(No Model.) 2 Sheets—Sheet 1.

W. W. WOOD.

PLUG TOBACCO MACHINE.

No. 301,197. Patented July 1, 1884.

Fig. 1.

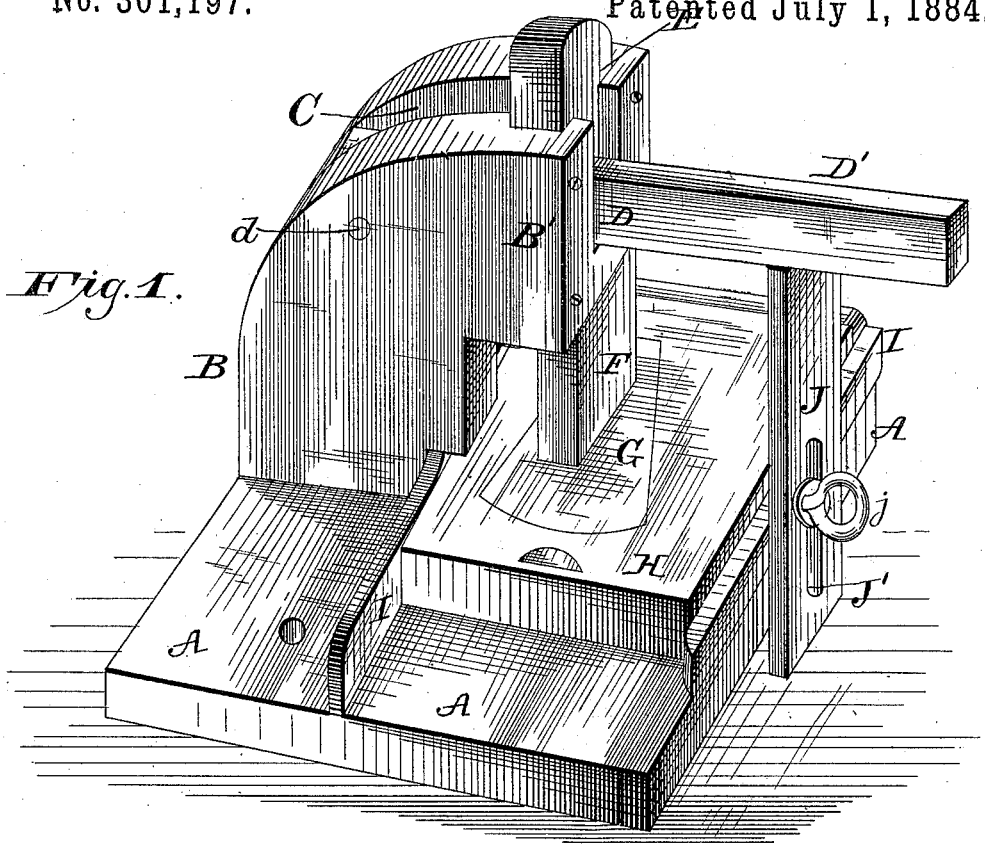
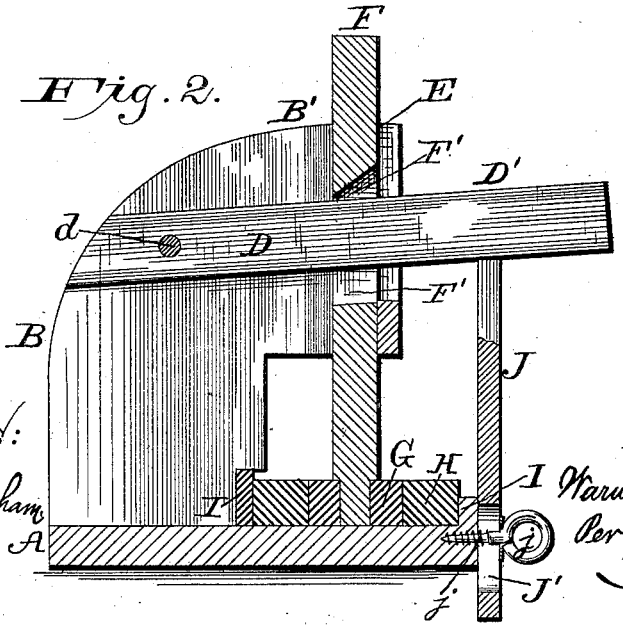


