(No Model.) 2 Sheets—Sheet 1.

C. S. PECK.

HAT BRIM POUNCING MACHINE.

No. 559,865. Patented May 12, 1896.

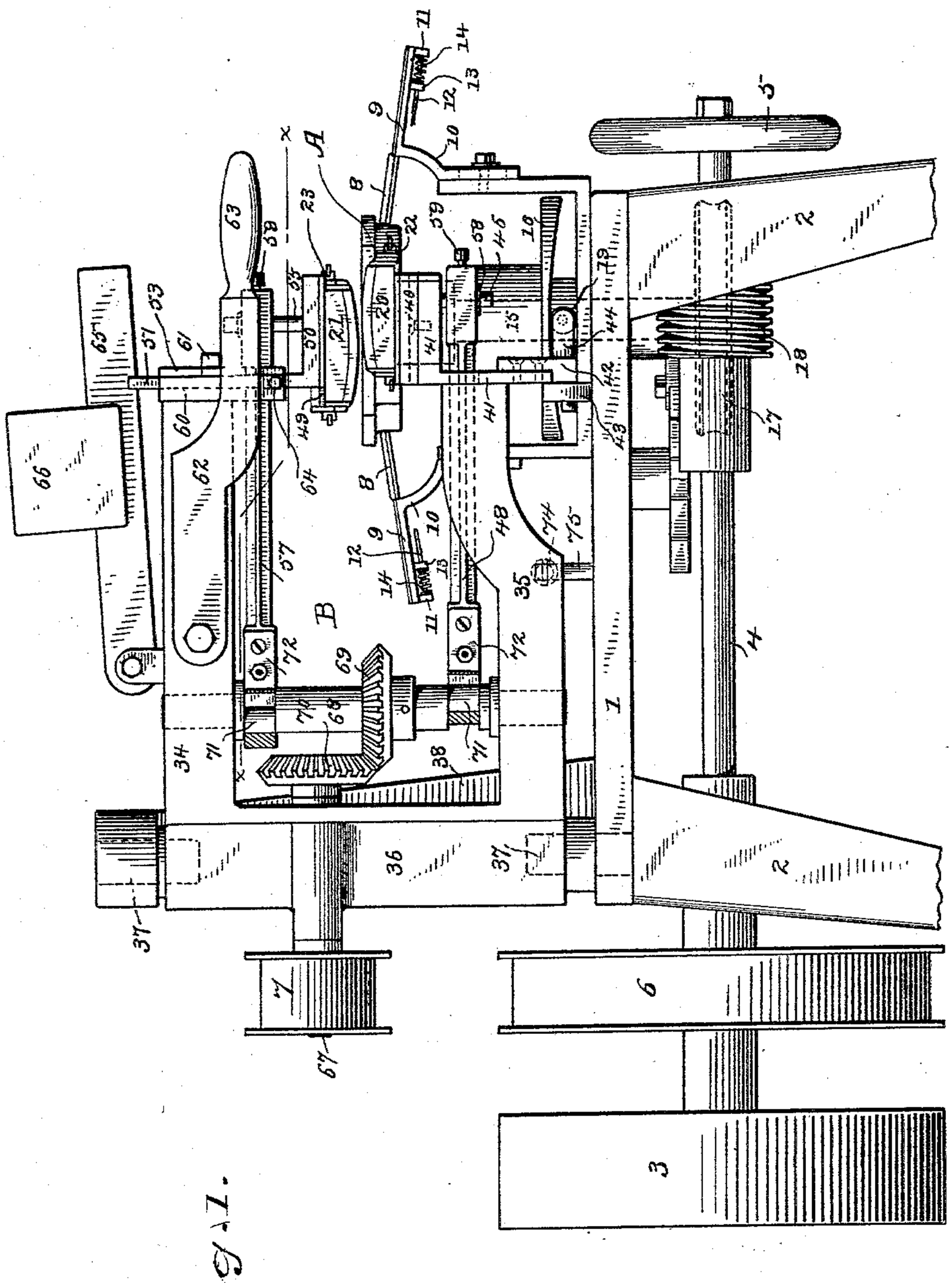

