T. W. PRATHER.

PLUG-TOBACCO MACHINE.

No. 186,496. Patented Jan. 23, 1877.

Fig. 1.

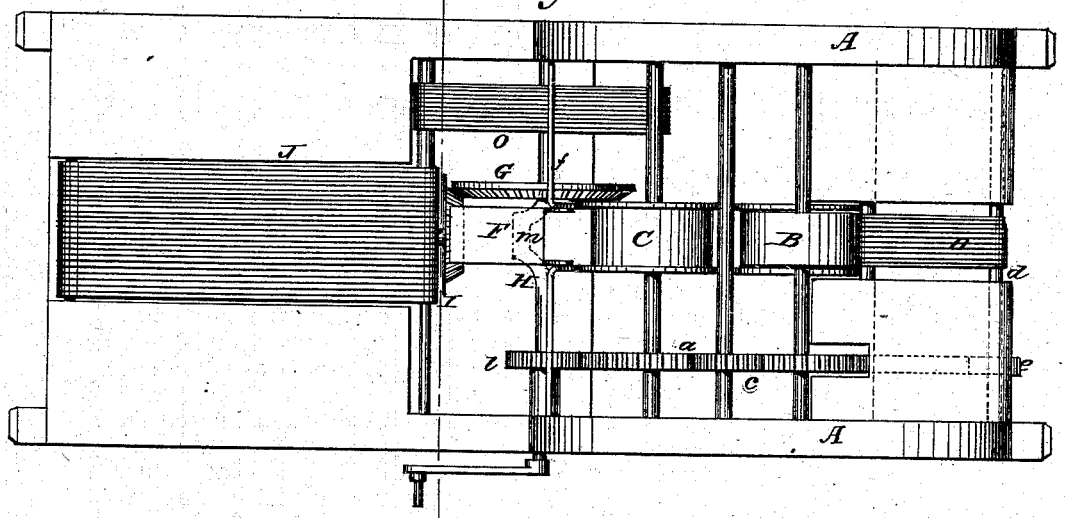


Fig. 2

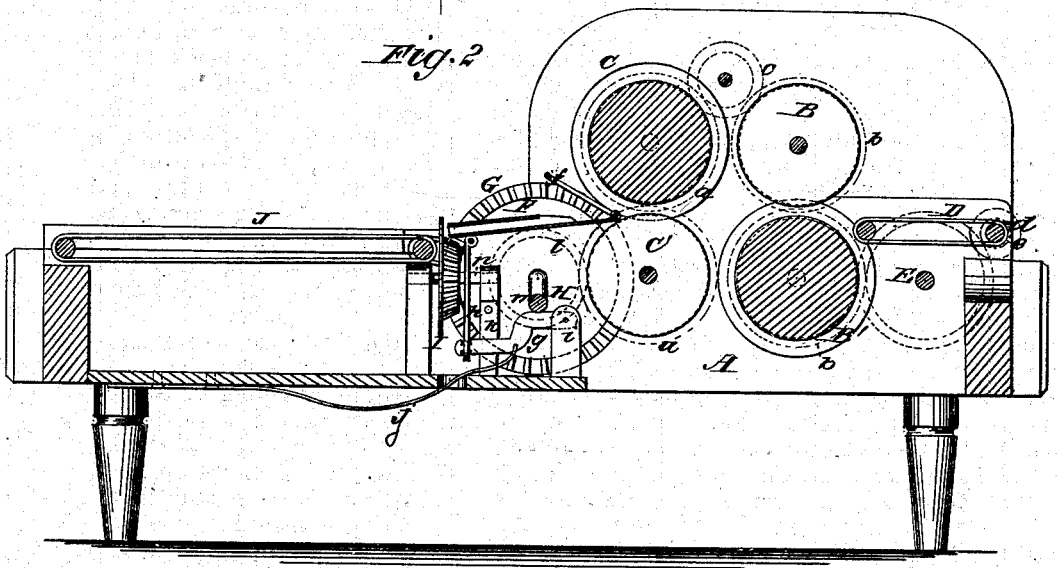
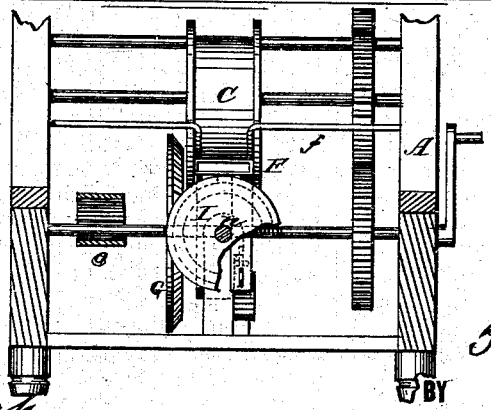


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS W. PRATHER, OF UNION DEPOT, TENNESSEE.

