(No Model.) 2 Sheets—Sheet 1.

F. E. PELLANT.

CIGAR MACHINE.

No. 381,812. Patented Apr. 24, 1888.

Fig. 1.

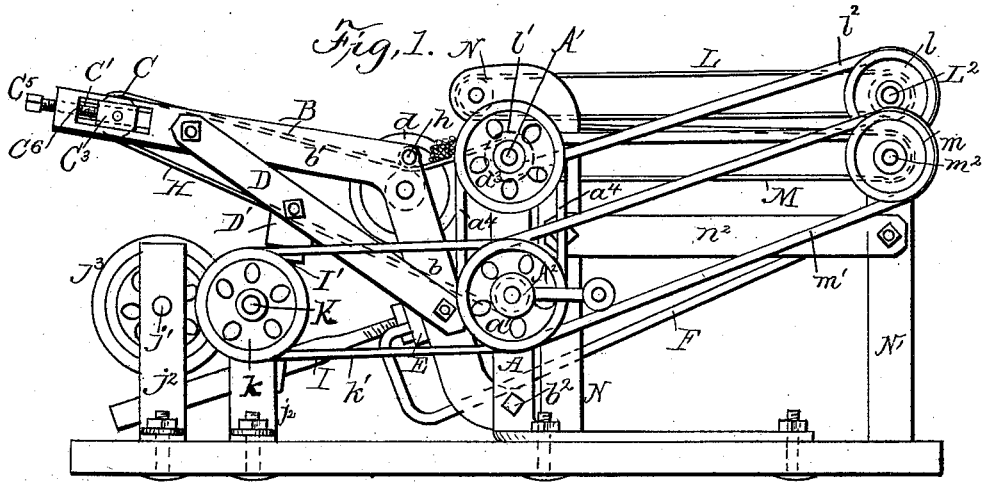


Fig. 2.

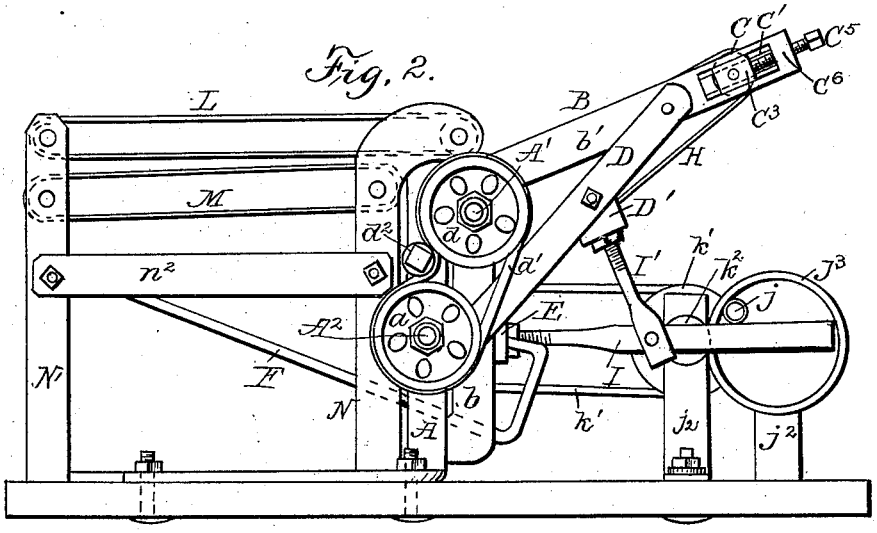


Fig. 6.

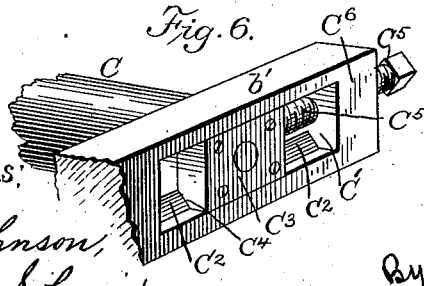
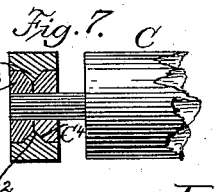


Fig. 7.



