

(No Model.)

J. L. HAVEN.
TOBACCO CUTTER.

No. 283,779.

Patented Aug. 28, 1883.

FIG. 1.

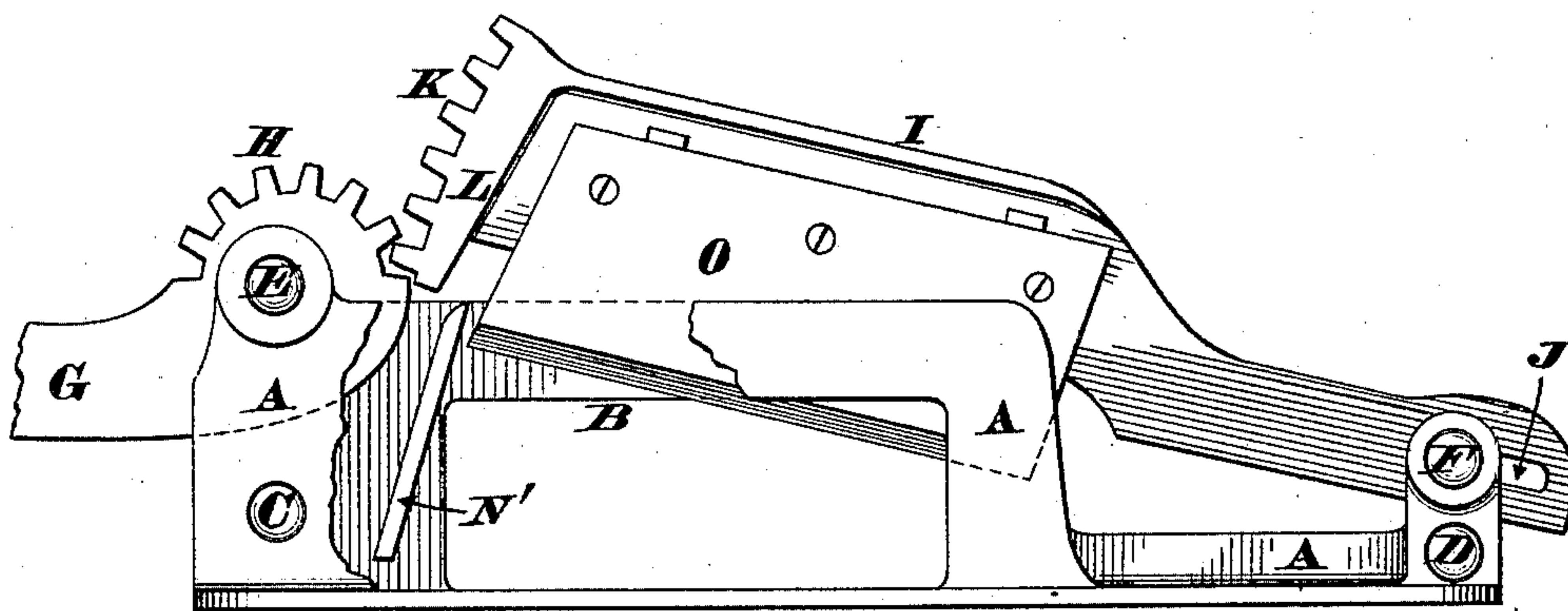


FIG. 2.

