

(No Model.)

E. T. POLLARD.
CUTTER FOR CIGARETTE MACHINES.

No. 529,138.

Patented Nov. 13, 1894.

Fig. 1.

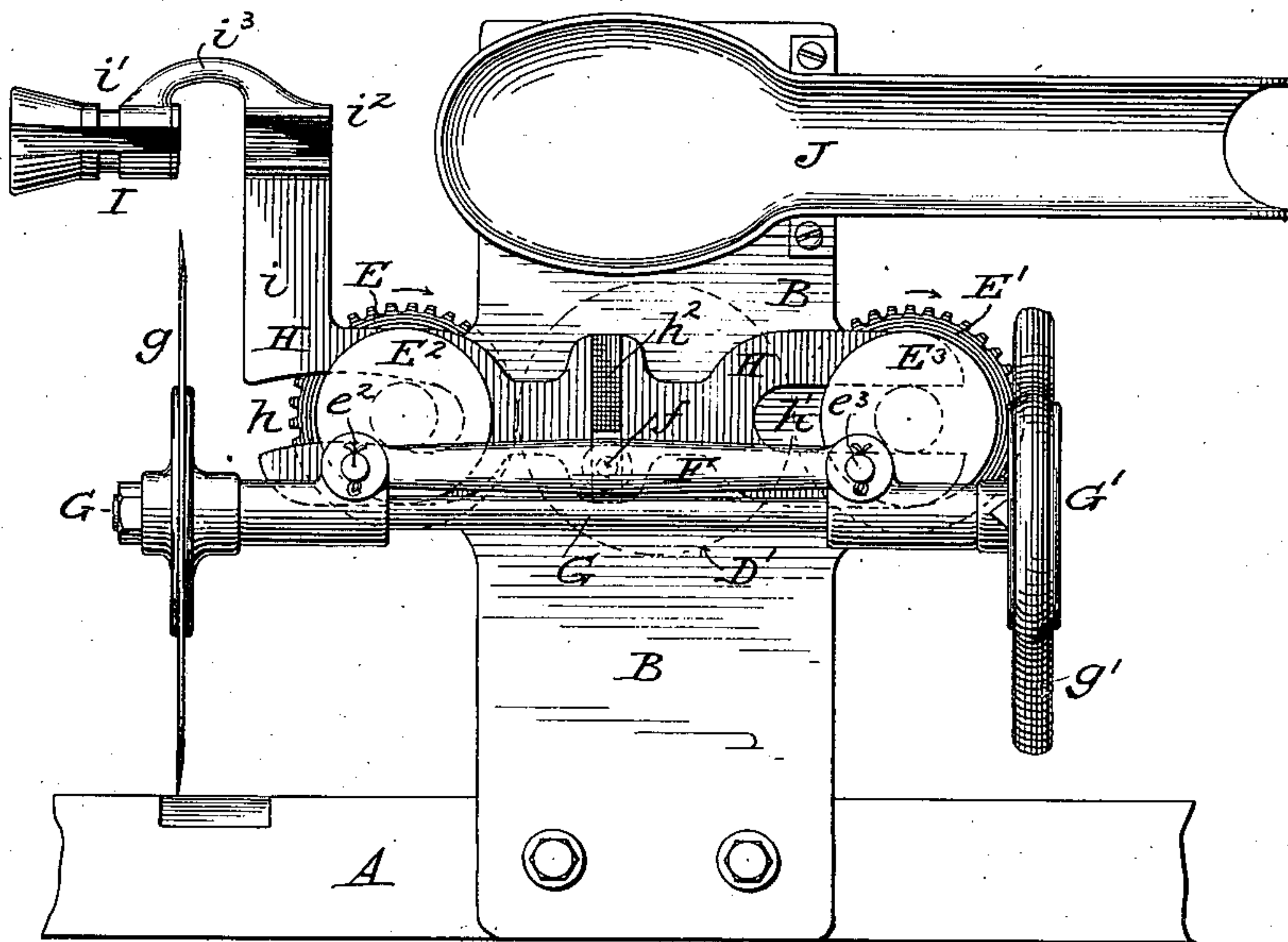


Fig. 2.

