

F. C. MILLER.

Improvement in Cigar Machines.

No. 122,955.

Patented Jan. 23, 1872.

Fig. 1.

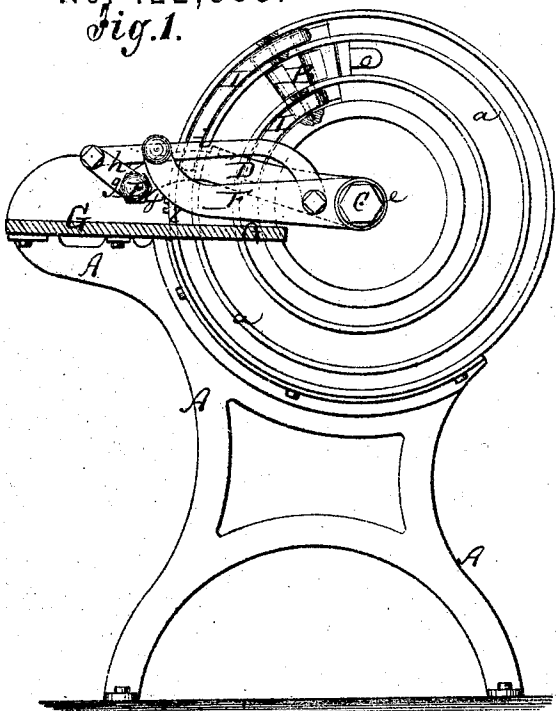


Fig. 3.

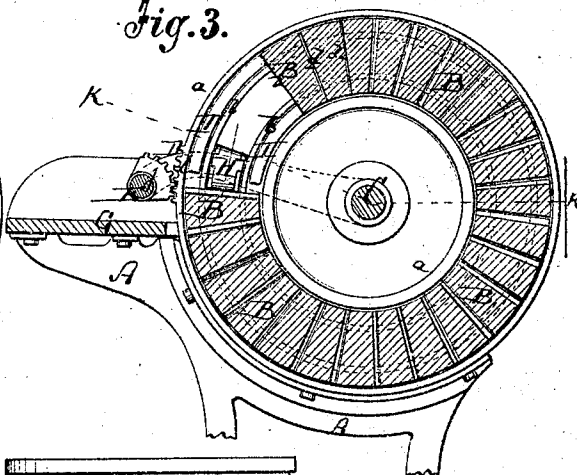


Fig. 4.

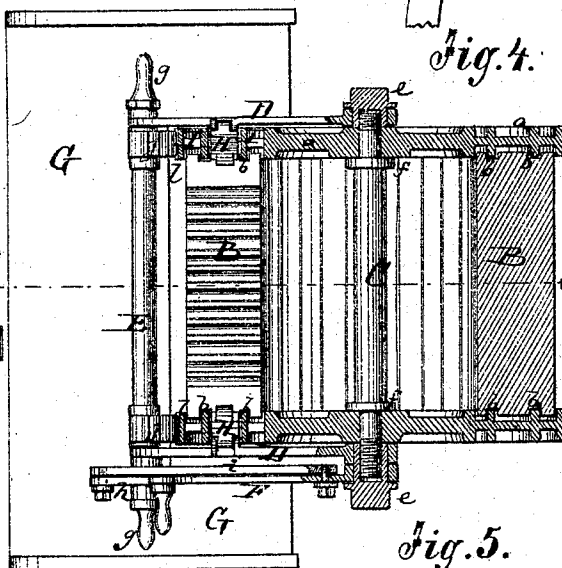


Fig. 6.

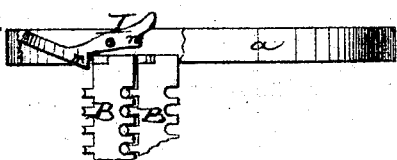


Fig. 7.

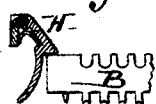


Fig. 2.

