EMILE BELOT, OF PARIS, FRANCE.

CIGAR-DUMMY MACHINE.

UNITED STATES PATENT OFFICE.

1,173,087.


To all whom it may concern:  

Be it known that I, EMILE BELOT, a citizen of the Republic of France, residing at 319 Rue de Charenton, Paris, in the Republic of France, engineer, have invented certain new and useful Improvements in Cigar-Dummy Machines, of which the following is a specification.

In machinery where the interior of the cigar is molded in the form of dummies mechanically inserted in wooden molds having a certain number of cells, the work of the machine is confined to rolling the dummy and putting the same into the molds. Afterward the mold provided with its lid is carried to a pressure device which is usually a screw press operated by hand.

The object of this invention is to provide an apparatus whereby to apply such pressure automatically in the machine which has made the dummy so as not to stop the output of the machine.

In the accompanying drawings:—Figure 1 is a side elevation of a part of the cigar dummy machine and of one embodiment of the automatic pressure device mounted on such machine, Fig. 2 being an end view of such device. Fig. 3 shows some members in a position different from that shown in Fig. 1. Fig. 4 is a detail elevation of a modification of the locking device. Fig. 5 is a side elevation of another embodiment of the pressure device; and Fig. 6 is a front elevation.

In Figs. 1 to 3, 1 designates the main frame of the machine, carrying the cam shaft 2 and a spindle 3. By known means, an eccentric pin 4, acting on a pawl 5, moves at each revolution of the shaft 2 one tooth of a rack 6 associated with the plate 7 which carries the wooden mold-block 8. The plate 7 is slideable in a slide-way 9 of the main frame.

The automatic pressure device comprises a fixed plate 10 formed by an extension of the part 9 and connected by a rod 11 with the spindle 3, and a movable plate 12 carried by a spring 13 which is moved upwardly by such members as a stud 14 secured to a ring of the shaft 2 around which swings a link 15 having at its lower end a groove 16 in which is slidable a stud 17 which controls a lever 18-19 swinging around the spindle 3. The end 19 of such lever is so arranged as to lift the spring 13. An arm 20 secured to the plate 10 carries an abutment 21 against which the lever arm 18 abuts on rising and against which the plate 12 abuts on lowering.

To an extension 22 of the plate 10 is jointed a pawl 23 the lower part of which serves to lock a finger 24 carried by the arm 18. The plate 7 is provided with a finger 25 which, at the end of its stroke in the direction of the arrow A, moves the pawl 23 and thus unlocks the lever 18-19.

The operation is as follows:—The mold 8 previously filled and provided with its lid is placed on the plate 12. The plate 7 carrying the mold filled with cigar dummies having been moved to a position toward the shaft 2, as shown in Fig. 1 the machine is set in motion and the shaft 2 makes a revolution in the direction of the arrow B. At the start, the lever arm 18 is in its uppermost position, the pawl 23 is disengaged from the finger 24 (see Fig. 3) and when the link 15 descends it strikes at a given moment the stud 17 of the arm 18 which descends until the finger 24 is locked by the pawl 23, the latter being actuated either by its own weight or by the action of a spring.

The downward movement of the arm produces the upward movement of the arm 19 and hence that of the plate 12 which produces the compression of the mold. The pressure is maintained by the click and pawl 23-24 while the shaft 2 of the machine continues to revolve; at each revolution the pawl 5 swinging on the stud 4 moves a tooth of the rack 6 and advances the plate 8 carrying the mold in the direction of the arrow A. When the pawl 5 strikes the last tooth of the rack, the finger 25 unlocks the pawl 23 and the plate 12 of the press descends under the action of its own weight, which allows of the operator taking out the compressed mold and of putting in its place the mold which has just been filled by the machine. The spring 13 renders the pressure progressive, even after the finger 24 has been locked by the pawl 23.
If the interval between the two plates 10 and 12 allows the superposition of two molds, it is possible to make the pressure on each of them last twice as long.

5. Without departing from this invention different modifications may be made of the embodiment just described; for instance, the stud 17 may be provided with a friction-roller and act directly on the arm 18. In the modification shown in Fig. 4, the pawl 23 and the finger 25 are so modified as to unlock the lever 18-19 on the backward movement of the plate 7 toward the shaft 2; for the purpose, the finger 25 is placed at a suitable point of the plate 7 and the pawl 23 is prolonged upwardly by a stem 23a. The unlocking of the compressing device may also be controlled by hand or foot, the pawl 23 being actuated for instance by means of a puller or treadle.

