

No. 641,305.

Patented Jan. 16, 1900.

J. C. LAWRENCE.
TOBACCO CUTTING MACHINE.

(Application filed July 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.

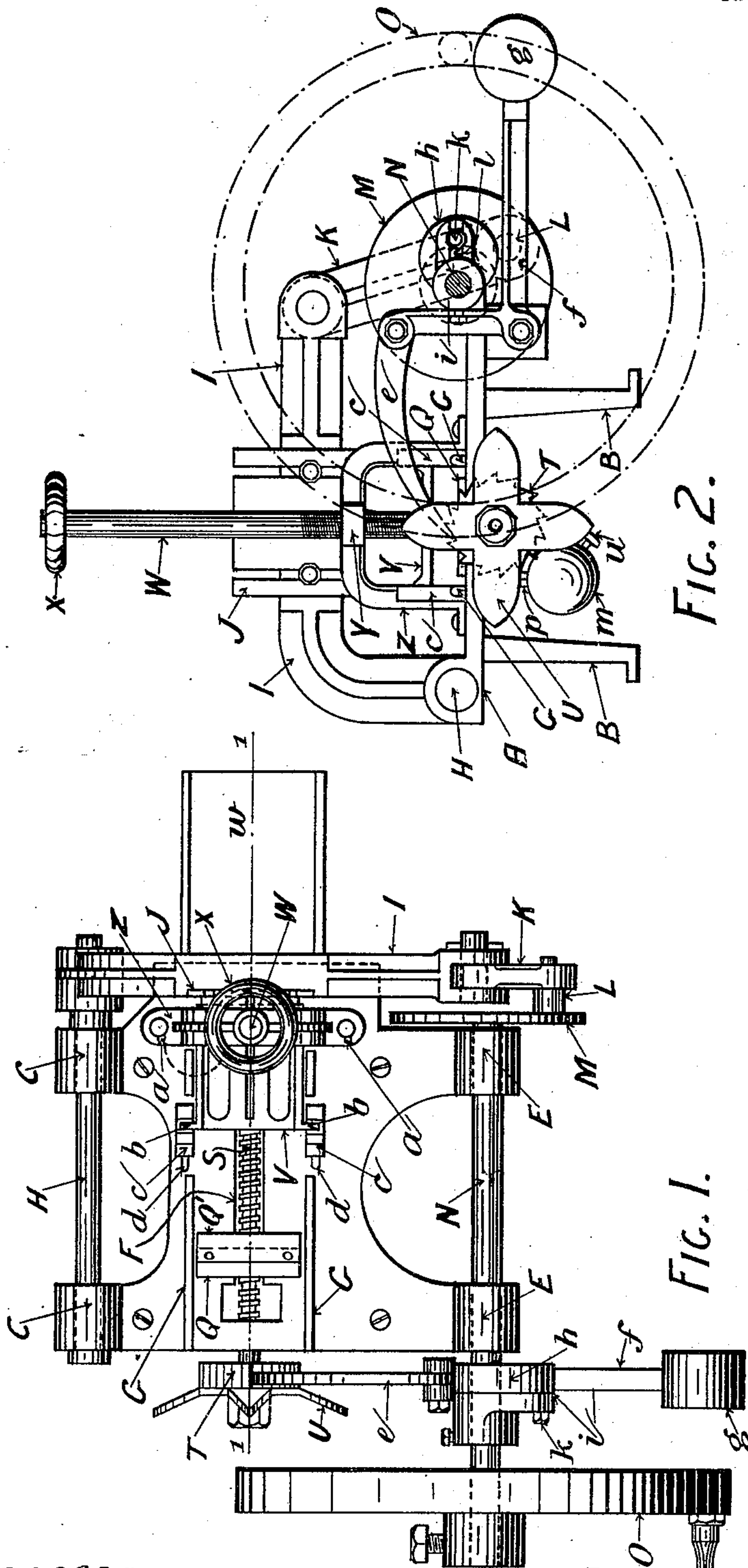


FIG. 2.

FIG. 1.

