(No Model.) 2 Sheets—Sheet 1.

W. H. CAMPBELL.

CIGAR TIP CUTTER.

No. 533,207. Patented Jan. 29, 1895.

FIG. 1.

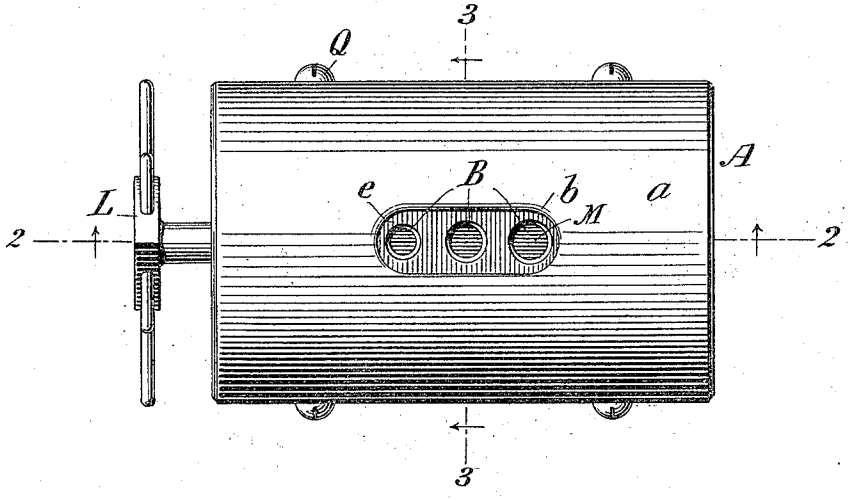
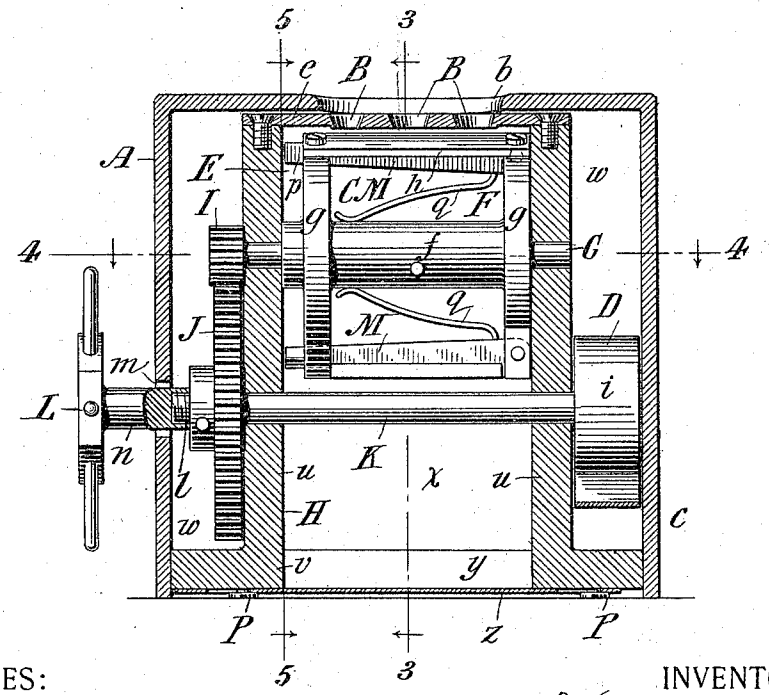


FIG. 2.



WITNESSES:

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H. W. Lloyd.

INVENTOR:

William H. Campbell,

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Arthur C. Fraser & Co

(No Model.) 2 Sheets—Sheet 2.

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FIG. 3.

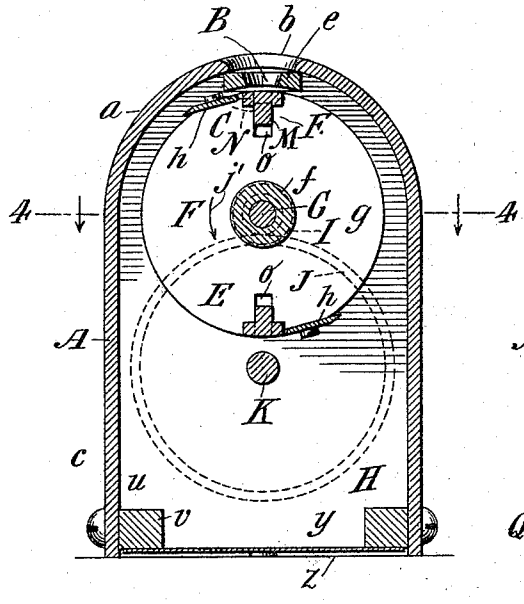


FIG. 5.