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

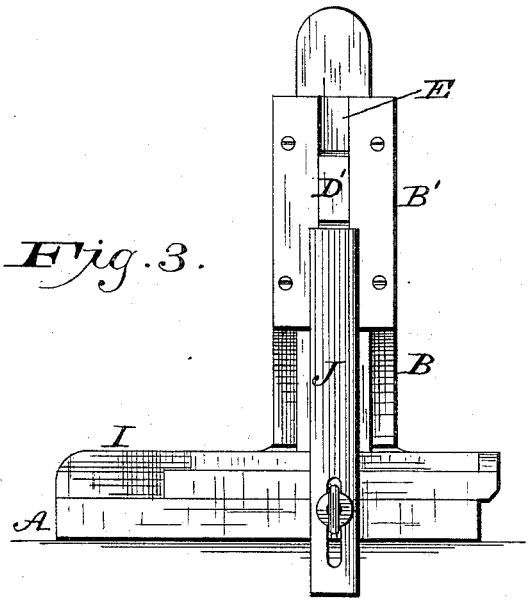
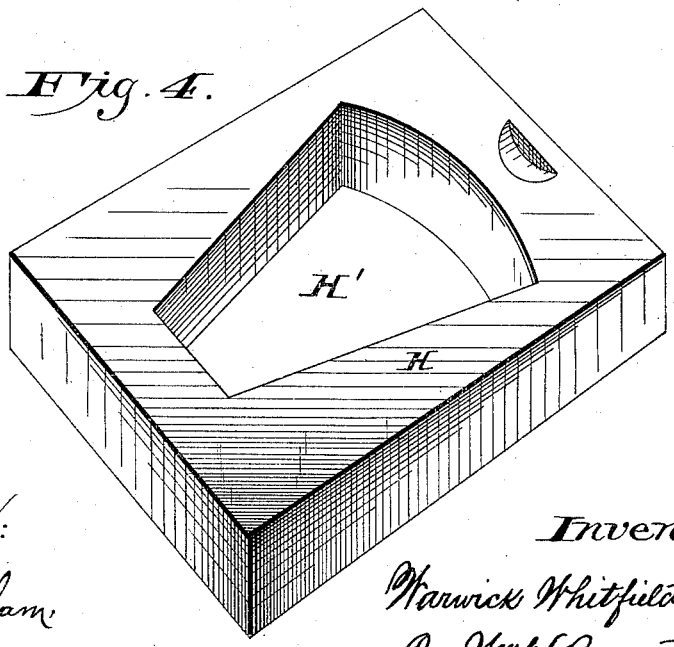


Fig. 4.



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UNITED STATES PATENT OFFICE.

WARWICK WHITFIELD WOOD, OF WINSTON, NORTH CAROLINA.

PLUG-TOBACCO MACHINE.

SPECIFICATION forming part of Letters Patent No. 301,197, dated July 1, 1884.

Application filed August 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, WARWICK WHITFIELD WOOD, a citizen of the United States, residing at Winston, in the county of Forsyth and State of North Carolina, have invented certain new and useful Improvements in Machines for Forming Plug-Tobacco; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for forming plug-tobacco, particularly that class of machines in which a die or follower and mold or matrix are employed, by which the mass of tobacco is compressed and given the desired form.

The machine forming the subject-matter of this invention is intended to give the initial pressure to the "lumps" or masses of tobacco-leaves that had previously been rolled or folded together by hand preparatory to their being regularly compressed to the desired size for packing and shipping, the object designed to be accomplished being to so condense or decrease the bulk of the plug as to admit of its being covered with much less wrapper than is required to cover hand-work; and to this end the machine constructed in accordance with my invention consists of a stout and compact housing slotted through its central portion, with an overhanging front, vertically along which is formed a groove or guideway, a die secured to a stem, which stem is slotted midway of its length and has its bearing within the front of the housing, a lever pivoted in the central slot of the housing and passing through the slot in the die-stem, and a removable sliding mold or matrix arranged beneath said die. Beneath the free end of the lever an adjustable stop is pivoted to the front of the machine, against which the lever acts and by which the movement of the lever is limited, and consequently the amount of pressure imparted to the plug regulated. The advantages derived by such construction of the parts are that the die-stem has a rigid bearing along almost its entire length, and both above and below the bearing of the lever, whereby it is prevented from lateral displacement, and is securely held so as to always move in a vertical line, and the lever is prevented from lateral displacement, and is caused to act directly upon the die-stem upon a bearing-point that changes as the lever is carried up and down without the intervention of a link-connection at the end of the lever, and pivoting the lever to the die-stem, as is usual. A machine, therefore, constructed in accordance with the foregoing description, is simple, strong, compact, and durable, positive in action, and of very few parts, that are not liable to be easily injured or get out of repair. The annoyance experienced with the old complicated form of press—that of the lever getting shaky or wabbling, and the breaking of its center or bearing pin, and also the pins of the link-connection—is avoided in my machine, and the parts of my press may also be removed for repair or replacement with ease, which is not possible with machines as now made of which I am aware.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in the several views, Figure 1 represents a perspective view of a tobacco-plug-forming machine constructed according to my invention; Fig. 2, a vertical transverse sectional elevation of the same; Fig. 3, a front view, and Fig. 4 a detached view, of the removable sliding mold block or frame.

