(No Model.)

C. R. HEIZMANN.

CUTTING INSTRUMENT.

No. 342,258. Patented May 18, 1886.

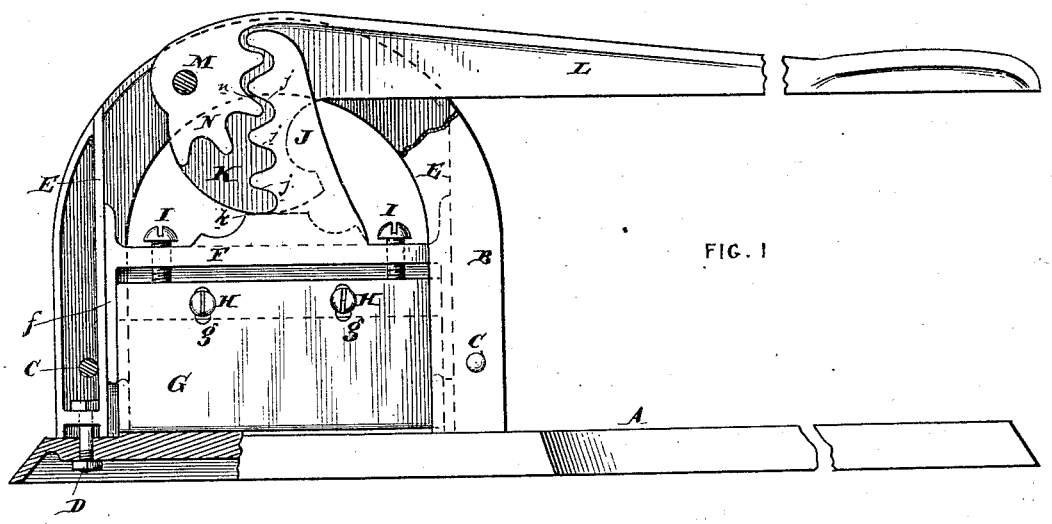

FIG. 1

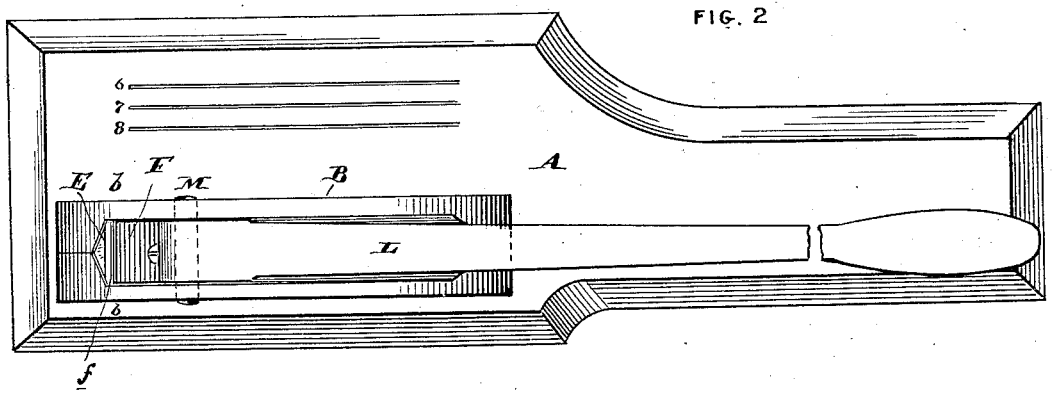

FIG. 2

Attest
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C. RAYMOND HEIZMANN, OF READING, PENNSYLVANIA, ASSIGNOR TO THE PENN HARDWARE COMPANY, OF SAME PLACE.

CUTTING-INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 342,258, dated May 18, 1886.

Application filed August 25, 1885. Serial No. 175,238. (No model.)

To all whom it may concern:

Be it known that I, C. RAYMOND HEIZMANN, of the city of Reading, State of Pennsylvania, have invented certain Improvements in Cutting-Instruments, of which the following is a specification.

My invention has reference to cutting-instruments especially adapted for the use of tobacconists, druggists, and others; and it consists in certain improvements, all of which is fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof. In most cutters of this class, commonly known as "tobacco-cutters," the sash which carries the knife is forced down, directly or indirectly, by a cam-lever, and is raised by means of springs; or the sash is connected to the lever by links or other complicated parts liable to derangement or wear, and which are expensive in their construction.