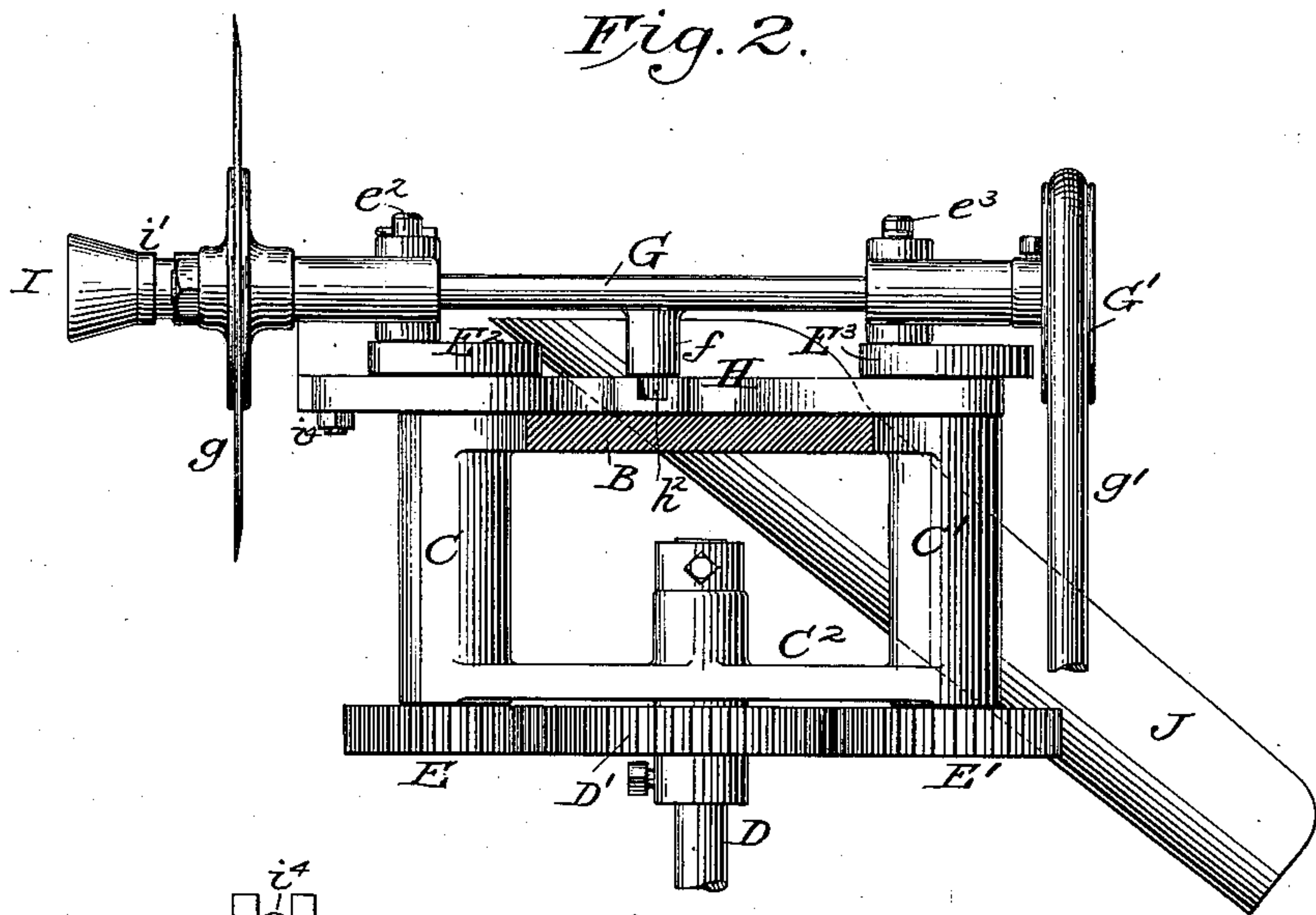
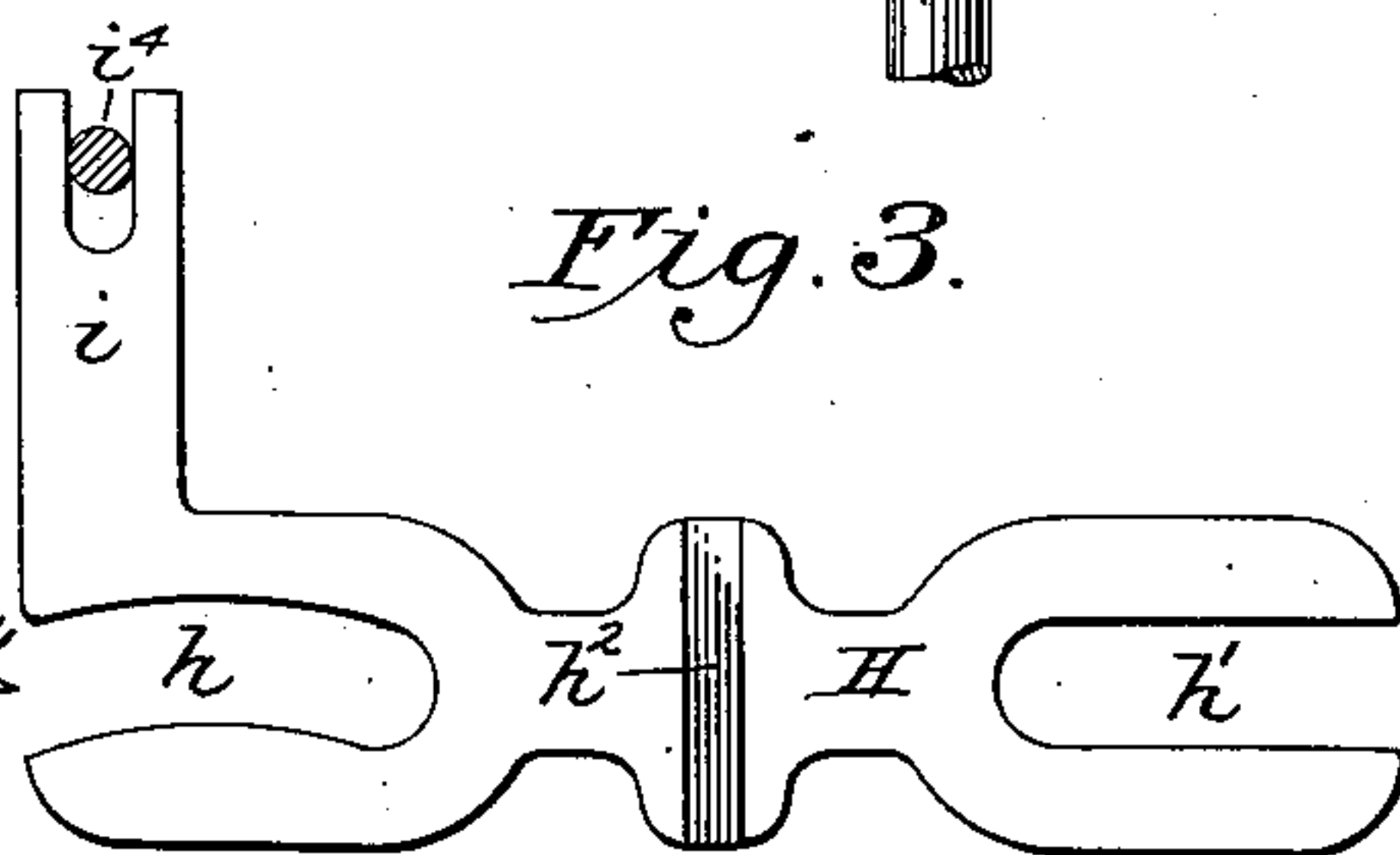