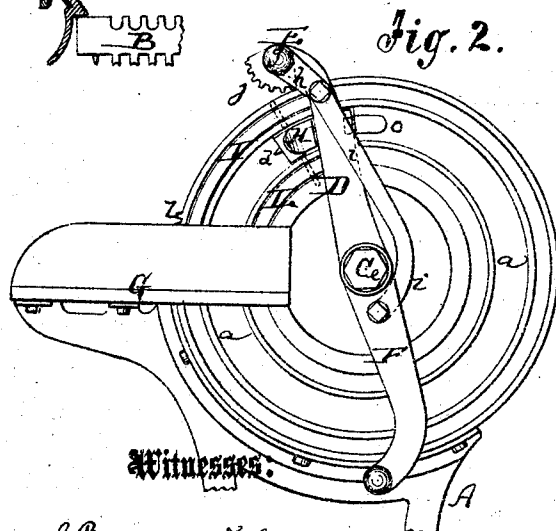
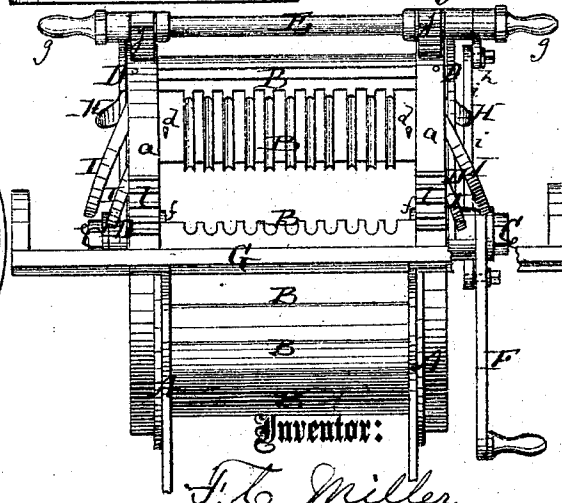


Fig. 5.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CIGAR-MACHINES.

Specification forming part of Letters Patent No. 122,955, dated January 23, 1872.

Specification describing a new and Improved Cigar-Pressing or Molding Machine, invented by FREDRIC C. MILLER, of Cincinnati, in the county of Hamilton and State of Ohio.

Figure 1 represents a side elevation, partly in section, of my improved cigar-pressing and molding machine. Fig. 2 is a detail side view of the same, showing the parts in a different position. Fig. 3 is a vertical transverse section of the same on the line *c c*, Fig. 4. Fig. 4 is a horizontal section of the same on the line *K K*, Fig. 3. Fig. 5 is a front elevation of the same. Fig. 6 is a detail transverse section of the mold-detainer; and Fig. 7 is a detail transverse section of the mold-separator.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for pressing the filling of cigars in molds prepared for their reception; and has for its object to facilitate the rapid manipulation of the molds in order to provide for an economical and perfect production of the cigars.

The molds are arranged in a circular track in considerable numbers, and therein moved, by proper novel mechanism, so as to be brought in line with a table for filling, emptying, and refilling, and then moved around and kept under pressure until again brought in line with the table.

The invention consists in the new manner of arranging the molds, and in the new mechanism for moving and detaining the same, as hereinafter more fully described.

A in the drawing represents the supporting-frame of the machine. Its upper portion consists of two circular heads or plates, *a a*, which are placed opposite each other, in vertical position, like the heads of a cylinder. *B B B* are the molds, or, rather, mold-beds. They are made of wood or equivalent material and placed lengthwise between the heads *a a* to constitute, so to say, the circumference of the cylinder, as in Fig. 3, there being, however, not a sufficient number of such molds to complete the circumference. In cross-section the molds are segmental, as shown. The ends of the molds or mold-beds are grooved to ride on circular rods *b b*, which are formed on the inner faces of the heads *a*, as indicated in Fig. 4. The contiguous faces of the mold-beds are provided with