Witnesses,
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Inventor,
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By Johnson & Johnson
his Attorneys.

(No Model.) 2 Sheets—Sheet 2.

F. E. PELLANT.

CIGAR MACHINE.

No. 381,812. Patented Apr. 24, 1888.

Fig. 3.

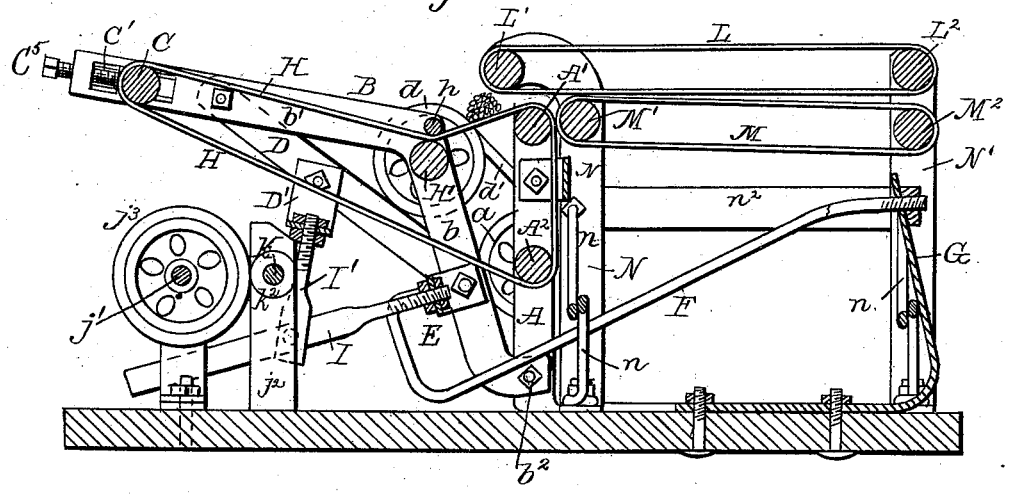


Fig. 4.

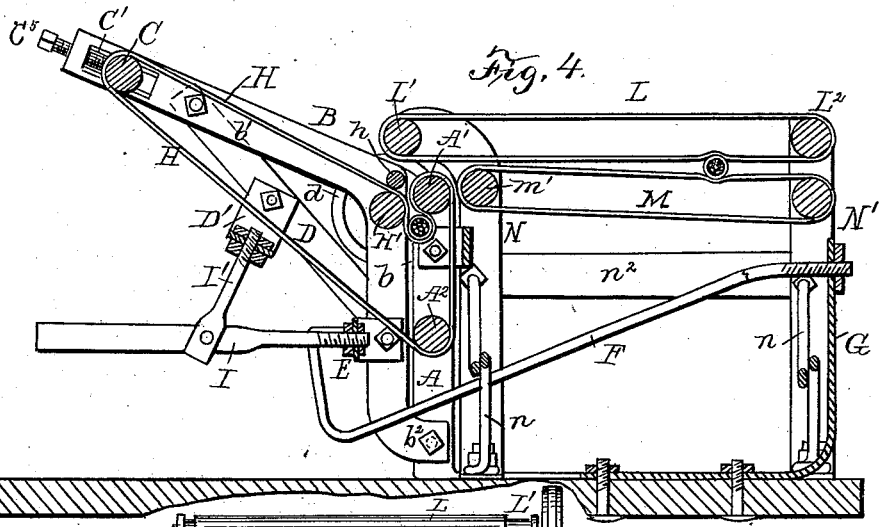
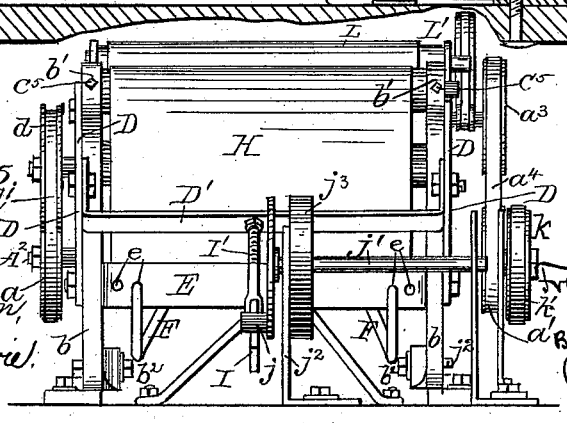


Fig. 5.



