

G. W. TANNER.

Improvement in Cigar-Machines.

No. 131,474.

Patented Sep. 17, 1872.

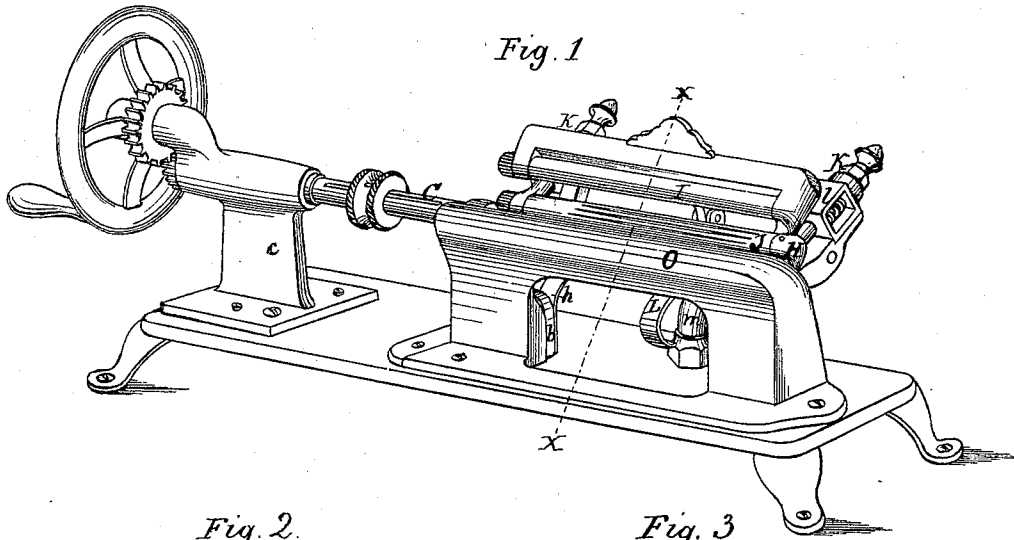


Fig. 2.

Fig. 3.

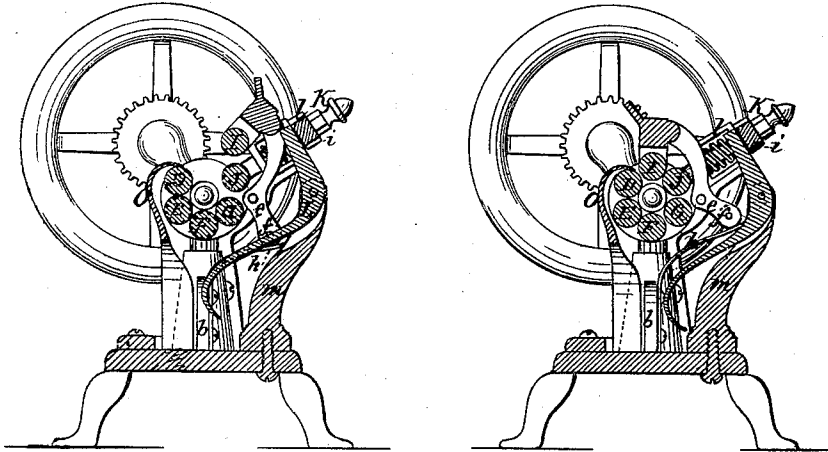


Fig. 4

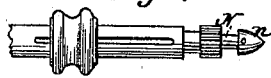


Fig. 5



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UNITED STATES PATENT OFFICE.

GEORGE W. TANNER, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO TANNER CIGAR-MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. 131,474, dated September 17, 1872.

To all whom it may concern:

Be it known that I, GEORGE W. TANNER, of the city and county of Providence, in the State of Rhode Island, have invented a certain new and useful Cigar-Machine.

My invention relates to that class of machines in which rollers without belts are employed; and it consists in a novel combination and arrangement of a series of bed-rollers with two releasing-rollers, which are separately controlled, and in their peculiar arrangement with relation to each other, so that the several functions of mold, binder, and wrapper are practically performed, and with which a perfect cigar may be made, requiring only for its completion that its tuck end be cut or squared off. My invention further consists in certain minor points involving the method of mounting and controlling the top roll or compressor and the auxiliary releasing-roller; and I do hereby declare that the following specification, taken in connection with the drawing furnished and forming a part of the same, is a true and clear description of a machine embodying the several features of my invention.

Referring to the drawing, Figure 1 represents, in perspective, one of my improved machines. Fig. 2 represents the same in transverse section on line *x x*, with the rolls ready for receiving a filler. Fig. 3 represents the same as if a cigar was embraced within the rolls while being made. Fig. 4 represents the gage-rod detached from the machine. Fig. 5 represents the gage-rod in longitudinal vertical section.

The machine is represented as if mounted on a platform supported on legs, and arranged for rigid attachment to a bench or table. The frame of the machine is in two sections, one of which sustains the main driving-shaft and the crank-wheel, which are so geared together as to give two revolutions of the shaft to every turn of the crank-wheel. The other section of the frame supports one end of the driving-shaft in suitable boxes, and the frame in which are mounted the several rollers; this section is composed of two vertical standards, *a* and *b*, cast with the bed, and an end standard, *c*, separately attached thereto; by this latter the adjacent end of the driving-shaft *C* is sustained.