Upon a bed-plate, A, is mounted a stout and strong housing, B, having a forward overhanging portion, B′. Within a central vertical slot, C, in this housing B is arranged a lever, D, pivoted at *d*, and having a handled end, D′, which projects from the front of the machine. At the front of the overhanging portion B′ of the housing is a vertical slot or guideway, E, within which slides a stem or arm, F, carrying at its bottom the die or follower G. Through this stem F is a longitudinal slot, F′, through which passes the lever D.

H is the mold or matrix, which consists of a block or case, H, having a central opening, H′, of any desired size and outline to conform to the size and shape of the die, arranged to slide upon the bed of the machine to be brought beneath the die between guides I I, secured to said bed.

J is a stop or rest for the lever-arm, pivoted, as at *j*, to the bed or frame of the ma-

chine, and by reason of a longitudinal slot, J′, therein, through which the thumb-screw *j* passes, adapted to be vertically adjusted for the purposes as will hereinafter appear.

The operation of the parts is as follows: The roll or mass of tobacco which had been formed by hand to as near as possible the size and shape of the finished plug is first placed within the mold or matrix. This frame having the mold formed therein, which mold, as also the die, may be of any desired size and outline, is then slipped in place beneath the die. By applying pressure to the end of the lever the die is forced into the mold, and the tobacco compressed therein to any desired degree—that is, until the lever comes against the stop, which is previously adjusted to the required height to give the necessary amount of pressure to the plug in the mold. By arranging the stem of the die so as to have only a vertical movement within a stationary housing, and having the lever pass through a longitudinal slot in said stem, only a perfectly straight vertical movement is permitted to the die, and consequently the movement of said die is always the same, no matter at what point it commences to exert its pressure upon the tobacco-plug, whether at the top or bottom of its stroke. It is possible, therefore, by this construction and arrangement of the parts, to place two or more molds beneath the die and impart the initial pressure to them.

This invention is intended to form a simple, cheap, and effective means whereby the initial pressure and formation of plugs of tobacco may be done by a machine of nominal cost instead of more expensive ones, or by hand, as at present, whereby the work is accomplished much more uniformly and quickly, and because of the additional force obtained by the machine the plugs may be compressed into smaller compass, and therefore require less wrappers than when made by hand. Thus a great saving is effected in the most expensive portion of the material.

Having thus fully described my invention, its operation, advantages, &c., what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A machine for forming plug-tobacco, composed of the divided housing B C, with overhanging front B′, having a guideway, E, vertically along its entire length, stem F, carrying the die or follower G, and having a vertical slot, F′, transversely through it midway of its length, and lever D, pivoted at one end within the housing B, and passing freely and loosely through the die-stem F, whereby the said die-stem has a secure and rigid bearing along almost its entire length, and both above and below the point of bearing of the lever, and said lever is free to move within the slot in the stem, and thus change the point of bearing as the said lever is raised or lowered, combined with the movable mold-frame H H′, adapted to slide and be held between guides I on the frame of the machine, substantially as described, for the purposes specified.

2. The combination, in a machine for forming plug-tobacco, composed of the housing B C, with overhanging front B′, having a guideway, E, vertically along its entire length, stem F, carrying the die or follower G, and having a vertical slot, F′, transversely through it midway of its length, and lever D, pivoted at one end within the housing B, and passing freely and loosely through the die-stem F, with the movable mold-frame H H′, adapted to slide and be held between guides I on the bed of the machine, of the stop J, having a slot, J′, at its lower end, and secured by a thumb-screw, *j*, to the bed or frame of the machine, whereby the said stop may be adjusted vertically to limit the movement of the lever, and thereby regulate the amount of pressure to be imparted to the plug by the die, substantially as described, for the purposes specified.

WARWICK WHITFIELD WOOD.

In presence of—
JOHN WILLIS WINFREE,
THOS. A. WILSON.