J. FARRAR.
Tobacco-Cutter.

No. 201,338. Patented March 19, 1878.

Fig. 1.

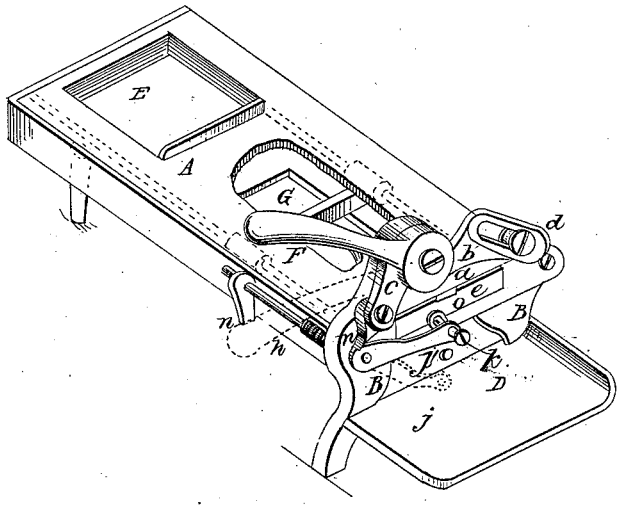


Fig. 2.

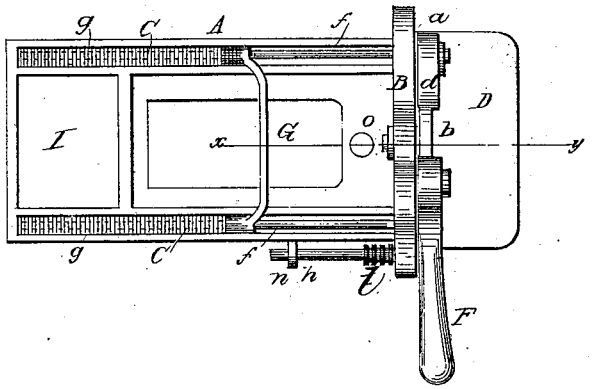
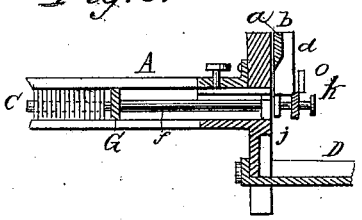


Fig. 3.



Witnesses.
Ard L. Dieterich
Geo. T. Dieterich

John Farrar
Inventor
by Geo. A. Sawyer.
attorney.

UNITED STATES PATENT OFFICE.

JOHN FARRAR, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN CHRISTOPHER NICHOL, OF SAME PLACE.

IMPROVEMENT IN TOBACCO-CUTTERS.

Specification forming part of Letters Patent No. **201,338**, dated March 19, 1878; application filed December 29, 1877.

To all whom it may concern:

Be it known that I, JOHN FARRAR, of the city of Montreal, in the district of Montreal, Province of Quebec, and Dominion of Canada, machinist, have invented certain new and useful Improvements in Tobacco-Cutters; and do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawing.

My invention relates to a simple and efficient machine for cutting tobacco when manufactured into the form of plugs.

It consists in an oblong rectangular hollow frame, approximately of the size of the largest plug of tobacco which may have to be operated upon, and furnished at one end with a knife worked by a lever or handle, and so arranged as to impart an oblique cutting or shearing action to the knife, which is effected by a simple combination of mechanism for giving to it simultaneously a horizontal and vertical motion.

This apparatus is also adapted to admit of the knife making a clean cut through the plug without coming into contact with any underlying surface, and at the same time, in combination with a self-acting arrangement for pushing the plug forward toward and under the knife, the thickness of the cut may be regulated as required.

The advantages which I claim for this machine over any others previously in use for the same purpose are as follows, viz: The plug of tobacco to be operated upon is held firmly in its place while being cut, and is advanced toward the knife by a self-acting mechanism, which also regulates the thickness of the slices, as may be desired, so that the whole piece may be cut, if required, with great rapidity, to any degree of fineness, by simply working the handle. In combination with these arrangements, the knife is adapted to work in the most efficient manner by a shearing action, and passes entirely through the plug, allowing the slices, when detached, to drop into a small tray, thus making a cleaner cut than by the ordinary method, and more effectually preserving the edge of the knife.

In the accompanying drawing, Figure 1 represents a perspective view of the machine; Fig. 2, a plan with the top cover removed, and Fig. 3 a partial vertical section on the line *x y* in the plan.

The same letters of reference indicate the corresponding parts in all the figures.