Fig. 3.

Witnesses:

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Inventor.

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UNITED STATES PATENT OFFICE.

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CUTTER FOR CIGARETTE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 529,138, dated November 13, 1894.

Application filed March 16, 1894. Serial No. 503,908. (No model.)

To all whom it may concern:

Be it known that I, EDWARD T. POLLARD, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Cutters for Cigarette-Machines, of which the following is a specification.

My invention relates to cigarette machines of the class in which tobacco is formed into a filler, and inclosed in a wrapper, and the continuous cigarette thus formed automatically fed to cutters which sever it into suitable lengths for smoking.

The object of my invention is to secure an efficient, quickly-acting, and simple cutting mechanism for cigarette machines, which end I attain by certain novel combinations and organizations of instrumentalities hereinafter set forth.

In the accompanying drawings which show my improvements embodied in the best way now known to me—Figure 1 represents a plan view of the cutting-mechanism; Fig. 2, a front view in elevation, thereof, and Fig. 3, a plan view of the holder-actuating bar, detached.

That side of the machine next the spectator I term the front; the other side, the rear. The cutter-end I term the left; the opposite one, the right of the machine.

A portion of the main frame A, supports a bracket B, on which the mechanism is mounted. Upright tubular columns C, C', depending from the bracket, are connected by a cross-beam C². A vertical shaft D, having its bearing in this cross-beam, and driven by suitable gearing, carries a spur-wheel D', driving similar gears E, E', on shafts extending upward through the columns C, C', and carrying disks E², E³, on their upper ends. Crank-pins e², e³, on these disks are connected by a pitman or link-bar F, having a bearing or sleeve at each end, through which a shaft G passes. A disk-cutter g, is mounted on the left-hand or forward end of this shaft, and a driving-pulley G', on the other. A belt or band g', from any suitable prime-mover, rotates this pulley and cutter-shaft at a high speed.

