

No. 682,552.

Patented Sept. 10, 1901.

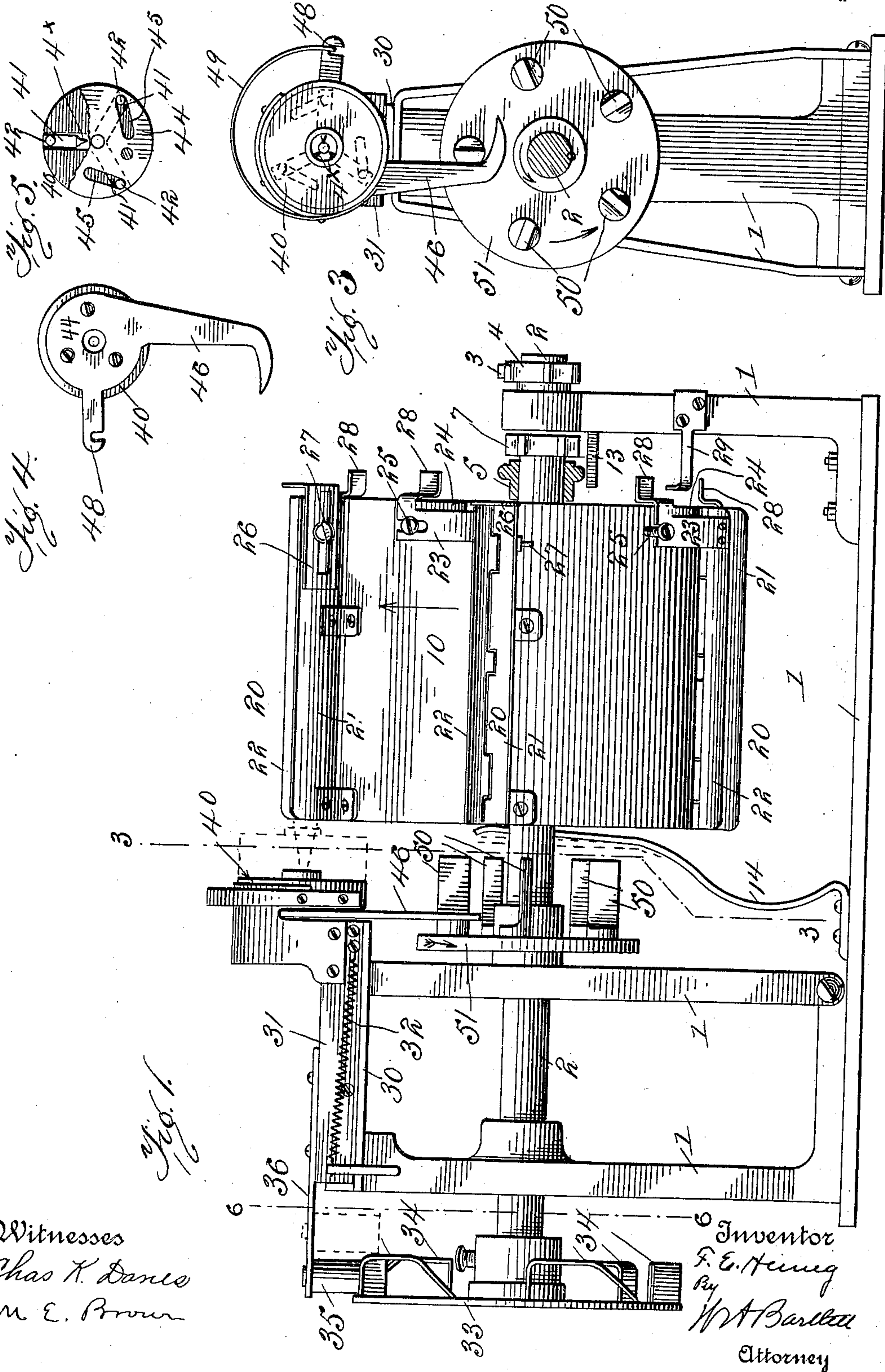
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MACHINE FOR SECURING METALLIC TIP COVERS TO CIGARS.