Witnesses;
Ella S. Johnson,
Frances L. Cowie.

Inventor;
Frank E. Pellant.
By Johnson & Johnson
His Attorneys.

UNITED STATES PATENT OFFICE.

FRANK E. PELLANT, OF JANESVILLE, WISCONSIN.

CIGAR-MACHINE.

SPECIFICATION forming part of Letters Patent No. 381,812, dated April 24, 1888.

Application filed October 5, 1887. Serial No. 251,530. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. PELLANT, a citizen of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented new and useful Improvements in Cigar-Machines, of which the following is a specification.

This invention relates to machines for bunching, pressing, and wrapping cigars, and has for its object to improve the general structure whereby the efficiency of the machine is increased and its movements rendered more rapid, so that in a certain space of time a greater amount of work can be performed without an increase of attendants. These objects I attain by the simple and novel construction hereinafter set forth, and shown in the annexed drawings, in which—

Figure 1 is a side elevation of a machine embodying my improvements. Fig. 2 is an elevation from the opposite side of the machine. Fig. 3 is a longitudinal vertical-sectional view of the machine, showing the machine with a bunch ready to be wrapped. Fig. 4 is a similar view showing the machine in the position of wrapping the bunch. Fig. 5 is an end view of the machine. Fig. 6 is a perspective detail view of one of the adjustable bearings. Fig. 7 is a transverse sectional view of the same.

The machine is composed of the fixed uprights A, located at a distance apart and having rollers A′ and A^2 journaled between them, the one directly above the other, and the movable frame B, which consists of side pieces having lower portions, *b*, which are pivotally connected at their lower ends, at b^2, with the lower ends of the uprights A, and upper portions, *b′*, which project from the upper ends of the portions *b* in an upwardly-inclined direction, and have bearings for the roller C at their ends. The portions *b* and *b′* are so disposed as to form an obtuse angle between them, which angle is strengthened by braces D bolted at their opposite ends to each of said portions. Said braces are united by a cross-piece, D′, and the lower frame-portions, *b*, are braced by a cross-bar, E, having openings *e* near each end for the reception of the hooked ends of a Y-shaped connection, F, which is adjustably secured to the upper end of the spring G, by which said movable frame B of the machine is normally held close against the fixed uprights A. An endless apron, H, passes around the roller C, down and around the roller A^2, up over the roller A′, thence between the rollers H′ and *h* near the junction of the frame portions *b* and *b′*, and back to the starting-point, and is sufficiently long to form a fold or bunching chamber between the pair of rollers H′ and *h* and the roller A′ when the frame B is tilted toward the uprights, as seen in Fig. 4.

The ends of the upper portions of the swinging frame are formed with longitudinal slots C′, the facing sides C^2 of which are formed into ways V-shaped in cross-section, and bearings or boxes C^3, having V-shaped grooves C^4 in their edges, slide longitudinally in the slots with the grooves fitting and sliding upon the V-shaped ways. These bearings or boxes have the trunnions or ends of the shaft for the apron-roller C journaled in them, and screws C^5 pass through screw-threaded bores C^6 in the ends of the frame portions, and are journaled to revolve freely with their headed inner ends in correspondingly-shaped bores or recesses in the ends of the blocks, so that by turning the screws in the bores the boxes may be adjusted in the slots, adjusting the roller and increasing or decreasing the slack in the apron, as it may be desired.

