(No Model.)

# J. C. GUERRANT.

## TOBACCO PLUG MACHINE.

No. 265,409. Patented Oct. 3, 1882.

Fig. 1.

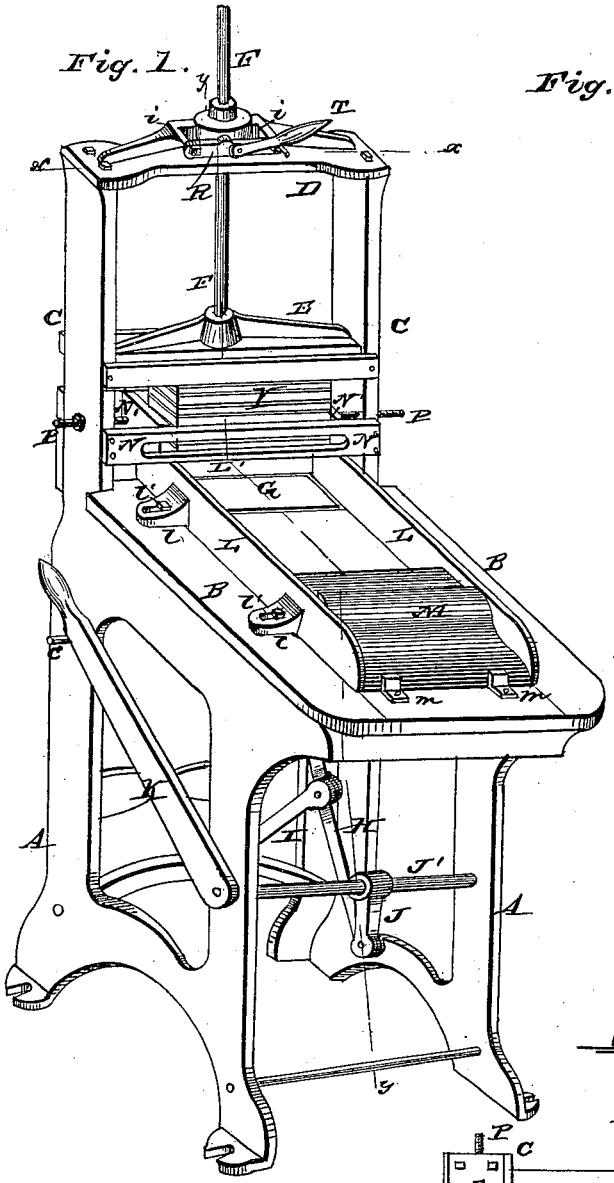


Fig. 2.

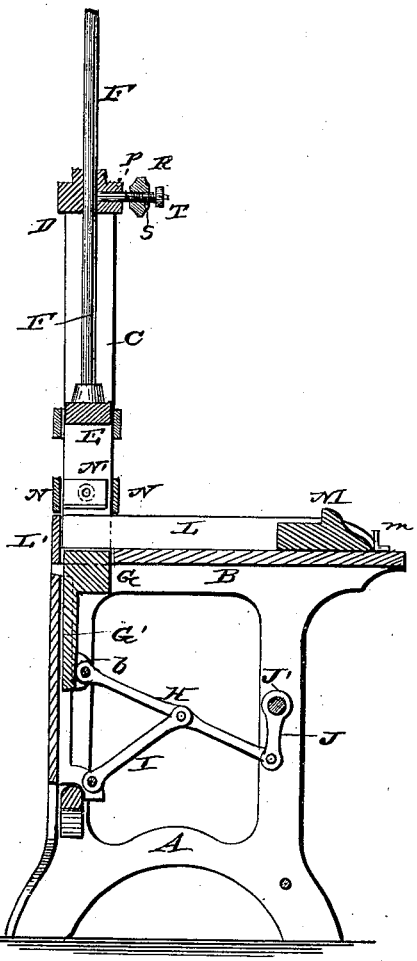
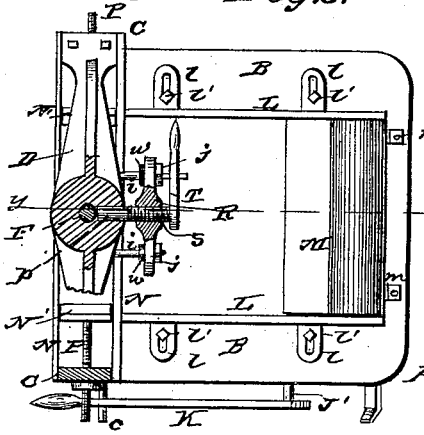