(Application filed July 15, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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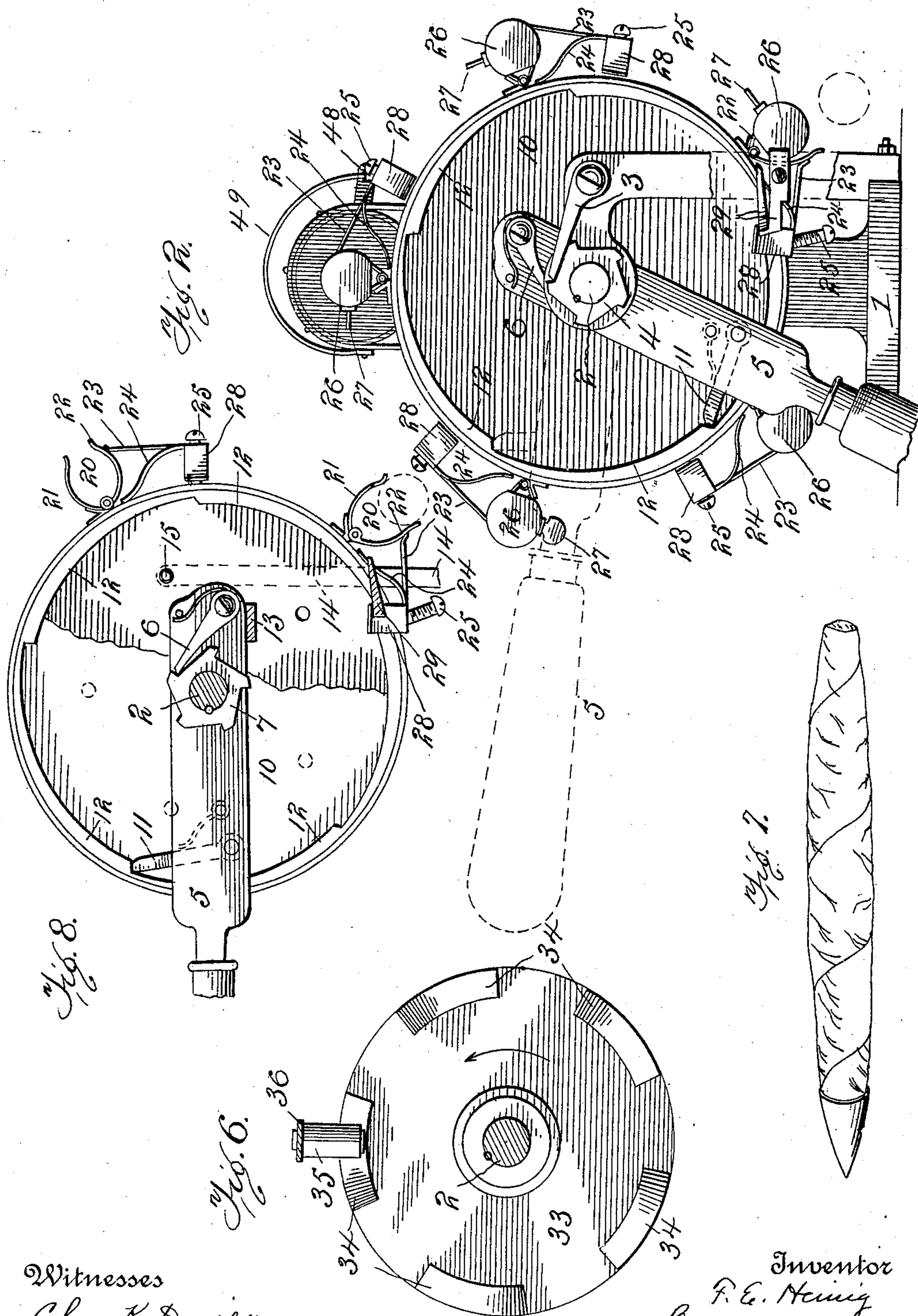
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UNITED STATES PATENT OFFICE.

FREDERICK EDWARD HEINIG, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO
CURRAN POPE, OF SAME PLACE.

MACHINE FOR SECURING METALLIC TIP-COVERS TO CIGARS.

SPECIFICATION forming part of Letters Patent No. 682,552, dated September 10, 1901.

Application filed July 15, 1901. Serial No. 68,368. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK EDWARD HEINIG, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Machines for Securing Metallic Tip-Covers to Cigars, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to machines for applying metallic tips to cigars.

