J. W. CROSSLEY, A. A. HAGEN & G. JUENGST.

Tobacco-Cutting Machine.

No. 204,715. Patented June 11, 1878.

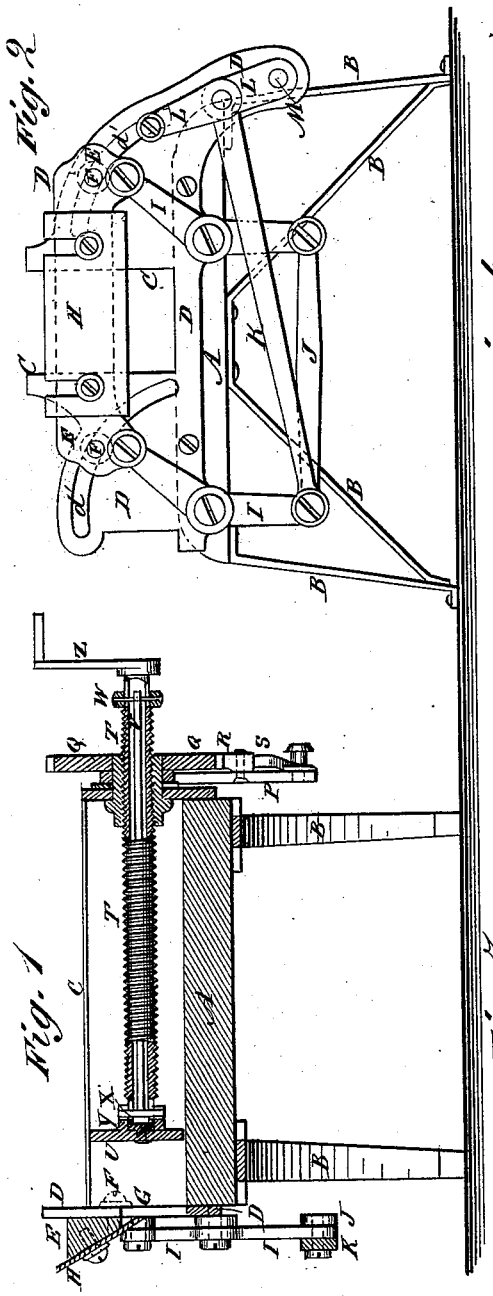


Fig. 2

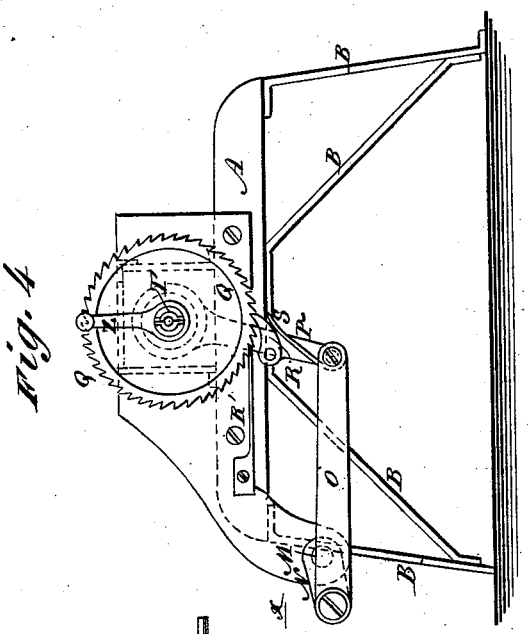


Fig. 4

Fig. 1

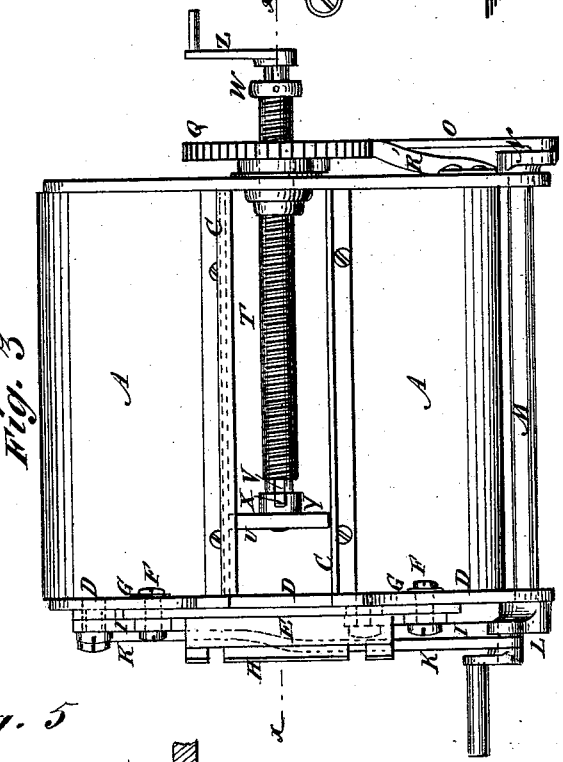
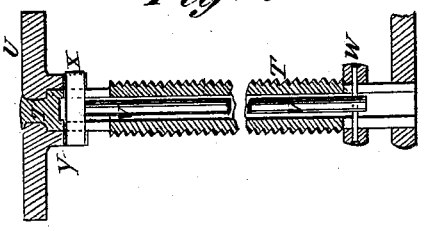


Fig. 3

Fig. 5



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN TOBACCO-CUTTING MACHINES.

Specification forming part of Letters Patent No. **204,715**, dated June 11, 1878; application filed March 23, 1878.

To all whom it may concern:

Be it known that we, JAMES W. CROSSLEY, AUGUSTUS A. HAGEN, and GEORGE JUENGST, of New York city, in the county and State of New York, have invented a new and useful Improvement in Tobacco-Cutting Machines, of which the following is a specification:

Figure 1 is a vertical longitudinal section of our machine, taken through the line *x x*, Fig. 3. Fig. 2 is a front view of the same. Fig. 3 is a top view of the same. Fig. 4 is a rear view of the same. Fig. 5 is a detail section of the nut, screw, and follower.

