

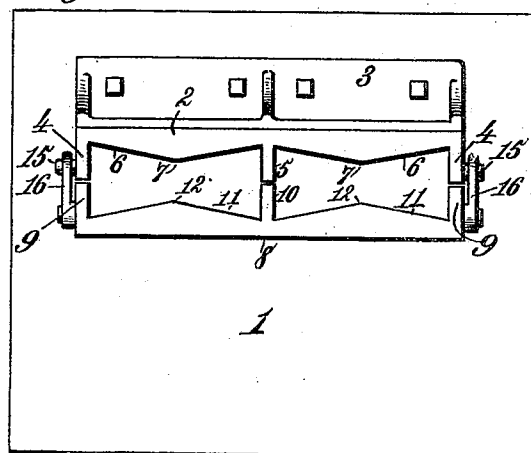
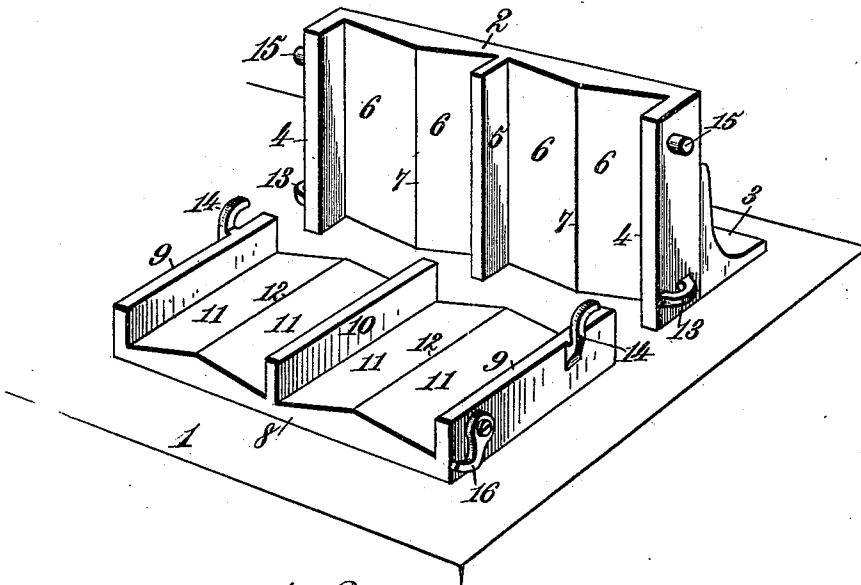
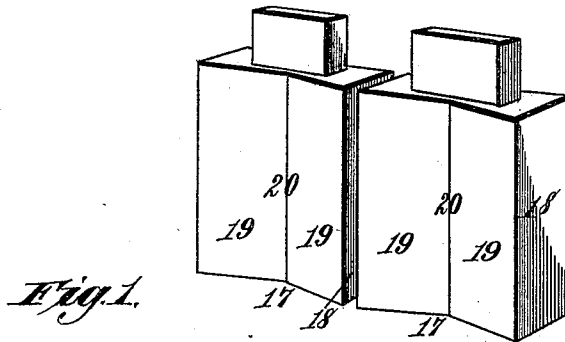
(No Model.)

2 Sheets—Sheet 1.

J. F. WOOLDRIGE.
MACHINE FOR MAKING PLUG TOBACCO.

No. 511,832.

Patented Jan. 2, 1894.



Witnesses:
Robert G. Smith,
A. H. Norris.

Inventor:
Joseph F. Wooldrige,
By *Amos C. Norris,*
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

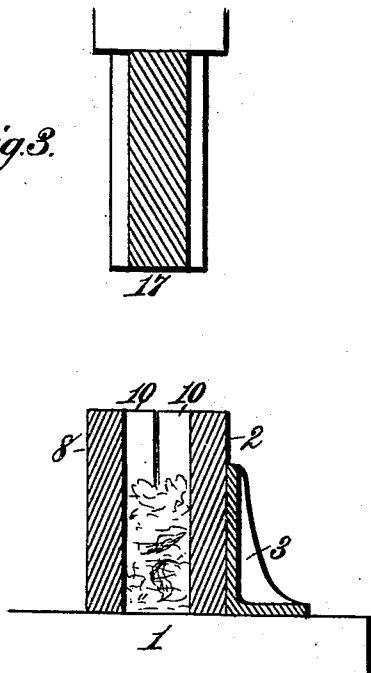


Fig. 4.