A represents the frame of the machine, provided with an upright carriage, B, and channels C C, for holding the working parts, and with a tray, D, placed underneath the knife and chamber E, for the reception of the tobacco after being cut. F is the handle or lever, pivoted at the top of the carriage B, the exterior face of which is planed or otherwise wrought to a true surface for the blade of the knife to work against. The knife *a* is attached to the inner face of the sliding holder *b*, which is jointed at one end to a short arm, *c*, projecting downward and inward from the hub of the lever F, and at the opposite end is formed with an obliquely-slotted guide, *d*, through which works a roller mounted on a stud or pin screwed or otherwise fixed to the carriage or frame B.

The slot in the guide *d*, which is formed at such an angle as to allow both the vertical and horizontal motion of the holder *b*, is of a length corresponding with the throw of the arm *c* when moved by the handle F; and the knife, sliding against the planed surface of the frame B, has thus imparted to it an oblique or shearing action, whereby the cleanness, sharpness, and facility of cut are most effectually secured.

The body of the frame A is adapted to receive between its upper and lower plates the largest-sized plug of tobacco which may require to be operated upon. This is inserted at a suitable opening, *e*, in the planed face of the carriage B, where the knife works, as above described. Into this opening, and the corresponding space throughout the length of the machine, a cross-head, G, adapted to bear against the end of the plug, is fitted to slide loosely, having at both ends sockets, working in the channels C C, and longitudinal fixed rods or guides *f f*, on which are also mounted two slight spiral springs, *g g*, bearing at one end on the sockets aforesaid, and at the other abutting on the outer end of the frame A. The length and

rigidity of the springs *g g* are so adjusted as to allow the cross-head G, against which they act, to move easily to a sufficient distance toward the outer end of the machine, and at the same time to press it with a moderate force toward and entirely up to the opening *e* in the carriage B, where the knife acts.

By these arrangements, it will be seen that when the plug of tobacco is inserted by the hand into the opening *e*, and pushed back against the pressure of the springs *g g* until it is entirely inclosed within the machine, its outer end will protrude slightly through the opening *e*, and when the hand is removed the springs *g g* will tend constantly to press or push it outward, unless otherwise stopped. When the knife *a* is pressed downward by the handle F, the protruding portion is cut entirely through, and drops into the tray D. When the handle is raised and the knife ascends, the plug is again forced outward by the action of the springs *g g*.

The mechanism by which the plug is retained in its place, its outward motion controlled, and the thickness of the cut regulated, is as follows: On the inner edge of the frame A a short horizontal spindle or axis, *h*, is mounted in suitable bearings, and projects outside of the carriage B, where it is furnished with a radial arm, *j*, pointing inward toward the center of the machine. The outer end of the arm *j* is fitted with a screwed pin, *k*, adjustable by means of a milled head and washer, or their equivalents, so that the latter may be set to any required distance from the face of the cutting-edge of the machine, at the opening *e*. The axis or spindle *h* is furnished with a small spring, *l*, and stop *n*, so adjusted as to keep the arm with its washer or disk constantly elevated opposite to the center of the opening *e* until pressed downward by the action of the lever F. This is effected by means of a suitable projection, *m*, formed on the inner end of the knife-holder *b*, and which presses upon the upper edge of the arm *j*, so as to remove the adjustable gage *k* from contact with the knife while cutting, and at the same time to admit of its return, on raising the handle and knife, to its proper position for regulating the thickness of the next cut.

In order to adapt the machine to any required thickness of plug, a small spring, *n*, (the form of which may be varied,) is introduced for the purpose of lightly pressing upon and steadying the plug at the point where it is brought under the action of the knife.

I do not lay claim, broadly, to the invention of the oblique or shearing action of the knife in a tobacco-cutter by means of a lever and inclined slot, for this, I am aware, is not new; but,

Having thus fully described the nature of my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, viz:

1. The oblong rectangular hollow frame A, formed with upright carriage B, planed or wrought to a true surface on its outer face, and with channels C C and opening *e*, in combination with the cross-head G, guides *f f*, and spiral springs *g g*, substantially as shown, and for the purposes set forth.

2. The projection *m* on the inner end of the knife-holder *b*, in combination with the spindle *h*, arm *j*, screwed pin *k*, spring *l*, and stop *n*, substantially as and for the purposes represented and described.

3. The combination of the cross-head G, with its guide-rods and operating-springs, and an adjustable automatically-moving gage, *j k*, and a suitable moving knife, substantially as described.

Montreal, December 17, A. D. 1877.

JOHN FARRAR.

In presence of—

A. T. RAYNER,

GEORGE O. MOFFAT.