IMPROVEMENT IN PLUG-TOBACCO MACHINES.

Specification forming part of Letters Patent No. **186,496**, dated January 23, 1877; application filed November 4, 1876.

To all whom it may concern:

Be it known that I, THOMAS W. PRATHER, of Union Depot, in the county of Sullivan and State of Tennessee, have invented a new and Improved Tobacco-Plug Machine, of which the following is a specification:

Figure 1 is a plan view. Fig. 2 is a central longitudinal section. Fig. 3 is a transverse section on line *x x* in Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention consists in an arrangement of rollers for forming plugs of tobacco from leaves, which are fed to the said rollers by an endless apron; and it also consists in a cutting device for cutting the tobacco into suitable lengths after it is flattened by the rolls.

Referring to the drawing, A is the frame of the machine, in which the shafts of the rolls B B′ C C′ are journaled. These rolls are arranged in pairs, the first pair consisting of the lower flanged roll B′, having the width of face between its flanges equal to the width of the plug to be made, and the roll B, whose face will just fit between the flanges of the roll B′. These rolls are placed apart a distance equal to the required thickness of the plug. A pair of rolls, C C′, are placed near the rolls B B′, and are similar in all respects to those just described, except that the flanged roll C is placed above the plain roll C′.

The shafts of the rolls C C′ are geared together by spur-wheels *a*, and the shafts of the rolls B B′ are geared together in a similar way by spur-wheels *b*, and the two pairs of rolls are caused to rotate together by an intermediate pinion, *c*, that meshes into the upper wheels of each pair. D is an endless apron, that is of the same width as the face of the rollers B B′.

The outer shaft *d* of the said endless apron is provided with a pinion, *e*, that is moved by an intermediate wheel, E, which takes its motion from the lower wheel *b*. The surface of the endless apron D is on a line with the upper surface of the rolls C′ B′. F is a flattened rectangular tube, that is of such size as to allow the continuous plug that comes from the roll to readily pass through it. It is pivoted on a crooked bar, *f*, that extends across the frame of the machine, and is connected with a lever, *g*, by the rod *h*. The said lever is pivoted at *i*, and is pressed upward by the spring *j*, and its upward motion is limited by a pin, *k*. H is the main or driving shaft of the machine, upon which the pinion *l* is fixed, which meshes with the lower wheel *a*. A crank, *m*, is formed in the said shaft, which is capable of depressing the lever *g* at every revolution. I is a circular knife, that is secured to a shaft, *n*, that runs at right angles to the shaft H, and receives its motion from a bevel-wheel, G, on the shaft H, which meshes into a pinion on the shaft *n*. The said circular knife is placed near the rectangular tube F, so as to be capable of cutting the plugs from the continuous roll or plug that runs through the said tube, as hereinafter more fully described.

T is an endless apron, that revolves in front of the knife I, and receives its motion from the shaft of the roll C′ by the belt *o*.

The tobacco is prepared by the stemmers, in the usual way, and the necessary amount of stock to form a continuous plug of the required breadth and thickness is placed on the apron D, and by it fed to the rolls B B′, by which it is compressed and moved forward to the rolls C C′, which compress and shape it, and deliver it to the rectangular tube F.

The normal position of the said tube is horizontal, and while it is in this position the plug passes through it over the circular knife I. At intervals the tube F is drawn down by the lever *g*, which is moved by the crank *m*, and a plug is cut from the continuous roll or plug, and delivered to the apron J, which carries it forward to the wrappers. The plug, in passing through the first pair of rolls, is finished at its lower side by the flanged roll B′, and in passing through the second pair of rolls the flanged roll C finishes the upper side of the plug.

The advantages claimed for my machine are, that the tobacco may be sufficiently compressed in passing through the rolls to form it into a smooth solid plug, which is finished by applying the wrapper. I am thus enabled to dispense with the first wrapper, which is more costly than the filler.

With my improvement, low-priced opera-

tives can make a number of thousands of plugs per day, whereas by the method of making them by hand, experienced operatives are required. and a smaller quantity is manufactured.

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

1. The combination, in a plug-tobacco machine, of the front lower flanged roll B′, upper plain roll B, and the rear upper flanged roll C, and lower plain roll C′, as and for the purpose set forth.

2. The combination of the rolls B B′ C C′, swinging rectangular tube F, and circular knife I, substantially as shown and described.

3. The combination of the crank H, lever *g*, rod *h*, tube F, and spring *j*, substantially as shown and described.

4. The combination of the rolls B B′ C C′, apron D, tube F, circular knife I, and endless apron J, substantially as shown and described.

THOMAS W. PRATHER.

Witnesses:

SAM. W. RHEA,

WM. V. VANCE.