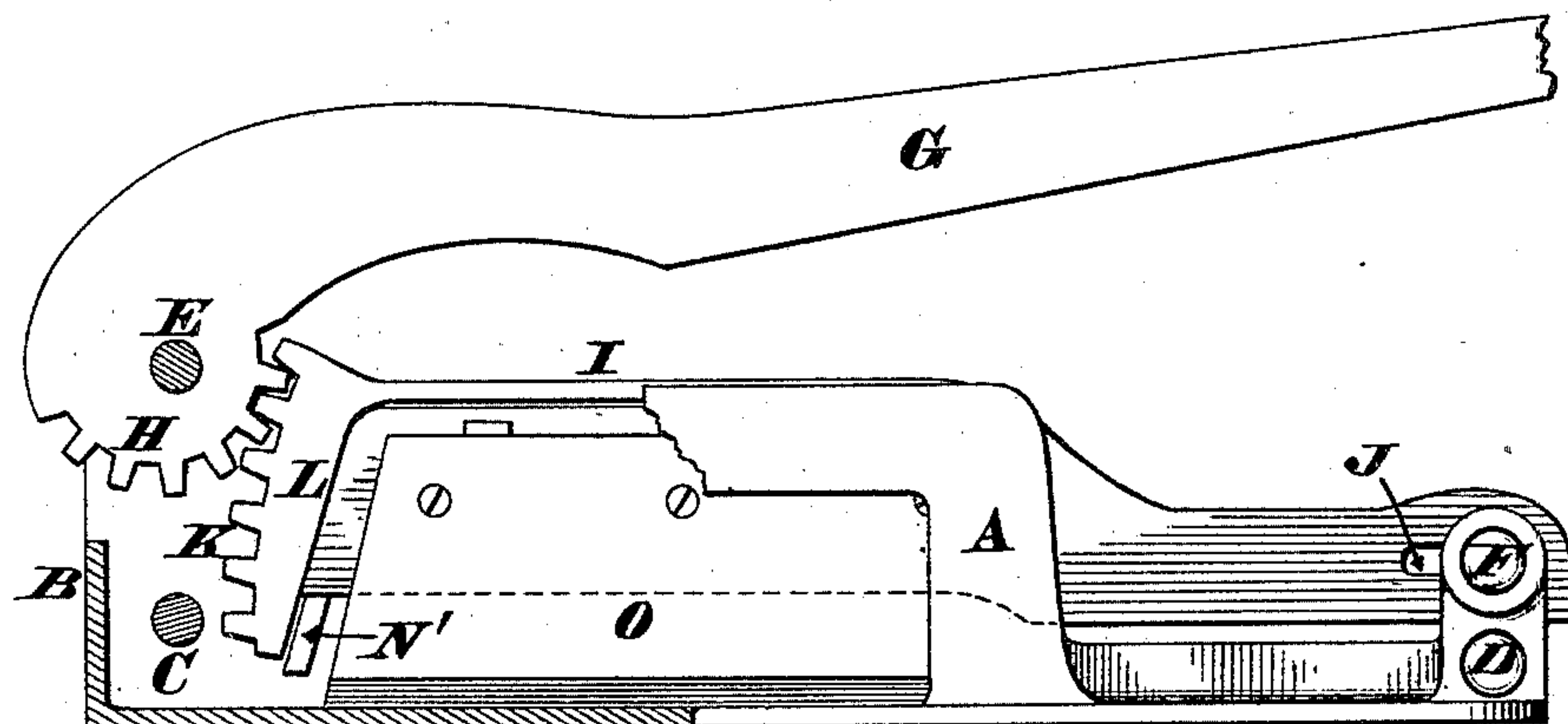


FIG. 3.