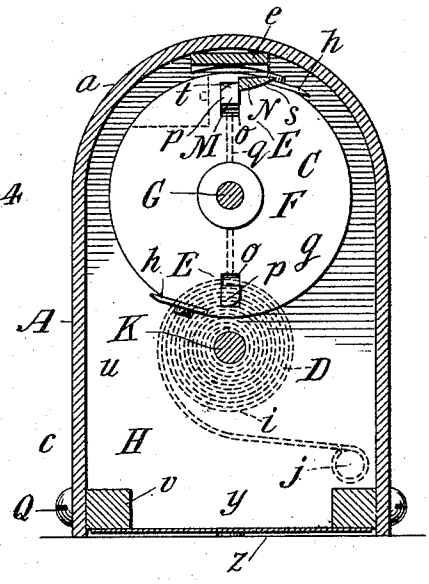
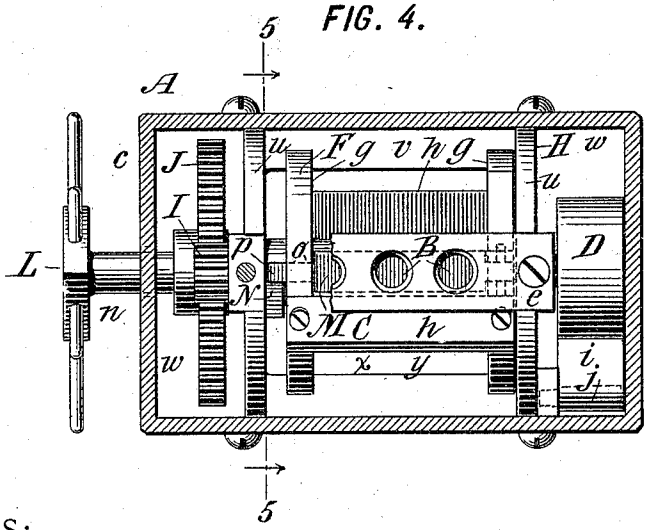


FIG. 4.



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INVENTOR:
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UNITED STATES PATENT OFFICE.

WILLIAM H. CAMPBELL, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF, CHARLES B. REDHEAD, EDWARD C. REDHEAD, AND FRANK W. SUYDAM, OF SAME PLACE.

CIGAR-TIP CUTTER.

SPECIFICATION forming part of Letters Patent No. 533,207, dated January 29, 1895.

Application filed March 5, 1894. Serial No. 502,306. (No model.) Patented in Italy June 30, 1894, XXVIII, 36,476, LXXI, 354, and in Austria July 24, 1894, 44/3,463.

To all whom it may concern:

Be it known that I, WILLIAM H. CAMPBELL, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Cigar-Tip Cutters, of which the following is a specification.

This invention has been patented by me abroad as follows: in Austria, by Patent No. 44/3,463, dated July 24, 1894, and in Italy, by patent dated June 30, 1894, Reg. Gen. Vol. XXVIII, No. 36,476, Reg. Att. Vol. LXXI, No. 354.

This invention relates to automatic cigar tip cutters of the class in which a releaser is operated by the insertion of a cigar in a tip hole to disengage stops and free a spring driven rotary blade. A cutter of this class is shown in my application for Letters Patent filed June 16, 1894, Serial No. 514,729, in which cutter a depressible frame has a cutting blade, a releaser fixed to the frame opposite to the tip hole, and a stop fixed to the frame, engaging a fixed stop carried by the casing and disengaged when the frame is moved inwardly by pressure of a cigar on the releaser.

My present invention aims to provide an improved cutter of the class having a rotating cutter frame, to the end that such cutters may be rendered more effective in operation, and convenient of construction. To this end I construct the rotary cutter frame with a nose or stop, carried by the frame and engaging a stop carried by the casing, and with a releaser bar carried by and movable relatively to the rotary frame for disengaging said stops, and I provide certain detail improvements which will be hereinafter fully set forth.

In the accompanying drawings, which show the preferred embodiment of my invention, Figure 1 is a plan view of my improved cutter. Fig. 2 is a vertical mid-section thereof cut on the line 2—2 in Fig. 1. Fig. 3 is a vertical cross section thereof cut on the lines 3—3 in Figs. 1 and 2. Fig. 4 is a horizontal section of the case, showing the cutter and its frame in plan and cut on the lines 4—4 in Figs. 2 and 3, and Fig. 5 is a fragmentary vertical section cut on the lines 5—5 in Figs. 2 and 4 and looking in the direction of the arrow.