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JOHN C. GUERRANT, OF DANVILLE, VIRGINIA.

## TOBACCO-PLUG MACHINE.

SPECIFICATION forming part of Letters Patent No. 265,409, dated October 3, 1882.

Application filed July 31, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JNO. C. GUERRANT, of Danville, in the county of Pittsylvania and State of Virginia, have invented certain new and useful Improvements in Tobacco-Plug Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a perspective view of my improved machine complete. Fig. 2 is a horizontal section taken in the plane indicated by the dotted line *x x*, looking down upon the table. Fig. 3 is a vertical section taken longitudinally through the machine in the plane indicated by dotted line *y y*, Figs. 1 and 2.

This invention relates to machinery which is designed for compressing tobacco in the manufacture of plugs or lumps; and the nature of my invention and improvements consists in the combination, with an upwardly-acting plunger, of a head which is so connected to the cross-head of the main-frame uprights that the leaf-tobacco, when pressed forward over said plunger, will be compressed into "lumps," as will be hereinafter fully explained.

My invention also consists in the combination of laterally-adjustable cheek-plates on the table of the machine with an adjustable follower, a receiving-box, and compressing devices.

My invention further consists in the combination, with compressing devices, of a frictional yielding head, laterally-adjustable cheeks, and a hand-adjustable follower which is interchangeable with followers of different lengths for the purpose of adapting the machine for lumps of different lengths.

Other novel features of my invention, together with those which I have above named, will be fully understood from the following description when taken in connection with the annexed drawings.

A designates the main frame of the machine, B the horizontal table thereof, and C C uprights which constitute parts of the cheeks of the main frame. The two sides or cheeks are united by transverse pieces, so that a solid, substantial frame is obtained, and the upper ends of the uprights are connected together by a horizontal cross-head, D, bolted rigidly to the uprights. The uprights C C are vertically grooved internally to receive guides *a*, which are connected to a follower or upwardly-movable plunger, G. I use this expression "upwardly movable" for the reason that the active strokes of the plunger G are upward. This plunger is a rectangular block, which is rigid, with a centrally-arranged tongue, G′, that works vertically in guides held by transverse bars of the main frame A. When the plunger G is at the terminus of its bottom or descending stroke its top side or surface is flush, or nearly so, with the surface of the table.

To the tongue G′ of the plunger I pivot, between ears *b b*, one end of a lever, H, which has its fulcrum at *c* on an arm I, rigidly secured to and projecting from the lower stationary cross-bar of the frame A. The front extension of the lever H is pivoted to a vibrating arm, J, keyed to a horizontal rock-shaft, J′, which has its end bearings in the front part of the frame A, and which has made fast on one end a hand-lever, K. By means of this hand-lever the follower or plunger G can be raised or depressed. A stop-lug or stud, *c*, which is fixed into the side of the main frame, as shown in Fig. 1, holds said lever when it and the plunger or follower G are depressed.

L L designate two parallel cheeks, which abut at their rear ends against transverse cross-head L′, and which constitute a hopper or receiver for the prepared leaf-tobacco. The cheeks or side pieces of the hopper have lugs *l* formed on them, through oblong slots of which bolts *l′* pass, that secure the hopper-frame upon the table B. The cross-head L′ is rigidly secured to the table-top, and it may be made adjustable, if desired. It should be in the vertical plane of the rear side of the plunger or follower G.