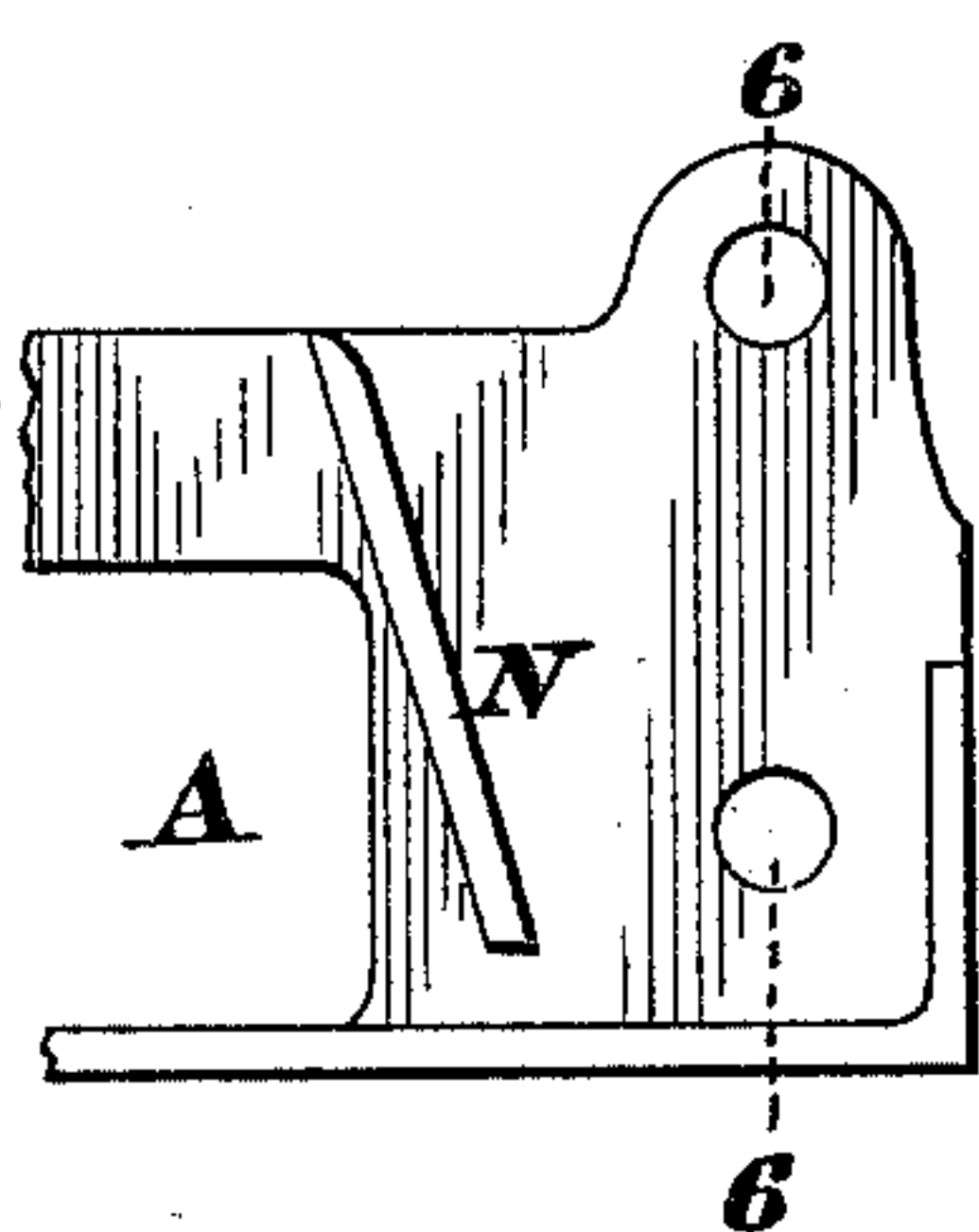


FIG. 4.