A bed-plate H, is adapted to slide over the bracket B, and columns C, C', between them and the crank-disks, its ends being forked so as to form guide-slots h, h'. The arms or forks

of these slots embrace the shafts of the disks which carry the cranks, and the bed-plate or slide-frame H is guided thereby. A stud f, 55 on the pitman F, works in a cross-groove h², on the slide frame to reciprocate it longitudinally. An arm i, projecting laterally from the slide-frame, carries a tubular holder I, through which the continuous cigarette passes 60 while being cut. This holder is shown as made in two sections i', i², the left-hand or forward section i', comprising a flaring-socket and tubular body, connected by an arm i³, with the rear tubular portion i². The knife 65 cuts close to the rear end of the front section, which section is made longitudinally adjustable in well-known ways. The entire holder is adjustable laterally on its support i, on which it slides by means of a slot and set-screw i⁴, (Fig. 3,) or other well-known device. 70 A discharge-spout or trough J, mounted on the bracket B, conducts the cut cigarettes to a suitable receptacle.

This cutting mechanism operates in the 75 following manner: The crank-disks are rotated in the same direction at such a speed as will cause the cutter to move, when cutting, at a speed commensurate with that of the continuous cigarette. The cutter being 80 independently rotated, may revolve at any speed desired. The rotation of the cranks causes the cutter to describe a horizontal cycloidal path, relatively to the holder, while the cutter-shaft always remains in a position 85 parallel with its longitudinal axis, or substantially so. The organization is such that the cutter severs the continuous cigarette while moving coincidently with it, as usual, being caused by the cranks alternately to intersect 90 and recede from the path of the continuous cigarette. The holder, however, instead of always remaining in that path, is caused to move laterally toward the cutter as the latter approaches it, thus insuring a quicker and 95 cleaner cut of the cigarette, and enabling the cutter to do its work with a shorter lateral reciprocation than would otherwise be requisite. This lateral movement of the holder is caused, in this instance, by curving the forward slot h, of the slide-frame H, to the required degree, a very slight curvature being sufficient, as shown in Fig. 3. As this slot is curved so that its inner or rear end is farther 100

from the normal line of movement of the continuous cigarette, it follows that during the forward stroke of the cutter, the forks of the slot *h*, moving over the forward crank-shaft, will deflect or draw the forward end of the slide-frame, and consequently the holder *I*, toward the cutter. The holder and cutter quickly recede from each other on their back stroke, thus quickly removing the cutter from the path of the continuous cigarette. I am thus enabled to cut cigarettes very rapidly, without the shock or jar incident to the employment of cams or other like devices heretofore employed for actuating the cutters.

My improved cutting mechanism herein described is shown, but not claimed, in an application for a patent for an improved cigarette machine filed simultaneously herewith, Serial No. 503,909, but may obviously be used in connection with many cigarette machines now in use, or otherwise well known.

I claim as of my own invention—

1. A device for severing continuous cigarettes, comprising a cutter, a cigarette-holder, and mechanism, substantially such as described, which causes both the cutter and holder alternately to approach and recede from each other, in paths intersecting the normal line of movement of the continuous cigarette, for the purposes specified.

2. A device for severing continuous cigarettes comprising a cutter, a shaft on which it is mounted, bearings in which the shaft turns, cranks moving in similar paths connected with the bearings and means for rotating the cutter-shaft and cranks, substantially as and for the purpose specified.

3. A device for severing continuous cigarettes, comprising two crank disks, parallel shafts on which they are mounted, a pitman connecting the cranks of these disks, a slide frame actuated by the pitman, a tubular cigarette holder carried by this slide frame, and means for operating the holder laterally, the organization being such that the holder is re-

ciprocated both longitudinally and laterally across the normal path of the continuous cigarette alternately toward and from the cutter, substantially as and for the purpose specified.

4. A device for severing continuous cigarettes comprising a rotary cutter, a shaft on which it is mounted, bearings in which the shaft turns, cranks mounted on parallel shafts and connected with the bearings, a pitman connecting the cranks, a slide frame provided with forks or guides embracing the crank-shafts, a cigarette holder carried by the slide frame, and means for operating the holder laterally, the organization being such that the cutter and holder alternately approach and recede from each other, substantially as and for the purpose specified.

5. A device for severing continuous cigarettes, comprising parallel crank-shafts, a pitman connecting them, a shaft rotating in bearings carried by the cranks, a cutter on the shaft, a slide frame actuated by the pitman, guide slots in the frame embracing the crank shafts, a cigarette holder carried by the slide-frame, means for reciprocating the slide frame and rotating the cutter at different speeds, and means for operating the cigarette holder laterally, substantially as and for the purpose specified.

6. The combination with a cigarette-holder, of a device for cutting a continuous cigarette, passing through the holder, comprising a rotary cutting blade, a shaft to which it is secured, a bearing in which the shaft is mounted, and a crank-shaft operatively connected with said bearing to cause it to move both longitudinally with reference to the axis of the holder and also laterally relatively thereto, substantially as hereinbefore set forth.

In testimony whereof I have hereunto subscribed my name.

EDWARD T. POLLARD.

Witnesses:

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B. WASHINGTON MILLER.