Similar letters of reference indicate corresponding parts.

The invention relates to an improved machine for cutting plug-tobacco; and it consists in a certain construction and combination of parts, as hereinafter described and claimed.

A is the bed-plate of the machine, which is supported upon legs or a frame-work, B, of suitable height. To the upper side of the middle part of the bed-plate A is attached the feed-box C. To the forward edge of the bed-plate A and to the forward end of the feed-box C is attached a plate, D, in the middle part of which is formed an opening corresponding in size with the interior area of the feed-box, through which the tobacco is forced out to be cut.

E is the knife-bar, which moves up and down along the forward side of the stationary plate D, and is held against the face of the said plate by bolts F and washers G, which bolts pass through curved slots *d'* in the end parts of the stationary plate D. The washers G are placed upon the inner side of the plate D, and are made of such a size as to extend beyond the edges of the slots *d'*, and rest and slide upon the inner side of the said plate D.

The knife-plate E is made right-angled in its cross-section on one side, as shown in Fig. 1, and to its outer or inclined face is bolted the knife H, which is slotted transversely from its upper edge, to receive the fastening-bolts, so that it may be readily moved down as it wears. This construction enables the knife H to be arranged with the beveled side of its edge inward, as shown in Fig. 1, so that by changing the bevel of said edge the knife may be made to work with less or more gain, as may be desired.

To the ends of the knife-bar E are pivoted the upper ends of two bent levers, I, which are pivoted at their angles to the forward edge of the bed-plate A, and the lower ends of which are connected by a connecting-bar, J, so that the said levers may always be held exactly parallel with each other, and may thus hold the knife H always horizontal while making the cut.

To the lower end of one of the levers I is pivoted the end of a connecting-bar, K, the other end of which is pivoted to the crank or crank-wheel L, to which the power is applied for driving the machine.

The crank or crank-wheel L is attached to the end of the driving-shaft M, which revolves in bearings in the frame of the machine, and to the other end of which is attached a crank or slotted crank-wheel, N, for driving the feed.

To the crank N is pivoted the end of the connecting-bar O, the other end of which is pivoted to the lower end of the arm P. The upper end of the arm P rides upon the hub of the driving-nut Q. In the outer edge of the driving-nut Q are formed ratchet-teeth, with which engages the pawl R, which is pivoted to the arm P, and is held against the said nut Q by the spring S, also attached to the said arm P.

The nut Q is swiveled to the rear end of the feed-box C, and into its screw-thread is fitted the thread of the screw T. The forward end of the screw T is swiveled to the follower U, by which the tobacco is pressed forward to be cut. By this construction, as the nut Q is turned by the driving mechanism, the screw T is forced forward, pressing the follower U against the tobacco placed in the forward part of the feed-box C.

The screw T is made hollow, and through its cavity is passed a rod, V. Upon the smooth outer end of the screw T is placed a collar, W, which is connected with the outer end of the rod V by a screw or pin passing through the said collar and rod, and through

the short longitudinal slot in the said screw T. To the inner end of the rod V is attached a small cross-head, X, the ends of which project through the short longitudinal slot in the screw T, so as to enter slots or notches in the collar Y, attached to or formed upon the rear side of the follower U, around the forward end of the screw T. To the outer end of the screw T is attached the crank Z, for convenience in running the said screw back in withdrawing the follower for recharging the feed-box.

With this construction, when the feed-box C is filled, the rod V is pushed forward, so that its cross-head X may engage with the collar Y; then, as the feed-nut Q is revolved, the screw T is forced forward, forcing the follower U forward against the tobacco. When the follower U is approaching the forward end of its movement the collar W strikes against the outer side of the nut Q, and as the screw T continues to advance, the collar acts as a stop for the rod, so that cross-head X is withdrawn from the collar Y, and the screw T turns with the nut Q without moving the follower U, so that it will be impossible for the follower to be forced too far forward or the machinery to be broken.

The feed-nut Q is held from being turned back by the friction of the pawl R by the spring-pawl R′, the engaging end of which rests against the teeth of the said nut.

If desired, the rod V may be placed in a longitudinal groove in the side of the screw T; but we prefer the construction first described, as it leaves the threads of the screw T entire and allows the said rod V to be made of any desired size.

It should be observed that the levers I and the connecting-bars J K may be arranged above the knife-bar E, so as to leave the space below the knife H wholly unobstructed, the said levers and bars being then entirely out of the way of the tobacco as it falls from the knife.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the bent levers I, the connecting-bar J, and the two bolts and washers F G with the knife-bar E, the stationary plate D, provided with the two curved slots d', and the crank or crank-wheel L, substantially as herein shown and described.

2. In a tobacco-cutting machine, the combination of the levers I I and connecting-bars J K, the knife-bar E, having its front side inclined, and the knife H, secured to said bar, with the beveled side of its edge inward, in contact with the front plate or head of the machine, as shown and described.

3. In a tobacco-cutting machine, the combination of the revolving nut, the follower, the feed-screw swiveled thereto, and a clutch or key for temporarily locking them together, and a connecting-rod or equivalent device, connected at its forward end to said clutch or key, and having at its rear end a stop, W, in virtue of which the forward movement of the connecting-rod and clutch or key is arrested when the stop W comes in contact with the nut, or with some other object that is stationary.

4. The combination of the rod V, provided with the collar W upon its outer end and a cross-head, X, upon its inner end, with the feed-screw T, the driving-nut Q, and the slotted or notched collar Y of the follower U, substantially as herein shown and described.

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