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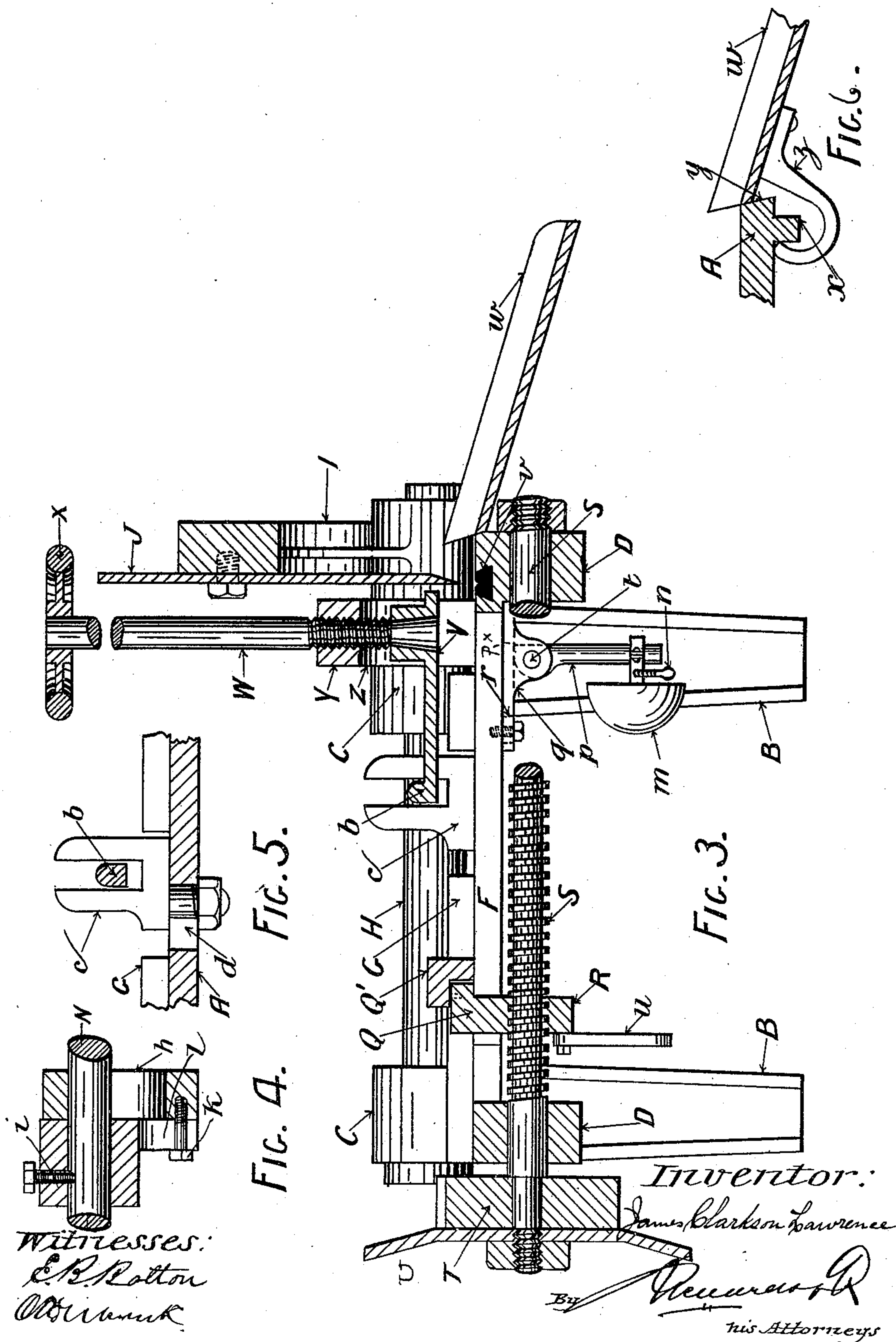
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

JAMES CLARKSON LAWRENCE, OF MANLY, NEW SOUTH WALES, ASSIGNOR OF TWO-THIRDS TO ALEXANDER OGDEN AND THOMAS WILLIAM MILLER, OF SYDNEY, NEW SOUTH WALES.

TOBACCO-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 641,305, dated January 16, 1900.

Application filed July 20, 1898. Serial No. 686,451. (No model.)

To all whom it may concern:

Be it known that I, JAMES CLARKSON LAWRENCE, engineer, a subject of the Queen of Great Britain, and a resident of Manly, near Sydney, in the Colony of New South Wales, have invented certain new and useful Improvements in Tobacco-Cutting Machines, (for which I have obtained a patent in Victoria, No. 15,082, dated April 1, 1898, and in New South Wales, No. 8,125, dated January 21, 1898,) of which the following is a specification.

This invention relates to improvements in tobacco-cutting machines not necessarily actuated by hand-power and used by tobacco venders on their counters or other convenient position and has been especially designed in order to produce a cheaper machine and of greater utility than those hitherto manufactured.

These improvements consist of the respective particular combinations and arrangements with well-known parts of such machines hereinafter specially described and claimed.

In order that this invention may be clearly understood, reference will now be made to the accompanying sheet of drawings, which form a part of this specification, and in which—

Figure 1 is a top view or plan of a tobacco-cutting machine in which are incorporated the present improvements. Fig. 2 is an end elevation of Fig. 1. Fig. 3 is a longitudinal sectional elevation, on a larger scale, on line 1 1, Fig. 1. Figs. 4, 5, and 6 are views of details.

In all figures similar letters are used to denote similar parts.

