TO THEMSELVES AND FRITZ KASEFANG, ASSIGNORS TO THEMSELVES AND LOUIS BEAUCHE, OF SAME PLACE.

IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. 31,518, dated February 19, 1861.

To all whom it may concern:

Be it known that we, HERMAN MÜLLER and CHARLES MAJER, of the city, county, and State of New York, have invented a new and useful Cigar-Making Machine; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an isometrical projection of the table of the said machine. Fig. 2 is a vertical cross-section of the part of the machine for performing the first part of the operation of cigar-making termed "filling" or "core-making." Fig. 3 is a vertical cross-section of the part of the machine for performing the second part of the operation of cigar-making—namely, the rolling of the outer leaf around the cigar. Fig. 4 is a horizontal projection of the part of the machine represented in Fig. 3.

The same letters of reference mark the same parts in all these figures, and Figs. 2, 3, 4 are drawn on an enlarged scale.

The nature of our invention consists in constructing the apparatus designed for the filling process of rollers and of a concave surface in such a manner that the leaf-tobacco placed in the hollow of these parts will be rolled up and form a proper core by the revolution of the rollers, as hereinafter described; and it also consists in constructing the apparatus designed for the rolling of the outer leaf around the core of a concave surface of rollers, of a fork, and of a plate in such a manner that when the core is placed in the hollow formed by the concave surface and the rollers, and when the strip of the outer leaf is held between the hollow and the fork the said strip of the outer leaf will be roiled or wound around the core by the rotation of the rollers and by the passing of the plate over the cigar, as hereinafter described.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the annexed drawings, A represents the table or plate.

B represents the apparatus for filling or core-making; C, the apparatus for rolling of the outer leaf around the cigar.

D is the upper fluted roller of the filling-machine with an outer cover, Y. This roller is not fixed in its position, but may be turned, as indicated by the red lines in Fig. 2, so as to admit of an opening in which the tobacco is inserted. The lower portion of this apparatus consists of a fixed concave surface, G, and two side rollers, E and F. The spring-catches H H are placed on the apparatus for the purpose of holding down the roller D and its cover Y when the same is closed.

The apparatus for rolling up the outer leaf consists of a thin metallic plate, J, containing the cigar-shaped opening K for the reception of the cigar.

L is the fork with its two prongs, the upper ends of which unite and form a hollow cigar-tip, the said fork pivoted to the table, so that it may be laid flat over the cigar-shaped opening K. The spring *l* is attached to it for the purpose of lifting it from the horizontal position into a vertical one when released from the catch *u*, which holds it during the rolling operation.

M is a plate covered in front with india-rubber or some other soft substance, *m*. Underneath the said plate and parallel with it is fixed a toothed rack, R, which, when the said plate is in a horizontal position, gears into the pinion *n*, placed on the principal axis *e* of the moving machinery, and thereby imparts to the plate M a straight sliding motion, the same being attached to the straight rod Q, secured to the table by two standards, as shown in Fig. 1. An elastic band, S, is fixed on one end to the hook T', (or to T,) and on the other end to the plate M. When the pinion *n* is in motion and the rack R gearing into it, the plate M will be moved to the right toward *n'*, the elastic band S will be strained, and when the plate M arrives at the opposite end it touches the regulator *n'*, which throws the clutches on the axis *e* out of gear, thereby stops the further progress of the plate M, and then the same is thrown upward in its starting position, and is then pulled back to its starting-point by the elastic band S, as the straining of the said band has then ceased. The small rollers V V are placed on the table for the purpose of sustaining the said plate in its

horizontal position during its horizontal motion.

Z is a rod containing a roller on which the plate M rests when the same performs the motion in its vertical position, as in Fig. 1.

a is the handle by which the clutches of the principal axis *e* may be put in gear by slightly pressing the same.