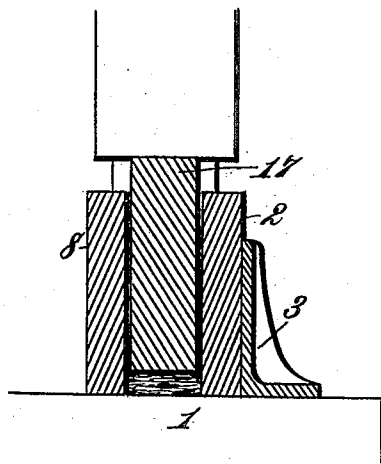


Fig. 5.

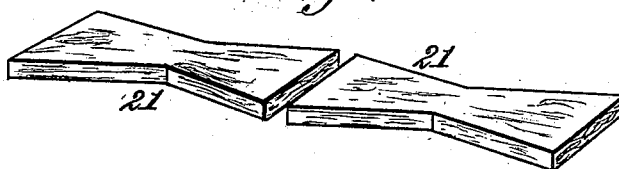
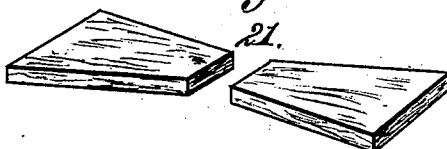


Fig. 6.



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By *James L. Norris,*
Att'y.

UNITED STATES PATENT OFFICE.

JOSEPH FLOOD WOOLDRIGE, OF RICHMOND, VIRGINIA, ASSIGNOR OF
THREE-FOURTHS TO JOHN J. HICKOK, OF SAME PLACE.

MACHINE FOR MAKING PLUG-TOBACCO.

SPECIFICATION forming part of Letters Patent No. 511,832, dated January 2, 1894.

Application filed March 2, 1893. Serial No. 464,432. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH FLOOD WOOLDRIGE, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented new and useful Improvements in Machines for Making Plug-Tobacco, of which the following is a specification.

This invention relates to an apparatus for the economical manufacture of plugs or lumps of tobacco without previous hand shaping as usually practiced, whereby a large saving of time and labor is effected.

The machine is adapted to the making of a tobacco plug having the shape of a double trapezoid which is subsequently severed through its narrow central portion and the separate trapezoids provided with wrappers, after which the plugs may be packed in alternately reversed position in caddies or boxes of rectangular form.

To these ends my invention consists in the features of construction and novel combinations of devices in a machine for making plug tobacco as hereinafter described and claimed.

In the annexed drawings illustrating the invention—Figure 1 is a perspective of my improved tobacco mold and plunger, showing the mold open. Fig. 2 is a plan of the mold and its support. Fig. 3 is a vertical transverse section of mold and plunger showing the plunger elevated to permit the introduction of loose leaf tobacco into the mold. Fig. 4 is a similar view showing the plunger lowered into the mold in the act of compressing the loose tobacco into a plug or lump of the required shape. Fig. 5 is a perspective of two double plugs as formed in a duplex machine. Fig. 6 is a perspective of the several plugs in readiness for wrapping.

The reference numeral 1 designates a stationary mold support which may be the fixed platen of any suitable press. I prefer to construct the tobacco mold with a series of sections or compartments each of which is adapted to assist in the formation, from loose leaf tobacco, of a double tobacco plug or lump having parallel square edged ends or butts and centrally converging sides and which when severed transversely through its narrow central portion will produce two trapezoidal

plugs or lumps; three of which, or six or other multiple, may be conveniently and closely packed, layer upon layer, in rectangular caddies.

For practical purposes it is convenient to employ a duplex plug making machine or one having two mold sections or compartments of like form and dimensions and arranged to be operated in conjunction with two corresponding shaped plungers. I would have it understood, however, that I do not confine myself to any particular number of molds, mold compartments or plungers.