Fig. 1.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

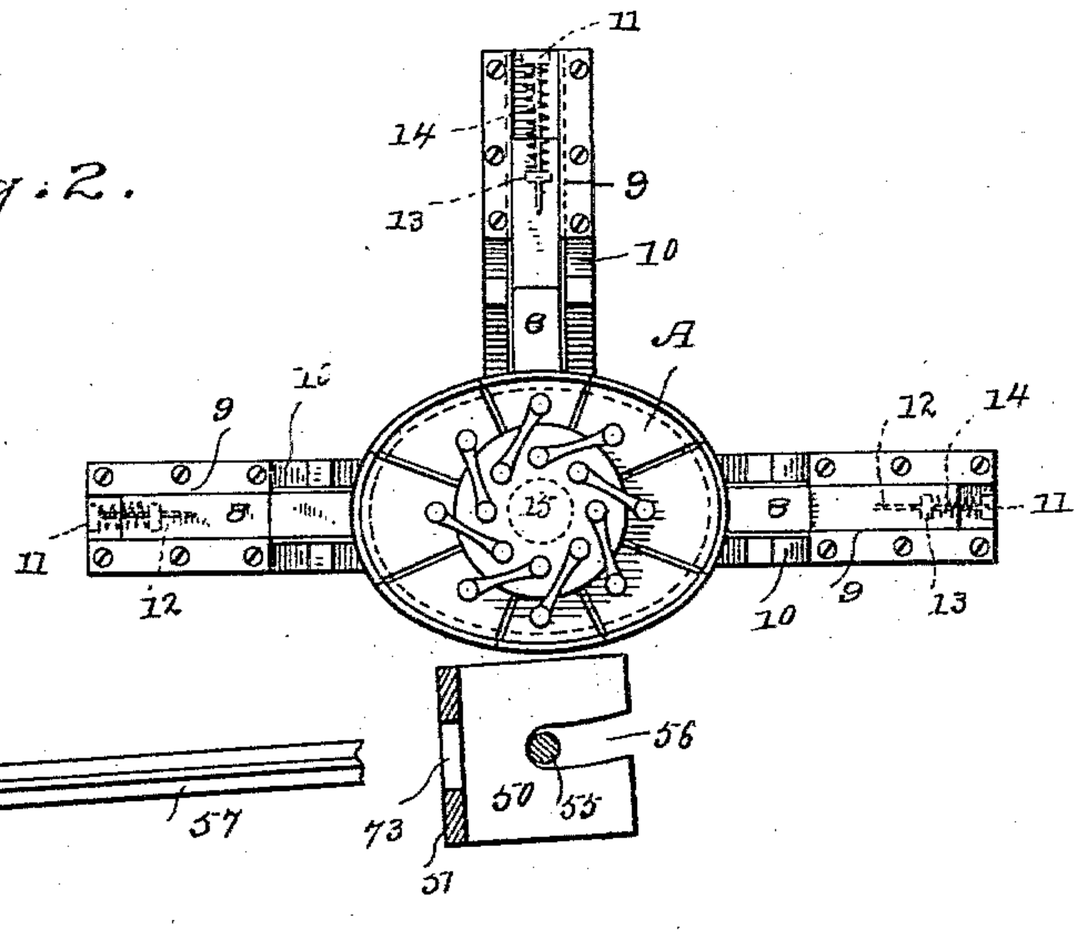


Fig. 4.

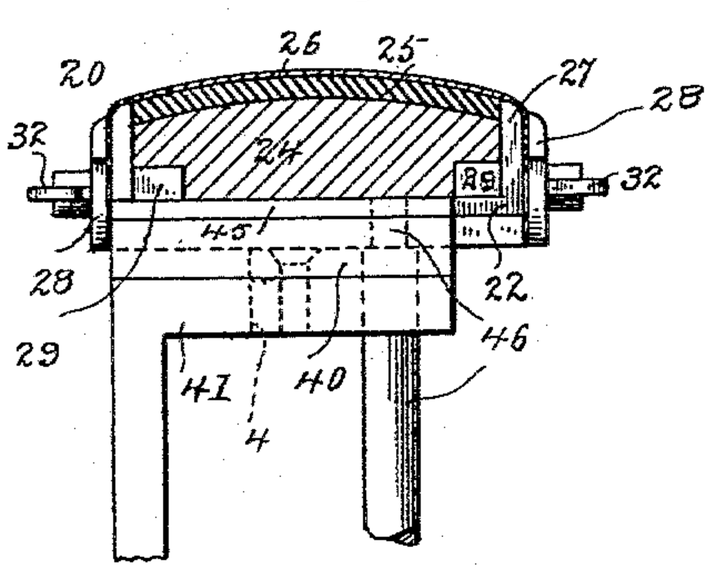


Fig. 5.