The object of the invention is to produce a machine by which hollow metallic tips, usually of thin sheet metal in conical form, may be attached to cigars, (with object to distinguish a given quality of cigars and also to remove a small quantity of the cigar when the metallic tip is broken away.)

20 The present invention embodies in a machine a rotating carrier with inclosing pockets, to which cigars are fed singly and by which the cigars are carried around much as cartridges are carried in the cylinder of a revolver; also, mechanism by which when the cigar, with metallic tip applied, reaches the proper place the metallic tip is perforated and metallic points struck therefrom are pushed into the body of the cigar close to the end; also, mechanism for automatically releasing the cigars from the rotating carrier; also, details of construction and combinations of parts, as explained.

35 Figure 1 is a side elevation of the machine, some positions of parts being indicated by dotted lines. Fig. 2 is an end elevation of the machine, the handle being broken away. Fig. 3 is a section on line 3 3, Fig. 1. Fig. 4 is a detail of the cutter or punch operating cam. Fig. 5 is a detail, partly broken away, of the punch or cutter and holder. Fig. 6 is a section on line 6 6, Fig. 1. Fig. 7 is a plan of a cigar with metallic tip applied and secured by "struck-in" points, said cigar and tip being shown, described, and claimed in my Patent No. 603,639, dated May 10, 1898. Fig. 8 is a broken detail of the handle and pawl-and-ratchet mechanism by which the carrier is operated.

50 1 denotes the frame of the machine, which is of suitable form to support the working parts. In the frame are bearings in which

the shaft 2 is supported. This shaft can rotate in one direction only, being held from backward rotation by a pawl 3, which engages a ratchet 4, fast on the shaft. A hand-lever 5 is hung on the shaft 2 and has a pawl 6 pivoted to the said handle. The ratchet 7 is keyed or otherwise secured to the shaft 2. When the handle is carried downward, shaft 2 is turned partly around in its bearings in the frame in the direction of the arrow, Fig. 3, and, as stated, is prevented from moving backward.

Axially supported on shaft 2 is the cylindrical carrier 10. This carrier has a number of pockets or cigar-receptacles, five such receptacles being shown in the present case. The carrier 10 is caused to rotate intermittently by the engagement of pawl 11, which is carried on lever 5, with the ratchets 12 on the cylinder. Thus as the hand-lever 5 is swung upward it rotates or swings the cylinder 10 for about one-fifth of a revolution in one direction. As the lever swings downward it causes the shaft to rotate to an equal extent in the opposite direction. When the cylinder has been moved by the lever to such position as to bring one of the cigar-pockets to the top, the handle is stopped by engagement with abutment 13. At the same instant the spring-click or detent 14 presses its fingers 15 into a notch or opening in the end of the cylinder 10. The spring 14 yields when the cylinder is moved with the force of the lever, but holds with sufficient force to stop the cylinder at the proper position for the operation to be described. As has been stated, the movement of the cylinder 10 is much like that of the cylinder of a revolving firearm. The pockets 20 have each a fixed piece 21, which forms one side of the trough-shaped pocket, and a hinged piece 22, forming the other side of the pocket. The hinged leaf 22 has an arm 23 integral therewith or firmly attached thereto. This arm is pressed out from the body of the cylinder by a spring 24, which spring, acting on the arm of the leaf 22, has a tendency to close said leaf toward the leaf 21. A set-screw 25 on the cylinder limits this closing movement. The set-screw can be arranged at different positions, according to the size of the cigars operated