The journals of the roller A^2 are extended on each side of the uprights and are provided with pulleys *a* and *a′*. The pulley *a* is connected with a pulley, *d*, keyed on an extension of the journal of the roller H′ by an endless belt, *d′*, which latter has its tension regulated by a tightening-pulley, d^2, which is located intermediate of the pulleys *a* and *d*, and journaled to one of the uprights A. The journal of roller A^2, having pulley *a′*, receives rotary motion from any suitable motor, either directly applied to the shaft or journal or conveyed to the same through belts and pulleys or other suitable gearing. The journal of the upper roller, A′, is extended on one side only, and is provided with a pulley, a^3, of a diameter equal to the diameter of the pulley *a′*, to which it is connected by means of the endless belt a^4, so that in the operation of the machine the endless carrier or apron H will pass around two positively-driven pulleys on the fixed part of the machine and one positively-driven pulley on the movable part or frame thereof, as

shown, all of which are driven at the same rate of speed, thus insuring a positive movement of said carrier in the forming, pressing, and wrapping of the cigar.

The movable frame or part of the buncher is automatically actuated by the mechanism now to be described. A trip-bar, I, adjustably connected at its inner end with the cross-bar E, is stayed by an adjustable brace, I′, interposed between it and the cross-piece D′. The outer end of the trip-bar I projects within the path of a crank or wrist pin, *j*, secured to the inner end of a shaft, *j′*, mounted in suitable bearings, j^2. A second shaft, K, provided with a band-pulley, *k*, which is driven from any suitable source of power or part of the machine-driving mechanism, preferably from the pulling-shaft A^2 by means of the band *k′*, imparts motion to the shaft K by suitable gearing, that preferred consisting of the pulleys j^3 and k^2, keyed to the shafts *j′* and K, respectively, and held together in frictional contact. The pulley j^3 is provided with a packing-ring to insure a more positive contact between it and the pulley k^2. The shafts *j′* and K are arranged parallel with each other and with the several pulleys of the machine.

In practice the filling is placed in the slack of the apron between the rollers A′ *h*, the said slack being adjusted by means of the adjustable roller C, according to the size desired for the finished cigar, and the machine will now roll the filling into a cylindrical shape. While the bunch is thus being rolled the binder is placed diagonally upon the apron and is drawn by the same under the small roller *h* and wrapped around the bunch, which thus will be ready to receive the wrapper, which will be wrapped around the finished bunch in the same manner as the binder, being placed diagonally upon the traveling apron and under the small roller. The frame is now opened and the cigar is raised by the tightening of the slack in the apron and is caught by two traveling aprons, L and M, the moment it leaves the bunching-chamber, and is by them rolled round and round in a manner similar to that given by the hand of the workman when rolling the cigar after the wrapper is placed thereon. Said traveling aprons revolve at different rates of speed and in the same direction, and serve to convey the cigar to the rear of the machine, where it is deposited in a receptacle placed in position to hold a number of cigars as completed by the machine. The traveling apron L is supported by rollers L′ and L^2, mounted in the upper ends of the standards N and N′. The traveling apron M is supported by rollers M′ and M^2, likewise mounted in the standards N and N′ at a lower level than the rollers L′ and L^2, so that a small space intervenes between the adjacent portion of the traveling aprons L and M, in which the cigars travel from the buncher to the rear of the machine. The upper ends of the standards N overhang the uprights A, so that the roller L′ is directly above the bunching-pocket, while the roller M′ is adjacent to and in a plane passing horizontally through the roller A′. By this construction the cigar is positively caught between the two traveling aprons the moment it is ejected from the machine, as previously intimated. The journals of the rollers L^2 and M^2 project beyond the standards N′ on the same side, and have keyed thereto pulleys *l* and *m*, respectively. The pulley *m* is connected with the pulley *a′* by means of the endless belt *m′*, and the pulley *l* is connected with a small pulley, *l′*, (seen in dotted lines in Fig. 1,) on the journal of the roller A′ by the belt l^2. The standards N and N′ are strengthened by suitable cross braces, *n*, and side bars, n^2, as shown.

The operation of the machine can be readily understood from the foregoing description, reference being made to the annexed drawings.

