

No. 622,905.

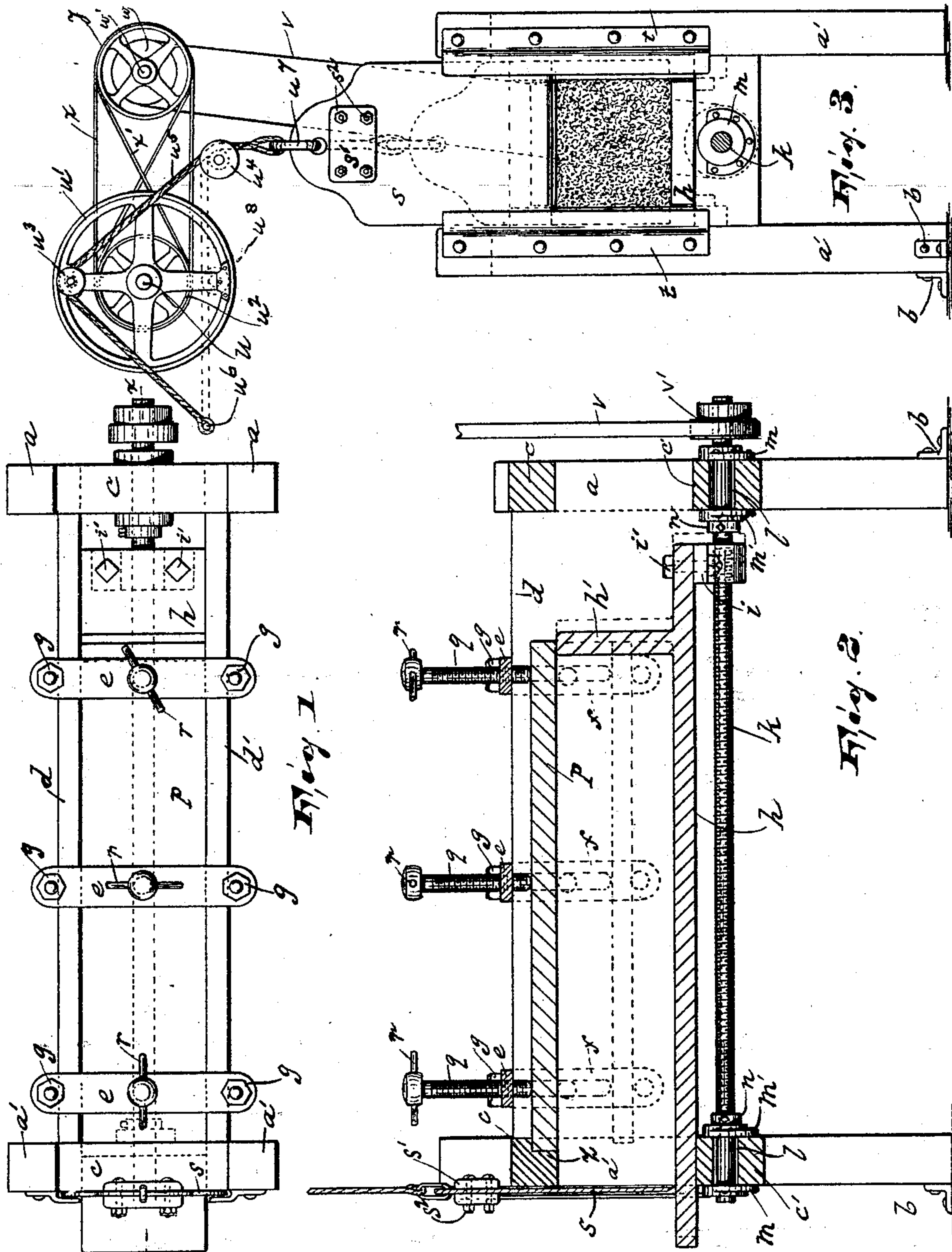
Patented Apr. 11, 1899.

J. VAN DER PLAAT.

TOBACCO CUTTER.

(Application filed Sept. 23, 1898.)

(No Model.)



WITNESSES:

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TOBACCO-CUTTER.

SPECIFICATION forming part of Letters Patent No. 622,905, dated April 11, 1899.

Application filed September 23, 1898. Serial No. 691,683. (No model.)

To all whom it may concern:

Be it known that I, JHON VAN DER PLAAT, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Tobacco-Cutters; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention constitutes an improvement in tobacco-cutting machines; and the object of the invention is to provide a machine of this nature the arrangement between whose feeding and cutting mechanism is such that a uniform and even cutting of the tobacco is insured, and also to provide a machine which is simple and inexpensive in construction and effective in operation.

The invention consists generally in the improved tobacco-cutting machine, and especially in the peculiar feed mechanism, and in the combination and arrangement of the latter with the cutting mechanism.

I have fully illustrated my invention in the accompanying drawings, in which like letters of reference indicate parts correspondingly referred to in this specification, and wherein—

Figure 1 is a top plan view of my improved tobacco-cutting machine. Fig. 2 is a longitudinal sectional view of said machine, taken on the line $x x$ of Fig. 1; and Fig. 3 is a front end view of my improved machine, showing means for operating its cutting and feeding mechanism.