In the machine illustrated in the accompanying drawings, the mold comprises a stationary vertical mold back 2 which may be provided on its outside with a flange or bracket 3 through which it is securely bolted to the platen or table 1 or other fixed support. Each end of the mold back 2 is provided with a rectangular forward projecting side piece 4, Figs. 1 and 2, each of which is preferably of such width as to form one half of the end or side of a closed mold. If the mold is constructed to include more than one section or compartment a vertical forward projecting rectangular division plate or rib 5 is provided on the front of the mold back 2 between adjacent sections. The inner face of the mold back, in each section of the mold, is formed with vertical double inclined planes 6, 6, separated by a vertically longitudinal apex or ridge 7 which projects forward into the interior of the closed mold. The mold is completed by a removable front or apron 8 which is in all respects the counterpart of the fixed mold back. This mold front or apron is provided with side pieces 9 that correspond with and abut against the side pieces 4 and with a division plate or rib 10 that abuts against the corresponding plate or rib 5 of the mold back, when the mold is closed. The inner face of the mold front or apron 8 is also formed with double inclined planes 11, 11, and longitudinal apex or ridge 12 similar to the corresponding parts of the mold back. By reference to Fig. 2 it will be seen that in the closed mold the plan of each section or compartment is that of a double trapezoid having its narrowest part of shortest diameter at the center. The mold is closed by placing its front

half or apron 8 in an upright position against the rear half or stationary back 2 with the side pieces 4, 9 and partitions 5, 10 in close contact. The two parts of the mold may then

5 be securely clamped by any suitable means. For the purpose of detachably connecting or clamping together the two parts of the mold I may provide eyes of staples 13 and interlocking lugs 14 on the lower outer faces 10 of the side pieces of the mold back and mold front respectively, as shown in Fig. 1, other fastenings, as a pin 15 and pivotal catch 16, being provided at the top of each side, by which the mold front can be quickly secured 15 to or detached from the stationary mold back, as required.

In conjunction with a tobacco mold having the interior configuration hereinbefore described I employ a correspondingly shaped 20 vertically reciprocating plunger 17 having parallel vertical sides or end faces 18 and centrally depressed front and rear faces composed of double inclined planes 19, 19, converging in a vertically longitudinal central 25 channel or depression 20, the said inclined faces and depressions being so arranged with relation to the corresponding surfaces of the mold that the plunger will readily work within the mold in such a manner as to form the 30 loose tobacco placed therein into a plug or lump having the shape of a double trapezoid.

The plunger or plungers 17 may be connected in any suitable manner to the ram of a hydraulic press or be otherwise arranged 35 for operation in any convenient way.

It is the purpose of my invention to make the molds and plungers of such depth or height that loose leaf tobacco may be placed in the mold without previous shaping by hand 40 and be therein completely shaped by the joint action of the mold and plunger, thereby effecting a large saving of the time and labor usually expended in making plug tobacco.

The loose leaf tobacco, in quantities of definite weight, is placed in the mold compartments, as shown in Fig. 3, without any previous molding or shaping by hand or other-

wise. The press is then operated so as to bring the plunger 17 down into the molds in forcible contact with the tobacco, as shown in 50 Fig. 4, so as to press it downward and outward and cause it to take the form of the mold which is that of a double trapezoid, as before described. The plunger is then lifted from the mold, the mold front or apron 8 is 55 unclamped from the stationary mold back 2 and turned down onto the platen or support 1, as shown in Fig. 1 and the double tobacco plugs 21, Fig. 5, are removed. These plugs 21 in the form of double trapezoids are next 60 severed transversely through their shortest diameters, as shown in Fig. 6, and the single plugs are then provided with suitable wrappers and may, if desired, be subjected to further pressure in any well known manner for 65 the purpose of making them even or of uniform density and to reform their edges and securely attach the wrappers. The trapezoidal tobacco plugs or lumps thus produced are packed in rectangular caddies in layers 70 of three, six, or other multiple, the shape of the plugs being such that when placed in alternately reversed positions they may be readily packed into a rectangular receptacle.

What I claim as my invention is-- 75

In a machine for making plug tobacco, the combination with a mold having parallel vertical sides or ends and intermediate oppositely arranged front and back portions provided with double inclined inner faces each converging in a central ridge, of a plunger having parallel vertical side or end faces and oppositely arranged double inclined front and rear surfaces each converging in a central depression and corresponding with the co-acting 85 faces of the mold, substantially as described.

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

JOSEPH FLOOD WOOLDRIGE.

Witnesses:

P. R. O'KEIFFE,
ERNST B. WILSON.