Referring to the drawings, let A indicate the casing of a cigar cutter; B, the tip holes; C, the knives; F, the rotary frame carrying the latter; G, the shaft thereof; H, the internal frame work of the casing, in which this shaft is mounted; I, a pinion on the shaft G; D, a coiled spring or other motor for rotating the frame F; K, a shaft for this spring; J, a spur gear on this shaft and meshing with the pinion I for transmitting the motion of the spring thereto; E, interengaging stops between the casing and the rotary frame for locking the latter against movement; M, a releaser for disengaging these stops, and L a key for winding the spring D.

The casing A may be of any suitable construction comprising an inclosing shell and internal frame work. That shown is an upright cup-shaped shell of thin metal, having a rounded top *a*, provided with a slot or aperture *b*, and a lower portion of oblong rectangular form in cross section, as the external portion of the casing, and an internal frame H, fixed to this shell by screws Q, and forming the inner portion of the casing. The frame H has a flat bottom *v*, two vertical walls *u*, fitting within the shell and partitioning it into a central chamber *x* and end chambers *w*, and a bottom aperture *y* giving access to the central chamber, which aperture is closed by a plate *z* held in position against the bottom *v* by screws P. The frame is constructed with bearings for the shafts G and K. The casing as usual is provided with one or more tip holes B. According to one feature of this invention the walls *u* of the frame are constructed to carry a special tip hole plate *e*, and this plate is removably connected to the walls by screws at its ends, and is disposed with its tip holes B beneath the slot *b* of the shell. A spring D is located in one of the outer compartments *w*, at the outer side of one wall *u*, and the gearing J and I in the other outer compartment at the outer side of the other wall *u*. The knives and their ro-

tary frame are located between the walls *u* in the middle compartment *x*, and may be of any suitable or usual construction.

According to one feature of my invention, I construct the rotary frame F as a spool of cast metal having a tubular shank *f* receiving the shaft G, and integral disk shaped wings *g* carrying the knives C, and I construct the knives as one or more peripheral blades *h* removably fastened to the outer edges of the wings and rotating beneath the plate *e*.

The interengaging stops E should as heretofore be connected the one to the casing and the other to the rotary cutter, and the releaser should perform its usual function of disengaging these stops when a cigar is inserted in one of the tip holes, in order that then the cutter may rotate to cut the cigar. According to the preferred embodiment of my present improvement I construct one of the stops movably on the rotary frame of the cutter, and I construct the releaser on the rotary cutter and movable relatively thereto, and mount the other stop as a fixed stop stationary upon some part of the casing. With this construction the rotary knife and its frame may be mounted upon a stationary axis, and the releaser will operate to pass laterally of and away from the tip holes and thereby permit a maximum insertion of the cigar as soon as the releaser has disengaged the stops, and the construction of the releaser, the stops, and the rotating frame is rendered more substantial and convenient.

Various mechanical constructions for rendering the nose and releaser movable relatively to the rotary parts carrying them may be employed, but I prefer to utilize the particular construction shown in the drawings, in which the releaser is constructed as a bar or plate M movably connected to the spool F by a pivotal connection at its one end to one wing *g*, extending thence longitudinally of the spool to the other wing *g* in the form of a broad flat piece disposed immediately beneath and opposite the tip holes B, and the movable stop carried by the rotary part is in the form of a nose *p* connected to the releaser M by being formed integrally therewith and as a slender extension thereof, projecting exteriorly of the spool F. Preferably the pivotal connection between the releaser and spool is on an axis substantially at right angles to the rotative axis of the spool, and the releaser is constructed to swing radially of the spool, so that its nose *p* moves radially or substantially so of the latter, and the wing *g* is cut away, or formed with a slot *o* through which the nose *p* projects, in which it moves, and by which it is guided and retained in position.

The stationary stop carried by the casing is preferably a fixed stop N immovably mounted on the inner face of one of the walls *u* of the frame H in such position that when the movable stop *p* is in the outermost position the stop N will lie in its path of rotation, but when the stop *p* is moved inwardly it will pass beneath the stop N and permit rotation.

The bar M with its nose *p* is in the nature of a latch movably mounted upon the rotary cutter. Suitable means for holding it in the outward position and affording a gentle resistance to the insertion of a cigar should be provided. I prefer to provide a spring *q* for this purpose. That shown engages the bar at one end and bears on the hub *f* at its other end.

A releaser should be provided for each blade *h* of the knives. The releaser is preferably located immediately at rear of the blade. In the construction shown two blades and two releasers are provided at diametrically opposite sides of the spool F. To permit reverse rotation of the spool, for example when winding the spring, the under face of the stop N is beveled at *s*, and the stop *p* has a beveled top *t* enabling the latter stop to snap under the stationary stop as the spool turns backward.