Fig. 3.

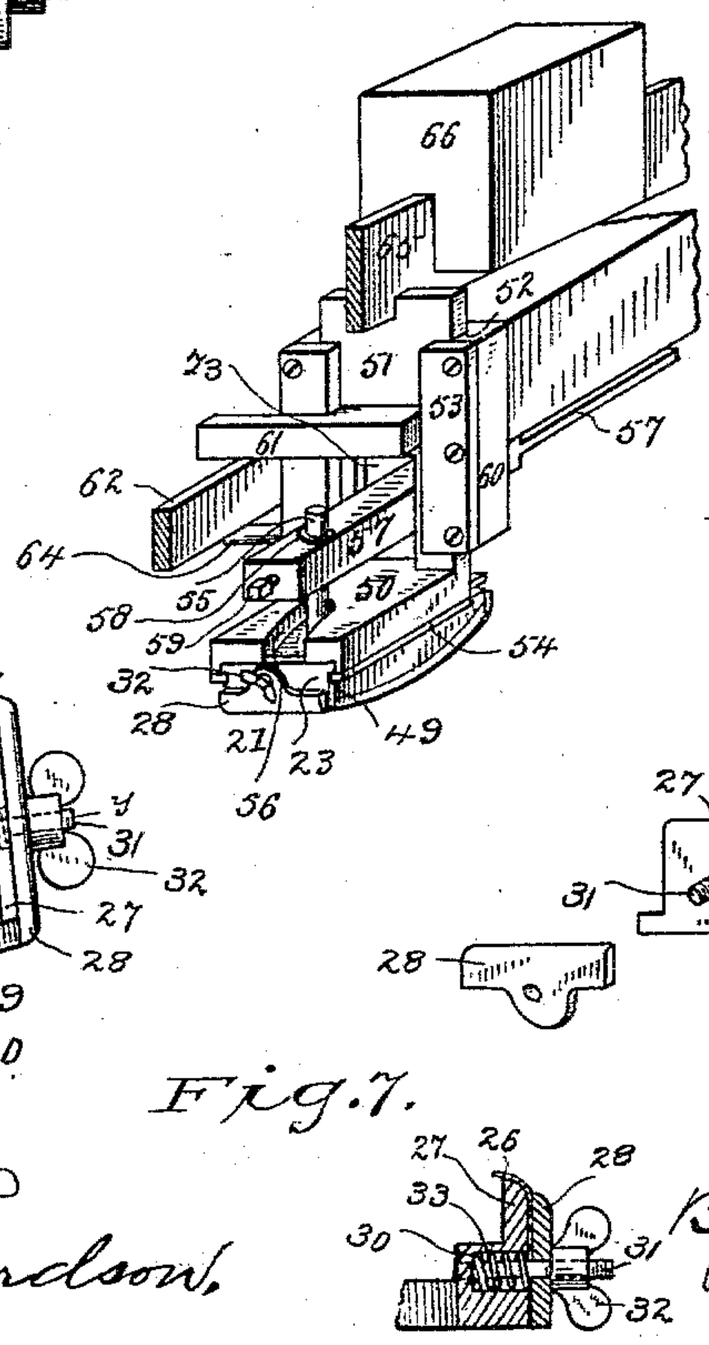
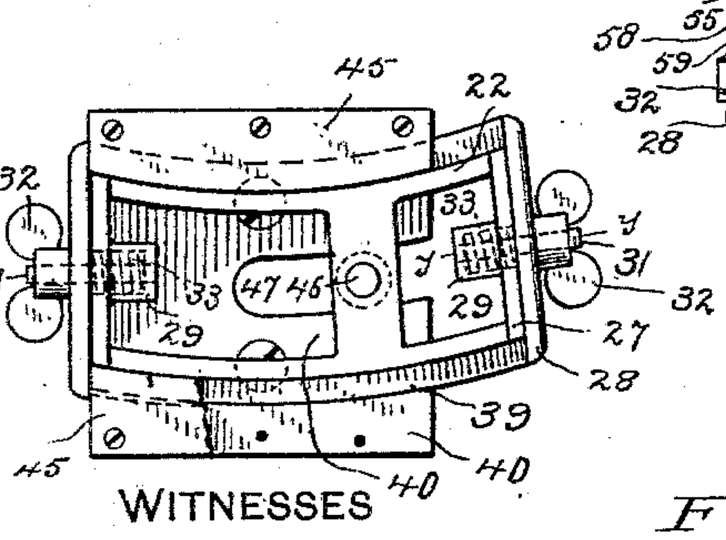


Fig. 6.