The device shown in Figs. 5 and 6 comprises a fixed plate 10 associated with the main frame, and a movable plate 12 placed above the latter and guided by means of vertical rods 26; it is subjected to the action of springs 27 tending to lift the same. Above such plate 12 passes a yoke 28 the branches of which are secured to a rotatory spindle 19, to which are jointed two levers 18 swinging on a fast spindle 8. Springs 13 are interposed between the yoke 28 and the plate 12, in order to render the pressure of the latter elastic on the mold-blocks which will be placed on the plate 10. The levers 18 are operated by means of a link 15 coupled to the stud 14 of a crank plate 20 splined on a shaft 30, which is coupled by gear wheels 31, 32 with the cam shaft 2 of the machine manufacturing the cigar dummy's. A groove 16 is provided in the link 15 for the passage of the spindle 17 associated with the levers 18 so as to allow of the latter remaining lowered for a time regardless of the continuous rotation of the stud 14. The frame of the plate supports a rotatory spindle 33 on which are secured a pawl 23 and an arm 23a; the pawl cooperates with a spindle 24 associated with the levers 18 to prevent the lifting of the same after they have been lowered by the link 15. Furthermore, a fixed support 34 is jointed a lever having two arms 35-36, the arm 35 of which bears against the arm 23a and the other arm 36 of which is placed in the path of an abutment piece 29 which moves in association with the slidable plate carrying the mold block of the main machine.

The operation is as follows:-The mold previously filled and provided with its lid is placed firstly on the plate 10, at the time when the plate 12 is lifted, the stud 14 being at the lower part of its stroke. On account of the rotation of this stud the link 15 moves the levers 18 and the latter lower the yoke 28, so that a yielding pressure is made on the mold through the medium of the springs 13 and of the plate 12. When these members reach the end of their stroke, the pawl 23 advances above the spindle 24a; the squeezing is thus maintained during the upward stroke of the stud 14 and until the abutment 23, on reaching the end of its stroke, causes the lever 35-36 to swing and hence the pawl 23. At this time, the springs 27 raise the plate 12 and also the yoke 28 75 and the levers 18. The mold which has been subjected to the compression can then be removed and the mold which has just been filled can be put in its place on the plate 10.

Claims:
1. In a machine for making cigar dummies, a device for pressing dummy molds comprising a fixed plate, a movable plate, a swinging lever, a spring interposed between such lever and the said movable plate, a pawl adapted to engage the said lever, means whereby to move such lever and means whereby to disengage the pawl of the said lever.
2. In a machine for making cigar dummies, a device for pressing the dummy molds comprising a fixed plate, a movable plate, a lever adapted to press the movable plate toward the fixed plate, a pawl for engaging such lever, a slidable plate carrying a mold, and an abutment member on the said slidable plate adapted to actuate the said pawl.
3. In a machine for making cigar dummies, a device for pressing the dummy molds, comprising a fixed plate, a movable plate, a lever adapted to press the movable plate toward the fixed plate, a pawl adapted to engage such lever, a shaft having a crank pin, a connecting-rod having a groove adapted to move the said lever, a slidable 105 plate carrying a mold, and having an abutment projection, and means moved by such shaft for advancing such mold carrying plate, the said abutment projection being adapted to actuate the said pawl.
4. In a machine for making cigar dummies, a device for pressing the dummy molds, comprising a fixed plate, a movable plate, a lever adapted to press the movable plate toward the fixed plate, a pawl adapted to engage such lever, a shaft having a crank pin, a connecting-rod having a groove adapted to move the said lever, a slidable 115 plate carrying a mold, and means moved by such mold carrying plate whereby to actuate the said pawl.
5. In a machine for making cigar dummies, the combination of a shaft of the said machine, a press for the dummy molds, means moved by such shaft to pinch the press, a pawl adapted to maintain the press pinched, a slidable mold carrying plate, and means moved by such mold carrying plate whereby to actuate the said pawl.
6. In a machine for making cigar dummies, the combination of a press, a shaft,
controlling means actuated by such shaft to pinch the said press, such means having a spring interposed therein, by which the pressure is rendered yielding, and click and pawl means for maintaining the press pinched when such controlling means are no longer actuated by the shaft.

In testimony, that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

EMILE BELOT.

Witnesses:
De Witt C. Poole, Jr.,
MAURICE ROUX.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."