A is the base-plate, preferably of cast-iron, supported by the legs B and is provided with the respective sets of bearings C, D, and E, also the longitudinal slot or guide F, situated centrally of the flanges G. The rock-shaft H, which is supported in the bearings C, carries the knife-arm I, and the latter carries the knife or cutter J. A rod K is pivotally connected to the knife-arm I at one end and at the other end to the crank-pin L on the disk M. The drive-shaft N, supported in bearings E, has on its outer end the fly-wheel O, the lat-

ter being provided with the operating-handle P. The rotating of this fly-wheel will through the intervention of the shaft N rotate the disk M and give the necessary up-and-down motion to the knife or cutter J. A guide or channel for the tobacco to be cut is formed on the base-plate by the flanges G. The feed-plate Q, having a neck in which is provided the female screw-nut R, travels in the slot F. Through the nut R is threaded the screw S, held in bearings D and having on its outer end the ratchet-wheel T and star-wheel U for the purpose of rotating the said screw, and so causing the feed-plate Q to traverse backward or forward in the said channel and so prepare to feed the tobacco-plug up to the cutter J. Over the inner or cutting end of the channel is placed the presser-plate V, and to the forward end of this presser-plate is attached the screw W, operated by the hand-wheel X, the screw passing through the nut or female screw Y in a bridge-piece Z, secured to the base-plate A by means of screws through the slots a. The rear end of the presser-plate V has pintles b, which are received and supported in the slotted brackets, the latter being secured to the base-plate A by screws through the slots d. The flanges G extend longitudinally so far only forward that they will not interfere with the adjustability backward or forward of the slotted brackets c. The adjustability of the bridge-piece Z and the slotted brackets c saves trouble in fitting the presser-plate close up to the knife or cutter, which close fitting may be achieved by the adjustability of the positions of the bridge-piece Z and the slotted brackets c. The ratchet-wheel T is operated by the pawl e, which is jointed at its back end to the bell-crank f, the latter carrying on its outer end the weight g. This weight has the effect of keeping the upper arm of the bell-crank against the adjustable cam h on the shaft N. The adjustable eccentric h has an oval hole and is loose on the said shaft N, while it is adjustably affixed to a fixed block i by set-screws k through the slot l. The alteration of the relative position of the eccentric and block will vary the throw of the cam

h as it rotates with the shaft *N*, and so various rates of rotation of the screw *S* may be attained and the degree of feed speed be regulated accordingly.

5 In order to dispense with the more or less complicated contrivances to stop the feed when it would otherwise be dangerous to the mechanism to continue it, a bell or gong *m*, having a spring-tongue *n*, is used. The bell
10 or gong *m* is secured to a pendant *p*, the latter being jointed in the bracket *q*. This bracket is adjustable and is secured to the under side of the base-plate *A* by screws passing through the slot *r*. The pendant *p* is
15 rigid against any forward pressure by reason of its end *p*^x bearing against the bracket, but is free to move backward on its pivot *t*. The nut *R*, which is formed in one piece with the feed-plate *Q*, is provided with the rigid pend-
20 ant *u*, which will, when it reaches the desired point, force the spring-tongue *n* forward until it releases itself and in the backward movement strike the gong *m*, and thus warn the operator that the feed-plate *Q* has reached
25 the cutter. When the feed-plate is on the return movement the rigid pendant *u* will press against the spring-tongue *n* and the bell or gong *m* and lift these and the pivoted pendant *p* until it gets past them. The pendant *p*
30 and gong *m* will then fall into position by their own gravity ready for the next operation.

Another feature in this machine is the introduction of a bed of soft metal or other material underneath the cutter *J*. This bed of
35 soft metal or other material is placed in a dovetailed slot or recess *v*. The advantage of this soft bed, which runs the full width of the cutter *J*, is that the usual cutting-board may be dispensed with, thus preserving the
40 edge of the cutter, and if metal is used it is a simple matter to renew the upper face of this cutting-block by passing a soldering-iron across it.

The delivery tray or chute *w* is affixed to
45 the forward end of the base-plate *A*, as shown, where the drop-piece *x* is cast a little backward of the inclined forward edge *y*. The tray is provided with the hook-piece *z*, which
50 whose inner end on the under side of the base-

plate *A*, immediately at the back of the drop-piece *x*, will make a tight joint on the inclined edge *y*.

The feed-plate *Q* is of the requisite size for cutting tobacco one block or cake at a time; 55 but should two blocks or cakes in thickness be necessary to cut the supplementary feed-plate *Q'* is provided. (See Figs. 1 and 3.) This supplementary feed-plate *Q'* simply
60 rests on and in front of the feed-plate *Q*, being kept in position by a couple of small pins receivable in slots provided on the upper face of the feed-plate *Q* and shown in dotted lines in Fig. 3.

Having now particularly described and as- 65 certain the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a tobacco-cutting machine, the combination of the feed way or channel, a vertical knife or cutter, a presser-plate at the rear of said cutter, a screw connected with the presser-plate, a bridge adjustable toward and from the cutter and which carries the screw, said presser-plate having pintles, and the ad- 75 justable slotted bracket receiving said pintles, substantially as described.

2. In combination in a tobacco-cutting machine, the cutter, the feed-plate, the screw and traveling nut for moving the same forward, a bell having a spring-tongue, a pendant supporting the bell and free to swing backwardly but held against forward movement, and a rigid pendent piece *u* secured to the traveling nut for operating the bell, sub- 85 stantially as described.

3. In combination in a tobacco-cutting machine, the cutter, the feed-channel having its front end inclined and having a drop-piece beneath and a tray having an inclined end, 90 and a hook passing under the front edge of the channel and engaging said drop-piece, substantially as described.

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

JAMES CLARKSON LAWRENCE.

Witnesses:

THOMAS WILLIAM IRISH,
MAY SEVILE.