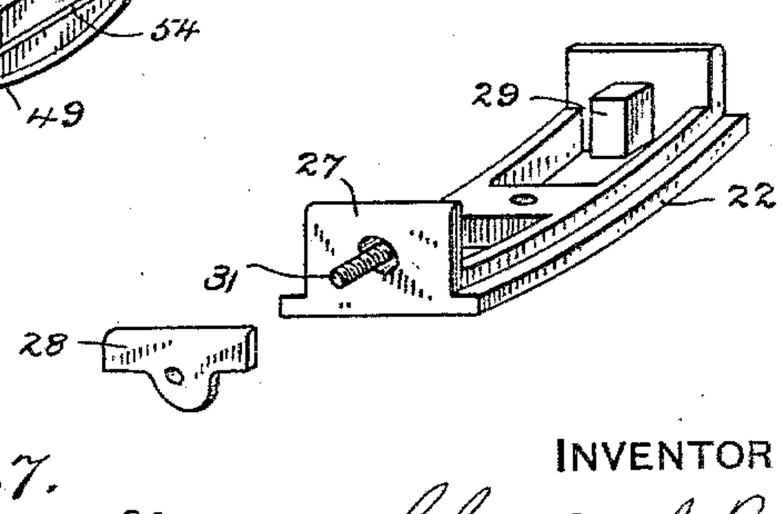


Fig. 7.

WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES S. PECK, OF DANBURY, CONNECTICUT.

HAT-BRIM-POUNCING MACHINE.

SPECIFICATION forming part of Letters Patent No. 559,865, dated May 12, 1896.

Application filed March 29, 1895. Serial No. 543,689. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. PECK, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Hat-Brim-Pouncing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the class of machines for pouncing hat-brims which is illustrated and described in my pending application for Letters Patent, Serial No. 518,996, filed July 30, 1894, and has for its general object to still further simplify and cheapen their construction and to greatly improve their mode of operation in use, the special object in my present machine being to provide a construction which will pounce the upper and under sides of the brim at the same time by means of pads oscillating in planes at right angles to the axis of the hat-holder in an arc of a circle instead of reciprocating in a straight line, so that the pouncing action will follow approximately the curvature of the brim instead of being tangential thereto, thereby greatly increasing the surface that is acted upon by the pouncing-pads close to the intersection of the brim with the body.

My invention relates, furthermore, to various improvements in the details of construction, which I will now proceed to describe, and then specifically point out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of the machine complete; Fig. 2, a plan view of the hat-holder, the brim-supports, the upper pouncing-pad holder, and the arm for oscillating the upper pouncing-pad detached; Fig. 3, a detail perspective of the upper arm, pouncing-pad, holder, &c., detached; Fig. 4, a detail side elevation of the lower pouncing-pad carrier and the holder therefor, the pad being in section; Fig. 5, a plan view corresponding with Fig. 4; Fig. 6, a perspective of the lower pouncing-pad carrier detached, and Fig. 7 is a detail sectional view on the line *y y* in Fig. 5.

1 denotes the bed of the machine, and 2 the legs by which it is supported. Power is applied to drive the machine by means of a belt (not shown) running over a pulley 3, which in practice turns freely on a shaft 4, extending longitudinally of the machine under the bed. In the present instance I have omitted the clutch mechanism by which the belt-pulley is connected to the shaft, as said mechanism forms no portion of my present invention. At the opposite end of the shaft is a hand-wheel 5 for convenience in turning the shaft should it be desired to place the hat-holder in any special position without starting the machine.

6 denotes another belt-pulley on shaft 4, from which a belt (not shown) extends over a pulley 7 on a shaft 67, journaled in a swinging frame B, as will be more fully described. The hat to be operated upon is carried by an expanding holder (designated as a whole by A.) This holder I shall not describe in detail, as specifically it forms no portion of my present invention. So far as my present invention is concerned any rotating holder which will hold the hat in position to be operated upon by the pouncing-pads will meet the requirements. In starting, the operator places the hat to be operated upon over the expanding holder and secures it there. The brim of the hat is supported by sliding plates 8, which slide in ways 9, supported by arms 10, which are secured in place in any suitable manner. In the present instance I have shown three sliding plates. The inner ends of these plates bear upon the expanding holder below the top thereof. At the outer ends of the ways on the underside thereof are lugs 11, from which rods 12 extend inward. These rods pass through lugs 13, which extend downward from the plates. Springs 14, lying between the lugs, act to force the plates inward against the hat-holder. It will be obvious that as the holder rotates the plates will move in and out in the ways and will form at all times a support for the inner edges of the hat-brim. The hat-holder is carried by a vertical shaft 15, (see dotted lines, Figs. 1 and 2,) which also carries a plate 16, the under side of which is curved from end to end to correspond with the scope of a hat-brim, and a worm-wheel 17, which engages a worm 18 on shaft 4, by which rotation is imparted to the shaft and hat-holder. Plate 16 rests upon a roller 19, the same as