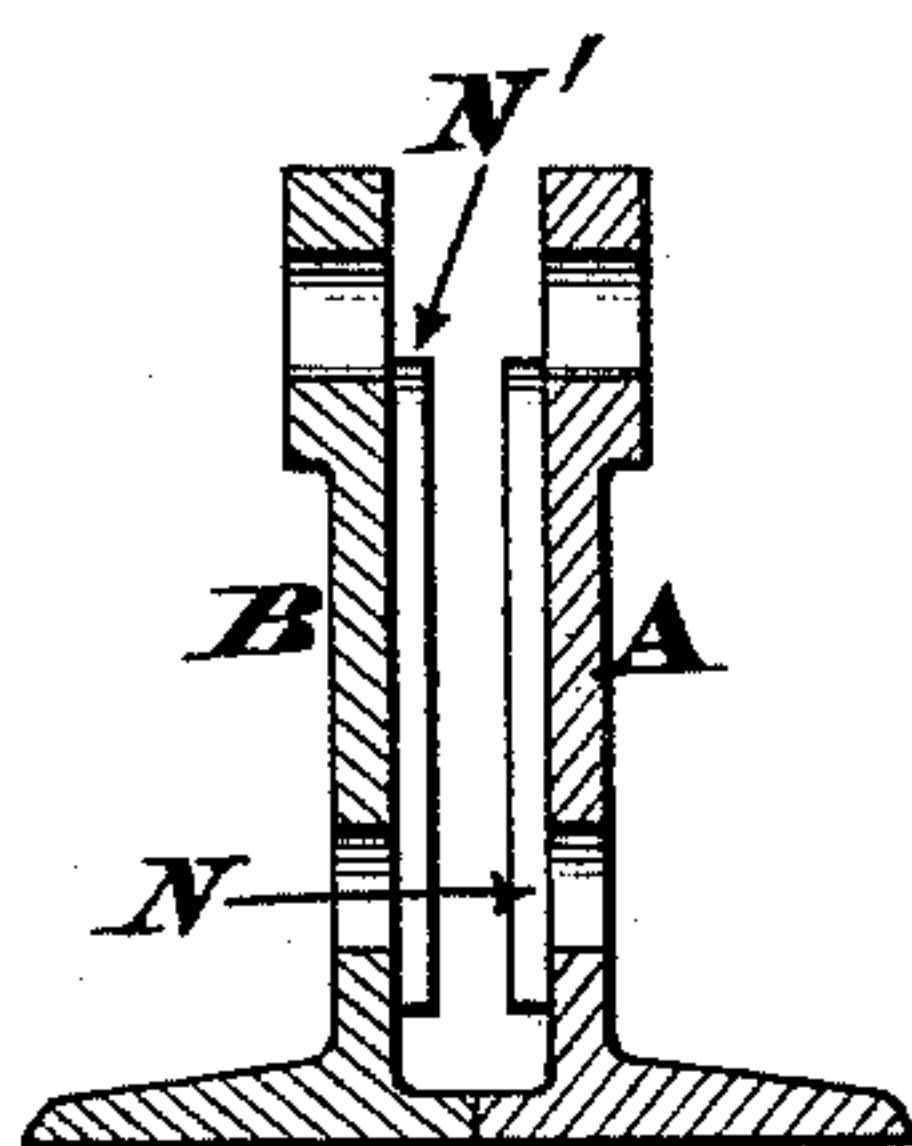
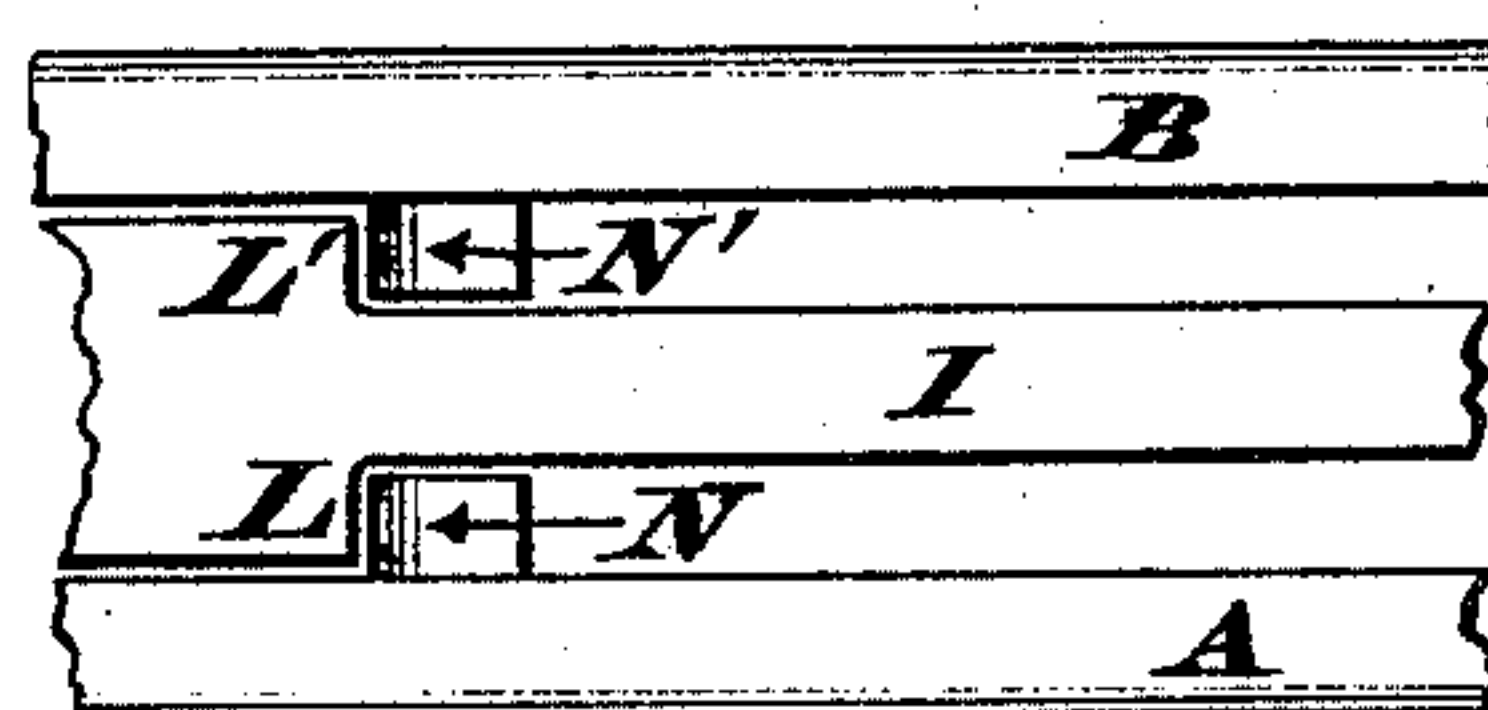


FIG. 5.



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UNITED STATES PATENT OFFICE.

JAMES L. HAVEN, OF CINCINNATI, OHIO.

TOBACCO-CUTTER.

SPECIFICATION forming part of Letters Patent No. 283,779, dated August 28, 1883.