D, *E*, *F*, and *G* denote the bed-rollers of the machine. They are mounted in fixed bearings, which are set on a circumferential line but a little less than a half-circle. The ends of each roller adjacent to the end of the driving-shaft are provided with pinions, which mesh with the driving-pinion on the main shaft. The opposite ends are mounted in bearings adjacent to the butts of several horn-shaped fingers *H*, the inner surfaces of which are curved so as to form continuations of the inner line of each roll toward a common center and give to the interior space embraced by them and the rolls the character of a mold for properly shaping the cigar. *I* denotes the removable top or compression roller. It is mounted in a frame of its own, which is pivoted to the main roller-frame at each end adjacent to the roller-bearings. Projecting beyond the pivots are two arms, *e*, in which are mounted the two friction-rollers *f*. The top roller is controlled by the double-acting flat springs *h*, which are riveted to the rear of the standards *a* and *b*, of which *b* only is shown in drawing, and extend upward, curving off to the rear. These springs are so set with relation to the friction-rollers *f* that they will not only hold the roller to its work under pressure, but also hold it back when access to the bed-rolls or molding space is required. *J* denotes the releasing-roller. It is mounted in bearings attached to an auxiliary frame, *K*, which consists of a main bar, *i*, and two spindle-shaped ends. These spindle ends pass through arms *l* on the main roller-frame, and are embraced within expansive spiral springs, so set against the arms *l* as to constantly hold the releasing-roller in proper working relation with the bed-rollers. At the rear of the bed-plate, midway between the main-frame standards, is an auxiliary standard, *m*, which sustains, by a pivoted joint, a trigger-lever, *L*, the upper end of which is pivoted to the main bar *i* of the auxiliary frame *K*. By drawing the lower end of the trigger-lever forward the frame *K* and the releasing-roller are forced back out of their working position, but can be so retained only so long as the drawing force is applied to counteract the force of the spiral springs which control them. *N* denotes a gage-rod, substantially like that patented by me July 25, 1871.

O denotes the smoothing-plate, which extends along the front of the bed-roller D, on which the wrapper is smoothed as it is fed in from tuck to tip. In this instance it is so constructed as also to form a part of an ornamental face-plate for the main roller-frame.

In making a cigar with my machine, the top roller is thrown back and held in that position by the springs *h*. A sufficient quantity of tobacco is straightened by hand and inserted within the mold-like space within the rolls. As the bed-rollers and the releasing-rollers occupy nearly five-sixths of a circle, the operator can readily deposit the tobacco wholly in the cavity, and, by turning the crank, readily determine whether the tobacco has been properly and evenly distributed, and, if not, he is enabled to correct it, and to add to or take from it, as may prove requisite. The top roller then being brought forward is held in place by the springs *h*. A few turns of the crank serve to give the filler a generally cylindrical form. A piece of leaf suitable for a binder is inserted between the bed-roll D and the top or compressing roll, near their geared ends, and while inclined toward the right the crank is turned, which will evenly apply the binder as it is fed in. Before the binding is completed the gage-rod is so set up as to cause the filler to be properly advanced toward the right and fill it out at the tip, and then the binder is wholly drawn in. The wrapper having been cut in proper shape is inserted and applied substantially like the binder, except that special care should be taken to have it draw evenly and truly over the smoothing-plate. Just before the tip end of the wrapper is drawn in it is properly provided with sufficient paste or gum to secure proper adherence at the point of the cigar. A few turns of the crank then secures the proper molding of the cigar, after which the top roll is thrown up, the trigger-lever drawn forward, and the releasing-roll drawn back; and after the gage-rod is withdrawn the cigar may be readily removed.

I am aware that machines have heretofore been constructed in which rolls have been employed in numerous ways; that two semi-circular series of rollers have been combined, equally divided in an upper and a lower frame, the two being pivoted together; that in some machines four rolls have been employed, in one combination of which three were removable; that a series of rolls arranged in a circle and fed from above have been com-

bined with a forcing-rod, as will be found in Letters Patent issued to myself and F. D. Bliss July 26, 1870; that bed-rollers similar to those herein described have been combined with two compressing and simultaneously-removable rollers, as instanced in the patent issued to myself and said Bliss, July 5, 1870; and I am also aware that many other similar instances can be cited. My present machine differs from any other known to me, however, in having the series of stationary bed-rollers arranged to occupy a little less than a full half circle, which, when combined with the movable releasing-roller, constitute a mold occupying, in section, nearly, if not quite, five-sixths of a circle, within which the filler may be deposited, adjusted, revolved, and properly manipulated by additions or subtractions, thereby placing the machine within the practical control of inexperienced operators, who, until accustomed thereto, will be liable to unequally apportion or distribute the tobacco needed for the filler. By having the releasing-roller and the top roller separately controllable the molding-space is not disturbed while the top roll is removed, and the cigar can remain in after the top roll is thrown back, and be examined while being revolved for the purpose of determining as to whether or not it has been properly rolled. By my peculiar and novel arrangement of the releasing-roller and the top roll the machine is rendered exceedingly simple, effective, and practicable.

Having thus described my invention, I claim as new, to be secured by Letters Patent—

1. The combination of the series of bed-rollers arranged to inclose a longitudinal mold-like space, which, in cross-section, is equal to or slightly less than a half circle, with the releasing-roller and the removable top roller, each of which is separately controlled by means substantially as described, for the purposes specified.

2. The top roller I mounted in the pivoted swinging frame, in combination with the double-acting springs *h*, substantially as and for the purposes specified.

3. The auxiliary releasing-roller J, mounted in a sliding frame, and controlled by springs, in combination with the trigger-lever L, substantially as and for the purposes specified.

GEORGE W. TANNER.

Witnesses:

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