in my said former application referred to, and as the shaft and plate revolve, said plate and shaft, and with them the hat-holder, are raised and lowered in the manner described in my said former application. This movement I shall not describe in detail for the reason that specifically it forms no portion of my present invention. It is deemed sufficient for the purposes of this specification to say that the expanding holder rises and falls twice during each rotation, the height of the rise depending, of course, upon the curvature of plate 59, which corresponds to the scope of the hat-brim. The effect of this movement is to keep the under side of the hat-brim at all times even with the top of the lower pouncing-pad, presently to be described.

20 denotes the lower pouncing-pad and 22 the carrier therefor, and 21 the upper pouncing-pad and 23 the carrier therefor. The carriers are both curved longitudinally to correspond approximately with the curvature of a hat-crown, as clearly shown in the drawings. The pads may be of any ordinary or preferred construction. I preferably use pads consisting of blocks 24, which are faced with rubber, as indicated by 25, over which a pouncing-strip, ordinarily of emery-paper (indicated by 26) is placed. The pads lie between end pieces 27 on the carriers, and the pouncing-strips are held in place by clamping-plates 28. In order to provide a convenient means for removing the pouncing-strips, I preferably cast on the inner sides of the end pieces blocks 29, in which sockets 30 are formed. Threaded rods 31 pass through these sockets and through the clamping-plates, the outer ends of the rods being engaged by set-screws 32.

33 denotes springs in the sockets, which bear against the clamping-plates and force them outward, allowing the pouncing-strips to be removed readily as soon as the clamping-plates are loosened. The swinging frame consists of an upper arm 34 and a lower arm 35, which are rigidly secured to or cast integral with a vertical piece 36, which is pivoted on trunnions 37, the lower trunnion resting in the bed and the upper one being held by a standard 38, which is rigidly bolted to the bed.

74 denotes a spring, one end of which is connected to the swinging frame and the other to a post 75, extending upward from the bed. This spring acts to hold the swinging frame and with it the pouncing-pads in operative position. Suitable mechanisms (not shown in the drawings) are provided to retain the inner edge of the upper pouncing-pad out of actual contact with the hat-body and also to lock the swinging frame out of operative position. I have not deemed it necessary to illustrate and describe these mechanisms in detail, as specifically they form no portion of my present invention. They are, moreover, fully illustrated and described in my said former application referred to. The lower carrier is adapted to oscillate in curved ways 39 in a holder 40, which is rigidly secured to an angle-piece 41, cast integral with or rigidly secured to lower arm 35. Upon the lower end of angle-piece 41 is a block 42, which carries a roller 43, adapted to travel on the bed and support the weight of the swinging frame in swinging the latter into and out of operative position. Roller 19, previously referred to, upon which plate 16 rests, is carried by an arm 44, extending from this block. The lower carrier is retained in position in ways 39 by plates 45, which are screwed to the holder, as clearly shown in Fig. 5.

46 denotes a pin, which extends downward from the lower carrier, passing through a curved slot 47 in the holder and angle-piece. 48 denotes a connecting-rod, which is pivoted on the lower end of this pin. The upper carrier 23 oscillates in ways 49 in a holder 50, which is provided with an angle-piece 51, adapted to slide in ways 52 in a head 60 at the outer end of arm 34. Angle-piece 51 is retained in the ways by plates 53, which are screwed to the head in the arm. Ways 49 in which the upper carrier oscillates are curved the same as ways 39 in the lower carrier, and the upper carrier is retained in ways 49 by plates 54, which are screwed to holder 50. This construction being identical with that of the lower carrier and holder is not thought to require illustration in detail. The construction of the upper pouncing-pad and the means for retaining the pouncing-strip in place are precisely the same as have already been described in detail in connection with the lower pouncing-pad and its carrier.