In said drawings, a and a' indicate pairs of standards secured in position by angle-irons b , the members of each pair being connected by an upper and a lower girth c and c' .

d d' indicate the side plates connecting and secured to corresponding members of the pairs of standards. As a part of the frame above described may be considered as being included therein cross-pieces e , which span the two sides of the frame, being detachably secured thereto by means of plates f , bolted

to said side pieces and provided with threaded upper ends which penetrate the cross-pieces near the ends of the latter and which are provided with securing-nuts g .

h indicates a table longitudinally movable between the sides of the machine and carrying a plunger h' near its rear end and projecting upwardly therefrom. In case the table is made of metal the plunger may be formed integral therewith, as shown in Fig. 2. Said table is supported at one end upon the front lower girth c' , and at the other end it is sustained by a block i , secured thereto by bolts i' and supported and penetrated by the screw k . The screw k engages internal threading in the block and is adapted to reciprocate the same and the table supported thereby. Said screw projects through an aperture l in each of the girths c' , which is slightly larger than the screw, and it (the screw) has bearings in bearing-plates m m' , bolted to each side of the girth opposite the aperture. Collars n are secured by set-screws o in position on the screw close to the inner bearing-plates, so as to prevent undue longitudinal movement of said screw.

Arranged above the table and its plunger is a loose or removable pressure-plate p , adapted to be forced downwardly against the contents to be cut by means of binding-screws q , penetrating and operatively engaging the cross-pieces e midway the ends thereof, each binding-screw being provided with a suitable handle, as r .

s represents a vertically-reciprocating knife carrying at its upper end a weight s' , secured thereto by bolts s^2 and guided by guide-plates t , secured to the front standards a a' . The screw and the knife are both operated from the same shaft u , which takes its power from any suitable source, being continuously revolved in one direction. Said shaft is preferably arranged parallel to the length of the machine, and it carries at its forward end a wheel u' and at its other end a pair of pulleys u^2 .

A pulley u^3 is arranged upon the side of the wheel near its periphery, and over it and a stationarily-mounted auxiliary pulley u^4 extends a rope or chain u^5 , permanently secured

at u^6 at one of its ends and to a ring or eye u^7 on the knife at the other of its ends. The wheel may be provided with a counterbalance-weight u^8 , situated diametrically opposite the pulley u^3 .

Rotation is imparted to the screw by means of a belt v , passing over a cone-pulley v' , mounted on the rear end of the screw and operated from another cone-pulley w , arranged on a counter-shaft w' , which is rotated by either a belt x or a crossed belt x' , passing over the pulleys u^2 . The belts x and x' are adapted to operate the counter-shaft, the one in one direction and the other in the other direction. For this purpose, in accordance with a well-known arrangement, they pass over a pair of pulleys y , fixed on the counter-shaft and separated by an idler, so that the simultaneous shifting of the two belts places one on its respective pulley and the other on the idler.

In operation a comparatively small amount of tobacco is placed upon the table h , the latter being in its rearmost position. Then the pressure-plate is laid upon the tobacco and the screws applied. The layer of tobacco thus formed is left under pressure for some time, whereupon more tobacco is laid upon said layer and the pressure-plate again forced downwardly to compress the tobacco by means of the screws. This operation is repeated until the space inclosed by the pressure-plate, the table, and the two sides of the frame has been filled. When the last layer is to be compressed, the pressure-plate is laid upon the tobacco so as to slightly overlap the plunger h' , and when it is forced downward by its screws it rests upon said plunger. The screw k is then given a few turns, so as to slightly advance the table and permit the pressure-plate to be slipped into a recess z , which I have formed in the inner face of the front upper girth c . In order to thus move the table forward slightly without at the same time operating the knife, the lifting rope or chain u^5 of the latter may be disengaged from the pulley u^3 . When it is desired, after the above preliminary steps, to proceed with the operation of cutting the tobacco, the chain or rope u^5 is again passed over the pulley u^3 and the shaft u is rotated, producing a reciprocation of the knife and the rotation of the screw k , by which the table is forced forward. To reverse the movement of the table, it is only necessary to shift the belts $x x'$, thus reversing the direction of rotation of the counter-shaft w' and consequently of the screw k .

As fast as the tobacco is cut it is taken off the front or projecting end of the table into baskets or other receptacles. The thickness of the layers of the tobacco may be varied by shifting the belt v from one to the other of the members of the cone-pulley v' , thus varying the rapidity with which the shaft rotates

and consequently the rapidity of movement of the table h .

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

1. In a feeding mechanism for a tobacco-cutting machine, the combination with a frame comprising standards and upper and lower girths and side plates connecting said standards, of a screw journaled in said frame, a reciprocating table carrying a plunger and supported upon a portion of said frame and at one of its ends upon the screw and operatively connected to the latter, means for rotating said screw and thereby moving said table, a pressure-plate arranged above said table and its plunger and engaging one of said girths at its forward end, and binding-screws for said pressure-plate, substantially as described.

2. In a tobacco-cutting machine the combination with the frame comprising standards, and upper and lower girths, and side plates connecting said standards, of a screw journaled in the lower girths, a block penetrated by said screw and engaging the same, a table resting upon one of said girths at one of its ends and secured to and supported by said block at the other of its ends, a plunger carried by said table, a removable pressure-plate arranged above said table, the forward one of said upper girths being provided with a recess adapted to receive the corresponding end of said pressure-plate, binding-screws for said pressure-plate and means for rotating said screw and thereby reciprocating said table, substantially as described.

3. The combination with a frame, of a screw journaled in said frame, a table operatively connected to and adapted to be reciprocated by said screw and carrying a plunger, a vertically-reciprocating knife arranged at one end of said frame and above said table, a shaft journaled parallel to said frame, a suitably and stationarily supported pulley, a wheel carried on and rotatable with said shaft, another pulley arranged concentrically on said wheel, a rope or chain passing over said pulleys and stationarily secured at one of its ends and connected to the knife at the other of its ends, said wheel and the pulley carried thereby being disposed between the securing-point of the rope or chain and the stationary pulley, a counter-shaft carrying a set of reversing-pulleys and belts operatively connecting said shaft with the screw and with the reversing-pulleys, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of September, 1898.

JHON VAN DER PLAAT.

Witnesses:

WM. D. BELL,
J. VAN DER PLAAT, Jr.