I prefer to use as a driving means for the rotary cutter the spring D, which is an ordinary coiled spring *i*, one end of which is fixed to a stud *j* and the other end to the shaft K. To permit winding of this spring a screw threaded stud *l* is formed on the left end of the shaft, and a hole *m* is provided in the shell, through which the shank *n* of the key L may be inserted so that this shank may engage the stud, whereupon by rotation of the key the winding can be accomplished.

In operation when a cigar tip is inserted into one of the holes B its pressure on the bar M tilts the latter until its nose *p* frees itself from the stop N. Then the spring rotates the frame F, thereby moving the bar M out from below the hole and permitting full insertion of the cigar therein. Then the succeeding knife reaches and passes the tip holes and severs the inwardly projecting tip. The rotative movement continues until the succeeding releaser is in position beneath the holes, whereupon the stop *p* thereon strikes the fixed stop N and arrests further rotation. A half revolution is required for this in the construction shown, and during this movement the speed of the cutter becomes so great that the knife is enabled to entirely cut the cigar without difficulty. The cutting action is rendered more positive by the weight of the rotary spool F, which in its half rotation gathers a momentum which assists the knife in overcoming the resistance of the cigar.

It will be seen that my invention provides an improved automatic cigar tip cutter, and it will be understood that the invention is not limited to the precise details of construction and arrangement set forth as its preferred form; but that it may be availed of according to such modifications as circumstances or the judgment of those skilled in the art may dictate without departing from the essential features of the invention.

What I claim is—

1. In a cigar tip cutter, a casing having a tip hole, a rotary cutter in said casing moving past said hole, a rotary frame carrying said rotary cutter, means for driving said frame, a fixed stop carried by said casing, a stop engaging said fixed stop, carried by and movable relatively to said rotating frame, and a bar carried by and movable relatively to said rotating frame, opposite said tip hole, connected to said movable stop, and moved by the insertion of a cigar in said hole, and when moved moving said movable stop free from said fixed stop, all combined and arranged substantially as and for the purpose set forth.

2. In a cigar tip cutter, a casing having a tip hole, a rotary cutting blade moving past said hole, and means for driving said blade, in combination with a rotary frame mounted on a fixed axis and carrying said blade, a fixed stop carried by said casing, a stop carried by and movable relatively to said rotary frame, engaging said fixed stop to prevent movement of said frame, and a bar pivoted to and carried by said rotary frame, opposite said hole, connected to said movable stop and when moved disengaging it from said fixed stop, said bar adapted to be moved by the insertion of a cigar in said hole, whereby when said bar is moved and said stops disengaged said frame can rotate and said blade will cut the cigar.

3. In a cigar tip cutter, a casing having a tip hole, a rotary blade in said casing moving past said hole, a rotary frame mounted on a fixed axis and carrying said blade, interengaging stops, the one connected to the casing and the other to said rotary frame, engaging to prevent rotation of the latter, and means for driving said frame, in combination with a bar carried by said rotary frame opposite said hole, pivotally connected to said frame on a pivotal axis substantially at right angles to the rotative axis of the latter, movable relatively to said frame when a cigar is inserted in said hole, connected to one of said stops to disengage it from the other, said bar when moved freeing said stops and permitting rotation of said frame and blade to cut the cigar.

4. In a cigar tip cutter, a casing having a tip hole, a rotary cutter moving past said hole, and means for rotating the rotary cutter, in combination with a stationary stop on said casing, and a movable latch carried by said cutter, moving substantially radially thereof, engaging said stop to prevent rotation of the rotary cutter, and moved out of engagement with said stop when a cigar is inserted in said hole, whereby the cutter is then permitted to rotate and cut the cigar.

5. In a cigar tip cutter, a rotary frame F, a cutter blade carried thereby, a latch bar M carried by said frame and projecting exteriorly thereof, said frame having a slot O through which said latch bar projects, a stop N fixed to the casing and engaged by the projecting end of said latch, and a spring pressing said latch into position for engagement with said stop.

6. In a cigar tip cutter, a casing A, having an aperture *b*, in combination with a fixed frame H within and fitting the interior of said casing, having upright walls *u* partitioning the interior thereof, a plate *e* removably connected to said walls and having a tip hole opposite said aperture, a rotary spool F within said casing and between said walls, a cutting blade *h* carried by said spool and moving past and beneath said plate, a spring D within said casing at the outer side of one of said walls *u*, gearing within said casing at the outer side of the other of said walls *u*, transmitting the motion of said spring to said spool, stop N carried by said frame H, and a latch M carried by said spool opposite said tip hole, and engaging said stop, all substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM H. CAMPBELL.

Witnesses:

GEORGE W. FRASER,

THOMAS F. WALLACE.