M designates a hand-slide, which is removable from the hopper, and which, when it is at its back-stroke, abuts against stops *m m*, and gives the hopper its fullest capacity. This slide or block M is interchangeable with blocks of different lengths, according to the lengths required of the plugs or lumps and the distance between the cheeks L L. The prepared leaf-tobacco is put into the hopper when the

plunger is down and the slide M is in the position indicated in Fig. 1. This slide is moved forward by hand, and the loose leaves compressed so as to condense the mass beneath the head E and over the plunger G.

N designates a box, which is composed of parallel plates, the ends of which overlap the front and rear sides of the standards C C, and the ends N′ N′ are adjustable by means of screws and nuts P. This box N is located directly over the plunger G and upon the top edges of the cheeks L L of the hopper, and it is, in fact, the mold or "former" for the loose tobacco, and the device which gives the required shape to the plugs or lumps. The ends or blocks N′ receive against their internal faces angular extensions L′ of the cheeks, which extensions serve as guides for the ends of the plugs compressed in said mold or box.

The head E has a flat bottom face, and it is guided by the uprights C C in its vertical movements. This head E is rigidly secured at the middle of its length to a vertical guide-rod, F, which passes through the central thickened portion of the cross-head D, and is guided thereby. The object of the head E is to resist to a certain degree the upward pressure of the plunger G, and when this pressure exceeds a predetermined amount to slip and allow a plug or lump to assume a position in the pile which I have indicated in Fig. 1 by the letter Y.

On opposite sides of the guide-rod F, and rigid with the cross-head D, are horizontal posts *i i*, having shoulders and screw-threaded portions formed on their ends. On these screw-threaded portions I apply a yoke, R, washers *w*, and nuts, as shown.

T designates a hand-lever, which rests upon a stop-lug, *q*, when it is down, and which has keyed to it a screw, *s*. This screw *s* is tapped through the yoke R, and abuts against the outer end of an endwise-movable plug, *p*, which impinges against the guide-rod F.

By adjusting the nuts *j* and the lever *w* and using washers of suitable thickness the head E can be held so that when a given pressure is brought to bear upward against the plugs of tobacco between the plunger or follower G and said head E the latter will be allowed to slip at each upward impulse of the follower. The tension can be regulated by adjusting the nuts *j*.

In the process of pressing the tobacco I employ thin metal plates, which are interposed between the successive layers of tobacco for the purpose of separating the plugs or lumps and allowing the same to be pressed solidly. The perspective view, Fig. 1, shows a pile of plugs or lumps with the intermediate metal plates.

It is obvious that by the means shown for adjusting the tray or hopper and the mold-box plugs or lumps of various sizes can be produced from loose tobacco in my machine.

Having described my invention, I claim—

1. In a tobacco-pressing machine, the combination of a follower, an adjustable and self-adjusting head, E, a tray or hopper, a slide, M, and a mold-box constructed and arranged to operate substantially in the manner and for the purposes described.

2. In a tobacco-pressing machine, the combination of a hopper or tray having adjustable sides, the slide M, the follower, means for moving the same, the head E, and a mold-box, all constructed and arranged to operate substantially in the manner and for the purposes described.

3. In a tobacco-pressing machine, the combination, with the head E, its rod F, and the cross-head D, of the plug *p*, the screw on the end of hand-lever T, the yoke R, and means for adjusting the latter, substantially in the manner and for the purposes described.

4. In a tobacco-pressing machine, the combination of the hopper or tray, the follower, the head E, and a mold-box having adjustable ends, the said hopper or tray having adjustable sides, all constructed and arranged to operate substantially in the manner and for the purposes described.

In testimony that I claim the foregoing as my own invention I hereby affix my signature in presence of two witnesses.

JOHN C. GUERRANT.

Witnesses:
W. M. RUFFIN,
CHAS. L. HOLLAND.