What I claim is—

1. In a cigar bunching, pressing, and forming machine, the combination, with fixed standards having rollers journaled between them at different levels, of a frame pivotally connected at its lower end with said standards and having its upper portion extended in a substantially horizontal plane, which portion is provided with a roller at its outer end and a pair of rollers at its inner end, and an endless apron passed between said pair of rollers over the outer roller and around the rollers supported by the standards, and of sufficient length to form a bunching-pocket between the pair of rollers and the upper roller supported by said standards.

2. In a cigar bunching, pressing, and forming machine, the combination of the fixed standards and the rollers mounted therein at different levels and having their journals extended and suitably geared together, a movable frame having a portion extended in a substantially-horizontal plane, a pair of rollers journaled at the inner end of said horizontal portion, a roller journaled at the outer end thereof, a pulley keyed to an extension of one of said pair of rollers, gearing, substantially as described, connecting the pulley with one of the rollers supported by the standards, and an endless apron passed around the several pulleys and between said pair of rollers, substantially as and for the purposes hereinbefore set forth.

3. In a cigar bunching, pressing, and forming machine, the combination, with the bunching mechanism composed of a fixed and movable part normally held closed by a spring, rollers, and belts, substantially as described, of the tripping mechanism for actuating said movable part at fixed intervals, consisting of the trip-bar, the shaft provided with a crank-pin to alternately engage with the trip-bar, and means, substantially as set forth, for imparting motion to said shaft.

4. In a cigar bunching, pressing, and forming machine, the combination, with the bunching mechanism composed of a fixed and movable

part, and the spring for normally holding the movable part closed, and rollers and belts, substantially as described, of the tripping mechanism for actuating said movable part at stated intervals, consisting of the trip-bar, the shaft provided with the crank and having a friction-wheel keyed thereto, a second shaft located at a distance therefrom and parallel with the crank-shaft and having a pulley secured thereto, which is in frictional contact with said pulley on the crank-pin shaft, substantially as and for the purpose described.

5. In a cigar bunching, pressing, and forming machine, the combination, with the bunching mechanism composed of a fixed and a movable part, rollers and belts, substantially as described, of a spring and a Y-shaped connection having its forward ends hooked and connected with said movable part and having its rear ends adjustably connected with the spring, as and for the purpose set forth.

6. In a cigar bunching, pressing, and forming machine, the combination, with the bunching mechanism composed of a fixed and movable part, rollers and belts, substantially as described, and mechanism, substantially as described, for intermittently actuating said movable part, of a pair of traveling aprons located to the rear of said bunching mechanism and arranged the one above the other, and mechanism for moving them in the same direction and at different rates of speed, whereby the cigar after it is ejected from the buncher is rolled and at the same time carried to and dropped into a receptacle placed at the rear of the machine, substantially as set forth.

7. In a cigar bunching, pressing, and forming machine, the combination, with fixed standards having rollers journaled between them at different levels, of a frame pivotally connected at its lower end with said standards and having its upper portion extended in a substantially-horizontal plane and provided with a pair of rollers at its inner end, a roller journaled in longitudinally-adjustable bearings in the ends of the upper frame portion, and an endless apron passed between the rollers at the inner end of the swinging frame, over the outer adjustable roller and around the rollers between the standards and of a sufficient length to form an adjustable bunching-pocket between the pair of rollers and the upper roller in the standards, as and for the purpose set forth.

8. In a cigar bunching, pressing, and forming machine, the combination of the rollers A' A^2, journaled one above the other in fixed standards, the swinging frame B, having the lower portions, *b*, hinged to the standards, and having the upper portions, *b'*, extended in a substantially-horizontal plane, the rollers H' and *h*, journaled in the upper ends of the lower frame portions, the boxes or bearings sliding adjustably in the outer ends of the upper frame portions, the roller C, journaled in the said boxes or bearings, and the apron passed around the rollers A', A^2, C, and H', and under the small roller *h*, and forming a slack portion between the inner rollers when the frame is tilted in, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK E. PELLANT.

Witnesses:
A. M. DAUSON,
M. M. PHELPS.