on, and the hinged leaf thus allowed to close onto a cigar in the pocket with just sufficient force to hold the cigar firmly without injuring it. The fixed leaf 21 of the pocket has a
 5 movable end piece 26, which by means of a set-screw 27 can be adjusted to different positions, so that the pockets may be made to fit cigars of different lengths. The arm 22 has an elbow 28, which overhangs the end of
 10 the cylinder 10. When the cylinder 10 rotates to the position that elbow 28 encounters releasing-stop 29 on the frame, the contact of the elbow with this stop swings the leaf 22 open and the cigar rolls out of the pocket
 15 sidewise. The cigar may be put into the pocket by hand, (with the metal cone loosely stuck on the end,) as a slight pressure of the fingers will swing leaf 22 to open the pocket. Cigars are placed in the pockets at one side
 20 and drop out at the other side of the machine. The stop of the cylinder with a pocket at the top is for the purpose of securing the metallic tip protector or covering to the cigar, as will now be explained.
 25 Supported on frame 1 there is a slideway 30, on which a punch or cutter-holder 31 moves back and forth, as will be explained. The spring 32, attached to the frame and to the cutter-holder, draws the cutter-holder nor-
 30 mally away from the carrier 10. The top pocket of said carrier 10 stops in line with the cutter-holder when held by detent 14, as explained. At that instant the downward movement of the hand-lever 5 begins, causing the
 35 partial rotation of shaft 2. Shaft 2 carries a face-cam 33, and one of the cam projections 34 on said face-cam engages the roller 35, which is carried by rigid arm 36 of the cutter-holder, and this causes the cutter-holder
 40 to advance toward the cigar in the top pocket of the carrier 10. When cam projection 34 has moved far enough, the spring 32 will draw the cutter-holder back again. Cutter-holder 31 has a disk or face-plate 40, in
 45 which are three radial grooves. In each of these grooves there is a cutter or punch 41, capable of sliding toward or away from the open center of the face-plate 40. Each of these cutters or punches 41 has a project-
 50 ing arm or pin 42. Behind the disk 40 there is a cam-plate 44, having three cam slots or grooves 45, arranged in substantially helical lines. The cam-plate 44 is concentric with disk 40, and the pins 42 of the punches enter
 55 these helical slots in the cam-plate 44. Consequently the rocking of the cam-plate 44 about the center of disk 40 will either advance the cutting ends of the punches toward the open center of disk 40 or will move them
 60 away from said center, such mechanism for advancing and retracting the punches being well known. The cam-plate 44 has a pendent arm 46, which arm is engaged by one of the studs 50 on the disk 51, which disk rotates with
 65 the shaft 2. As a stud 50 engages the pendent arm 46 it swings said arm to one side, thus rocking cam-plate 44 and advancing the

punches 41 toward the cutter of disk 40. The form of arm 46 can be made such as to give a slow or quick or variable movement to the
 70 punches, as the circumstances may require. After a stud 50 has swung back the pendent arm 46 the stud will move past the end of said arm. Cam-plate 44 also has an arm or lever
 75 48 attached, and a spring 49, connected to the cutter-holder, acts on said arm to swing the cam-plate in the opposite direction to that of its movement under the impulse of studs
 80 50. This tends to withdraw the cutters or punches.

The operation of the device is as follows: Cigars are placed near the side of the carrier or cylinder 10. Each cigar has a metallic conical tip-protector at its pointed end,
 85 the thin metallic cone being held temporarily by friction. A cigar with tip so attached is slipped into one of the pockets 20 on the rising side of the carrier 10, the tip projecting from the end of said pocket beyond the end
 90 of the carrier. The adjustment of plates 26 insures that this projection is just enough to project the cigar-tip to the proper distance. As soon as a cigar has been entered into a pocket by one hand of the operator the lever
 95 5 is lifted by the other hand. This carries the pocket to its highest position and the carrier stops. The cigar is closely clasped by the spring-actuated side leaf of the pocket, with its metal-covered tip extending toward
 100 the cutter-holder. As the hand-lever 5 is stopped by abutment 13 at its extreme upward position the operator knows the carrier and cigar are in proper position for punching. A reverse movement of the lever causes
 105 cutter-holder 31 to move toward the cigar and the face-plate 40 moves over the cigar, the open center of such face-plate serving to center the tip-cover if it be slightly out of place. At the completion of the forward movement
 110 of the cutter-holder (caused by cam 34) one of the studs 50 swings arm 46 to one side (under impulse of the same downward movement of the hand-lever) and by the cam movement the points 4^x of the cutters or
 115 punches 41 are forced radially into the metallic tip-cover and cut or strike down metallic points, fins, or projections, which points are carried into the body of the cigar and thereafter retain the metallic tip-protector on
 120 the cigar. (See my Patent No. 603,639, dated May 10, 1898.) As soon as the stud 50 has passed by the end of arm or lever 46 the spring 49 withdraws the punches or cutters from the cigar-tip. An instant later the spring 32
 125 draws the cutter-holder away from the cigar. A new cigar is fed into the next pocket and the movement repeated. The completed cigar in the advancing pocket is carried along until the pocket is opened by the engagement of elbow 28 with abutment 29, when the
 130 cigar rolls into a suitable receptacle.