alternate grooves and grooved projections—*i. e.*, with upper and lower half-molds—in such manner that the grooved projections of one fit into the grooves of the other. Dowel-pins *d d* may be formed on the several molds to fit into sockets of the adjoining molds, and thereby steady their joint motion. *C* is a shaft or center-rod, which connects the two heads *a a* and holds them in their proper position by means of nuts *e e* screwed upon its ends and flanges *f f* that bear against the inner sides of the heads. The ends of the shaft *C* serve as supports for two arms, *D D*, which, at their outer ends, carry a rock-shaft, *E*, that is provided with handles *g* at its ends. The arms *D D* can swing on the shaft *C*, and the shaft *E* can swing or turn on the arms *D*. A shank, *h*, projecting from the shaft *E* is, by a rod, *i*, connected with a hand-lever, *F*, which is pivoted to one end of the shaft *C*. *j j* are toothed segments mounted upon the shaft *E* and adapted to mesh into toothed portions *l* of the circumferences of the heads. *G* is a horizontal table connected with the frame *A* and placed opposite the “cylinder” about on a level with the center of the same. When the molds *B B* are in their working position the first is with its face about flush with or somewhat higher than the table *G*. There is thence a continuous succession of molds around the cylinder until the last is, with its lower face, about forty degrees, more or less, distant from the upper face of the first, as indicated in Fig. 3. Three curved slots are provided in each of the heads *a a*, opposite the portion thus unoccupied by the molds, and perhaps somewhat further. The middle slot serves to admit spring-catches or separators *H* pivoted to the arms *D*. The other slots serve as recesses, wherein the detaining-levers *I I* are pivoted. These latter serve to hold the upper molds in place and prevent them from falling on the first. For this purpose the levers *I* have projecting lugs *m*, as in Fig. 6, on which the upper mold rests, and the shoulders *n* for sustaining the next upper mold while the last is being carried down. When a mold is in line with the table, or nearly so, with its grooved face on top, it is in position to receive the tobacco. When the grooves or hollows have all been filled the shaft *E* is, by means of the handles, carried up into the position shown in Fig.

2. This causes the separators H to pass over the "last" or upper mold and snap against its upper face in the manner indicated in Fig. 7. Meanwhile the retainers I I are, by the arms D, so swung as to clear such last mold, but support the one above. When the shaft E is next carried down by means of the handles at its ends it carries the "last" mold down with it, by the catches H, until the same strikes the face of the first mold. Then the lever F is swung up, turning the shaft E so that its toothed segments *j* roll on the toothed edges *l* of the heads *a*. This will bring the arms D still further down, and cause them, by the catches H, to bring the mold last lowered down into line with the table, or nearly so. Of course, all the molds are thereby moved on their circular track and come as far forward on the top as they are moved down on the bottom. The mold last brought down enters, with its grooved projections, the filled grooves of the molds first mentioned, and presses the tobacco therein in proper manner. The shaft E can next be raised again to bring down another mold, and so forth in continuous succession and without interruption whatever. By the time a filled mold completes the circle of motion the tobacco within it becomes sufficiently set and dry to be immediately provided with wrappers and finished into cigars. *o o* are stops on the outer faces of

the heads *a* to define the upward motion of the arms D and prevent the carrying down of more than one mold at a time.

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

1. The cigar-machine composed of the stationary heads *a a* and a series of molds, B, which move in continuous circular succession between the heads, as set forth.

2. The segmental molds or mold-beds B B, provided with cavities and grooved projections or half-molds on their opposite faces, as specified.

3. The combination of the swinging rock-shaft E with the arms D D and catches or mold-separators H H, as set forth.

4. The toothed segment *j* on the shaft E, when arranged for use, in combination with the lever F, catches H, and molds B, as set forth.

5. The mold-detainers I I, arranged in the slotted heads *a a*, substantially as and for the purpose herein shown and described.

6. The stops *o o* secured to the heads for arresting the upward motion of the arms D and catches H, as set forth.

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Witnesses:

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