Application filed December 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. HAVEN, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Cutting-Machines, of which the following is a specification.

My invention comprises a novel combination of devices for causing the pivoted knife-bar of a cutting-machine to advance while performing its descending or effective stroke, and to retract when elevated. This result is accomplished by slotting the heel of the knife-bar or otherwise arranging it to slide on or in a pivot or fulcrum, and providing the free end of said bar with a segmental rack that gears with an eccentric pinion of a pivoted lever, which latter is capable of being operated either by hand or power. Furthermore, the knife-bar is provided near its free end with a pair of shoulders adapted to bear against a pair of sloping flanges or lugs, that project inwardly from the frame or other fixed member of the machine, the angle of said flanges or lugs being such as to cause said bar to advance and retract in unison with the movements of eccentric pinion, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is a side elevation of my improved cutting apparatus, the knife-bar being shown in its elevated position and a portion of the frame being broken away. Fig. 2 is a sectionized elevation, showing the knife-bar at the termination of its descending or effective stroke. Fig. 3 is an elevation of a portion of one of the members of the frame. Fig. 4 is a vertical section through both members of said frame, said section being taken at the line 6 6 of Fig. 3. Fig. 5 is an enlarged plan of a portion of the machine.

A B represent two similar members of the frame of the cutting apparatus, said members being united by bolts or rivets C D E F, of which devices the rivet E serves as a pivot or fulcrum for the lever G, said lever being operated either by hand or with power, as occasion may require. Cast with or applied to the pivoted end of this operating-lever is an eccentric pinion, H, having a sufficient number of teeth to impart the desired motion to the knife or cutter-bar I, the heel of the latter being slotted longitudinally at J, so as to permit

said bar to slide freely on the rivet F. The free end of the knife-bar I has a segmental rack, K, that gears with pinion H, shoulders L L' being formed in the rear of said rack, which shoulders are adapted to bear against inclined flanges or lugs N N', or their equivalents, projecting internally from the side plates, A B, of the frame of the machine. O is the knife or cutter.

It being desired to force the knife or cutter down through the material to be severed, the handle G is thrown back to the position seen in Fig. 1, which act causes a descent of the cutter, and during this descent the following movements take place: When the machine is in the position seen in Fig. 1, the most eccentric portion of pinion H is in contact with rack K, and consequently the cutter-bar I is fully retracted, which retraction is permitted by the slot J and the upwardly-inclined flanges N N'. As soon, however, as the lever or handle begins to swing back, the eccentricity of the pinion gradually diminishes, and by the time the cutter O has reached the position seen in Fig. 2 the rack K will be in gear with the least eccentric part of said pinion. Now, it is evident that by inclining the flanges N N', so as to agree with the eccentricity of pinion H, said flanges will bear against the shoulders L L' in such a manner as to advance the knife-bar I and keep its rack K at all times in gear with said pinion, thereby causing knife O to operate with a sliding cut that greatly facilitates the severance of the material, such as tobacco, paper, &c. It is also apparent that when lever G is operated so as to raise the knife the inclined flanges N N' serve as guards or stops to prevent the bar I being retracted so far as to throw the rack K out of gear with the actuating eccentric pinion H.

In some cases inclined grooves may be substituted for the flanges N N', which grooves may be traversed by lugs or tongues projecting laterally from the cutter-bar I; or a series of small rollers may take the place of these flanges when the machine is adapted to cut very heavy material. Again, the slot J may be omitted, and the proper swing of the lever-heel may be permitted by converting this end of the lever into a spindle and causing the latter to traverse a slot in pivot F. Finally, this

heel of the lever may have a spring coiled around it for the purpose of maintaining the segmental rack K in gear with pinion H.

I am aware it is not new to provide cutting-
5 machines with knives capable of advancing while performing their descending or effective stroke, as such a construction is seen in the patents of H. V. and H. A. Morse, June 25, 1861, and H. A. Morse, May 16, 1865. Con-
10 sequently my claim is not to be construed as an attempt to cover the combination of devices seen in said patents.

I claim as my invention—

A cutting apparatus consisting of an eccen-

tric pinion, H, gearing with the segmental 15 rack K at the free end of a knife-bar, I, the latter being slotted longitudinally at J to slide on the pivot F, and being provided with shoulders L L', that bear against inclined flanges or lugs N N', projecting from the frame of the 20 machine, whereby the knife is caused to act with a sliding cut, as herein described.

In testimony of which invention I hereunto set my hand.

JAMES L. HAVEN.

Attest:

JAMES H. LAYMAN,
SAML. S. CARPENTER.