The cigar is made in the following manner: The fluted roller D is moved into the position shown by the red lines of Fig. 2, when the core-making machinery is opened. A bunch of tobacco of the usual size is then inserted into the opening, so that the outside leaf of the bunch W projects from the rollers. The roller D is then closed, the cover Y of the same being held down by the catches H. The rollers D, E, and F are then rotated in the direction shown by the red arrows in Fig. 2, taking hold of the tobacco within and rolling it up and forming a core completely, the knives *r r*, attached to the ends of the cover Y, cutting the bunch on each side to the proper length. The catch H is then drawn back, the apparatus is opened, and the finished core is removed therefrom. The core is then inserted into the opening K, after laying around the same on its lower end the strip X of the outer leaf intended for the finishing part of the cigar, the rest of the said strip lying loosely on the table. The fork L is then turned down and its tip secured by the catch *u*. The outer leaf, X, is now held between the fork L and the horizontal plate J. The plate M is then turned downward and laid horizontally over the fork L, as in Figs. 3 and 4, and the clutches of the axis *e* are put in gear. The moving machinery will then cause the plate M to move and slide horizontally over the core. It will rotate the rollers N and O in the direction indicated by the red arrows in Fig. 3, and thereby the outer leaf, X, will be rolled around the core.

It will be observed that the rollers N and O project somewhat into the hollow K, and that the sliding line of the plate M is not at right angles with the axes of the rollers N or O, but forms therewith an angle of about one hundred and three degrees, which causes the cigar to be shoved toward the tip of the fork, and as a consequence the tip of the cigar is shaped and turned solid on the tip of the core. When the movement of the plate M is completed, the clutches are thrown out of gear, the plate is turned upward, and the india-rubber band draws the plate back again to its starting-point. All the cigars thus made are right-winded cigars. If left-winded cigars are to be made, the plate J is placed in a position, as in Fig. 4, and the plate M is placed and fastened to the right, the regulator *n* to the left, when the leaves will be rolled in the direction opposite to that shown in Fig. 3.

On comparing the movements of the rollers

and of the plate M, as indicated in Fig. 3, with the rolling of the cigars by hand, it will be found that both movements are identical, except that by hand the cigar assumes a rolling and a sliding motion, whereas by this apparatus the rollers N and O substitute a rolling motion only for the same.

We deem it proper to state that the principal difference between the construction of our cigar-making machine and the cigar-making machines hitherto made consists in avoiding in our machine the use of endless bands or their equivalents in the rolling motion given to the bunches of tobacco and to the cores, and the advantages thereby attained are greater perfection of the movements, a better formation of the tips of the cigars, a greater uniformity in rolling up of the cores and the outer leaves, a greater speed, increased simplicity of construction, and the capability of making right-winded cigars and left-winded cigars by the same machine.

The rollers herein used may be made of metal, bone, hard rubber, or any similar hard substance. The concave surfaces P and G are also formed of metal or of some other hard substance, and are fixed as permanently to their respective rollers as the free rotation of the same will admit.

The frame of the machine is not shown on the drawings, nor is the manner of imparting motion from the prime mover to the various parts of the same fully described, as it is not claimed as part of our invention. It is, moreover, in general use in lathes and similar rotating machines, and is sufficiently indicated in the drawings and specification for all practical purposes. The motion may be imparted by a foot-treadle, by handle, by a strap, band, or similar means.

What we claim as new, and desire to secure by Letters Patent, is—

1. The fixed concave surface G, in combination with the rollers E and F, closing-roller D, and knives *r r*, the whole being constructed and operated in the manner and for the purpose substantially as described.

2. The fixed concave surface P, in combination with the two side rollers, N and O, the fork L, and the sliding plate M, the whole being constructed and operated in the manner and for the purpose substantially as set forth.

3. The sliding board M, with its rack R and its soft cover *m* for the roll of the outer leaf, substantially as described.

4. The fork L, with its spring *l* fitting over the cigar during the rolling up of the outer leaf, substantially as described.

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