My object is to simplify the construction of machines of this nature and make them more durable.

In carrying out my invention I provide the vertical movable cutter or knife with a cam-bearing and a rack-bar, and make the lever for moving said cutter with a cam and a pinion-segment to work in conjunction with the cam-bearing and a rack on the cutter, the parts being so shaped or formed that the cam alone depresses the cutter while the pinion alone raises it. When the cam is operating, the pinion is out of contact with the rack, and when the pinion is in action the cam is out of contact with the bearing on the cutter-blade. By this means an absolutely positive and smooth reciprocation is given to the cutter-blade. The cam operates where the greatest power is required, while the rack and pinion have the simple duty of raising the cutter-blade.

In the drawings, Figure 1 is a side elevation with part of the framing broken away, of a cutting-instrument embodying my invention; and Fig. 2 is a plan view of the same.

A is the base-plate, and B is the hollow arch-frame, secured thereto by bolts D. Said frame B consists of two sides plates, *b*, secured together by rivets C, and having the guide-faces E for vertically guiding the cutter-blade.

F is the cutter-sash, which is guided between the guides E and carries the cutter-blade G, the latter being secured to it by screws H, passing through slots *g*, whereby it may be vertically adjusted and secured in position. Adjusting-screws I pass through the upper part of the sash F and press against the cutter-blade, so as to adjust and hold it vertically to insure a clean and even cut. The upper part of the sash is provided with the cam-bearing face *k* and the rack-bar J.

L is a hand-lever for operating the cutter, and is pivoted between the said plates of the frame B at M, and is furnished with a cam, K, adapted to work in contact with the bearing *k*, and is further provided with a pinion-segment, N, adapted to mesh with the rack J. Normally working, the cam K works against the face *k* of the sash, and positively forces the blade down through the material to be cut; but in raising the sash the cam plays no part, but is free and clear of the face *k*, and the pinion N, meshing with the rack J, positively raises the sash and its blade. When cutting, the pinion does not touch the teeth of the rack; but when raising the sash the upper face, *n*, of the pinion-teeth works against the under face, *j*, of the rack-teeth. From this it is seen that when the cam is actuating the upper sash the pinion plays no part, and when the pinion is actuating the sash the cam plays no part.

I do not limit myself to the particular shape or configuration or details of construction given to the various parts, as they may be modified in various ways without departing from my invention.

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

1. In a cutting-instrument, a cutter-blade adapted to vertical reciprocation and provided with a cam-bearing face and a rack, in combination with a lever having a cam and a pinion to respectively work in contact with said face and rack, the connection between the parts being very loose, whereby when the cam is working the pinion does not touch the rack, and when the pinion is working in contact with its rack the cam does not touch the cam-face, substantially as and for the purpose specified.

2. In a cutting-instrument, a cutter-blade

adapted to vertical reciprocation, in combination with a cam to depress it and a pinion and rack to raise it, and a lever common to both the cam and pinion, substantially as and for the purpose specified.

3. In a cutting-instrument, the combination of the reciprocating cutter having a cam-bearing face, *k*, and rack J, with a cam, K, pinion N, the teeth of the pinion having loose play in the rack, so that they shall not act when the cam is acting, and a lever to work said pinion and cam, substantially as and for the purpose specified.

4. In a cutting-instrument, the combination of the reciprocating cutter having a cam-bearing face, *k*, and rack J, with a cam, K, and pinion N, the teeth of the pinion having loose play in the rack, so that they shall not act when the cam is acting, guides for the cutter, and a lever to simultaneously move both the cam and pinion, substantially as and for the purpose specified.

5. The combination of the frame with the sash F, carrying the removable cutter G and having cam-bearing face *k* and rack J, and lever L, having cam K and pinion N, substantially as and for the purpose specified.

6. The combination of the frame with the sash F, carrying the cutter G and having cam-bearing face *k* and rack J, adjusting-screws for adjusting the cutter on the sash, and lever L, having cam K and pinion N, substantially as and for the purpose specified.

C. RAYMOND HEIZMANN.

Witnesses:
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