I have described the machine as actually constructed by me. Many of the details might be changed—as, for instance, the form

of cams, the location of parts, the timing of the different operations, &c.—without in any way departing from the general principles of the invention.

5 What I claim is—

1. In a machine as described, a rotating carrier provided with means for clasp-
ing a cigar, a cutter-holder having cutters or punches in proximity to the end of the cigar
10 when clasped in said carrier, means for advancing the cutter-holder to the cigar-tip, and means for projecting the cutters into the tip, all combined.

2. In a machine as described, a movable
15 cigar-carrier and means for clasp-
ing a cigar therein, a movable cutter-holder and means for moving the same to the cigar clasped in the carrier, cutters in said holder, and means closing the same onto the cigar-tip, and means
20 for retracting the cutters, all combined.

3. In a machine as described, a rotating cylindrical carrier, a fixed and a movable leaf on said carrier constituting a cigar-pocket, an arm connected to the movable leaf, and
25 an abutment in the path of movement of said arm whereby the pocket is opened automatically as the carrier rotates.

4. The combination with the rotating cigar-carrier, of a fixed leaf and a movable leaf constituting the sides of a pocket, and an end
30 piece adjustably secured to one of the leaves, whereby the length of the pocket may be regulated.

5. The combination with the rotating carrier, of a fixed leaf thereon, a hinged leaf constituting with the fixed leaf the sides of the pocket, a spring acting on the hinged leaf to close the same, and an adjustable stop by
40 which the closure of the pocket may be regulated.

6. The combination with the axial shaft, of a rotating carrier supported thereon, means for rotating the carrier in one direction, means for holding the carrier temporarily, a cutter-
45 holder and punches carried thereby, means for rotating the shaft, and a cam carried by the shaft and operating on the cutter-holder to advance the same toward the carrier.

7. The combination with the carrier and
50 means for holding a cigar therein, of the cutter-holder, means for advancing the same to inclose the cigar-tip, the radially-movable cutters carried by the cutter-holder, and cams acting on said cutters to project the same into
55 the cigar-tip.

8. The combination of a longitudinally-reciprocating cutter-holder, radially-arranged punches or cutters carried by said holder, a rocking cam-plate engaging said cutters to move them radially, an arm connected to said
60 cam-plate, and a rotating disk having studs which engage said arm to rock the cam-plate.

9. The combination with the rotating carrier and its cigar-clasping pockets, a cutter-
holder and punches, of means for moving the
65 cutter-holder toward the cigar in one of the pockets, means for actuating the punches carried by said holder, and automatic releasing mechanism by which the cigar is dropped from the rotary carrier.
70

10. In a tip-attaching machine, the axial shaft, a carrier supported thereby, the hand-lever and pawl-and-ratchet mechanism by which the carrier is moved intermittingly in one direction and the shaft in the other di-
75 rection, a face-cam on the shaft, and a sliding cutter-holder movable in one direction by said face-cam and in the other direction by a spring, all combined.

11. In a machine as described, the axial
80 shaft, the carrier having cigar-clamping pockets, the hand-lever engaging said carrier to rotate it in one direction and engaging the shaft to rotate it in reverse direction, a sliding cutter-holder, a face-cam on the
85 shaft serving to move the cutter-holder, cutter-moving cams, and a stud-carrier on the main shaft by which said cams are moved, all combined.

12. The combination with the rotating car-
90 rier and its cigar-holding pockets, of a stop by which the carrier is held at rest, a reciprocating cutter-holder moving on a slideway toward and from the carrier, cutters carried by said holder, and means for actuating said
95 holder while the carrier is at rest.

13. The combination with the rotating carrier and clamping-pockets thereon, of a reciprocating cutter-holder, a rotating face-cam to advance said cutter-holder, cutters
100 carried by the holder, a cam acting on said cutters, and a rotating disk having studs by which said cam is actuated.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK EDWARD HEINIG.

Witnesses:

A. THURSTON POPE,
C. R. PARKER.