55 denotes a pin which extends upward from the upper carrier, passing through a curved slot 56 in the upper holder. 57 denotes a connecting-rod, which is pivoted on the upper end of pin 55.

73 denotes an opening in angle-piece 51, through which rod 57 passes freely. Pins 46 and 55 both preferably pass through bearings 58, which are locked in position in their respective rods by set-screws 59.

61 denotes an arm extending laterally from angle-piece 51, which rests upon a lever 62, which is pivoted to arm 34 and is provided at its outer end with a handpiece 63.

64 denotes a rest extending from head 60, which prevents the lever from dropping down. The swinging frame is moved into and out of operative position by means of lever 62. In swinging the frame into operative position after a hat has been placed upon the holder, holder 50 and with it the upper pouncing-pad and its carrier may be raised to permit the brim to pass under the upper pouncing-pad by a simple movement of the lever. In the same manner holder 50 with the upper pouncing-pad and its carrier may be lifted while in use away from the brim of a hat without stopping the machine or moving the swinging frame out of operative position.

65 denotes a lever pivoted on the top of arm

34 and extending forward, and 66 a weight which is adjustable on this arm. The forward end of lever 65 rests upon angle-piece 51, a notch being preferably formed in the top of the angle-piece to receive the lever, as clearly shown. The action of the weight is to cause the upper pouncing-pad to rest with any desired amount of pressure upon the upper side of the hat-brim, the pressure thereon being regulated by simply moving the weight on the arm. At the inner end of shaft 67 is a bevel-pinion 68, which meshes with a bevel-pinion 69 on a vertical shaft 70, which is journaled in the swinging frame. This shaft is provided with eccentrics 71, to which the inner ends of connecting-rods 48 and 57 are connected by means of straps 72. It will thus be seen that rotation of shaft 70 will reciprocate rods 48 and 57, which are connected to the pouncing-pads, and that as the carriers for these pads are themselves curved and are fitted in curved ways the reciprocation of the pouncing-pads will be in a curved line—*i. e.*, an arc—instead of in a straight line, the curvature of the ways and pads corresponding approximately to the curvature of a hat-body, so that the pouncing action will follow approximately the curvature of the brim instead of being tangential thereto, as heretofore.

It will of course be obvious that the details of construction may be greatly varied without departing from the principle of my invention.

I claim—

1. In a machine of the character described the combination with a rotating holder by which the hat-body is carried, of plates 8 by which the brims are supported, ways in which said plates slide, springs acting to move said plates inward against the holder so that the inner edge of the brim is supported at all times and suitable mechanism for pouncing the brim while it is being carried around by the holder and supported by the plates.

2. The combination with a rotating hat-holder, of pouncing-pads adapted to operate on both sides of the brim simultaneously, carriers therefor curved longitudinally in an arc of a circle to correspond approximately with the curvature of a hat-crown, holders having correspondingly-curved ways to receive the carriers, a swinging frame by which said holders are carried, mechanism for oscillating the carriers in said ways and in planes at right angles to the axis of the hat-holder and mechanism for raising the upper pouncing-pad independently of the swinging frame and of the lower pad.

3. In a machine of the character described the combination with means for holding a hat, of a pouncing-pad holder having curved ways, a pad and a carrier therefor curved to correspond with the ways, means for retaining the carrier in the ways and means for reciprocating said carrier and pad in a plane at right angles to the axis of the hat-holder.

4. The combination with a pouncing-pad and a pouncing-strip, of a carrier provided with sockets 30, clamping-plates, rods passing through the sockets and through the clamping-plates, springs adapted to force the clamping-plates outward and set-screws which act to clamp the plates against the carriers to retain the pouncing-strip in place, the springs acting against the clamping-plates as soon as the set-screws are turned backward to permit convenient removal of the pouncing-strip.

5. The combination with arm 34 having a head provided with ways 52, of upper pouncing-pad holder 50 having an angle-piece 51 adapted to slide in said ways, a pouncing-pad in said holder, means for actuating said pad, an arm 61 extending from said angle-piece, a lever 62 pivoted to arm 34 and adapted to bear upon arm 61 to lift the holder independently of the arm and a rest for said lever.

6. The combination with arm 34 having a head provided with ways 52, of upper pouncing-pad 21, upper pouncing-pad holder 50 having an angle-piece 51 adapted to slide in said ways means for actuating said pad in said holder, an arm 61 extending from said angle-piece, a lever 62 pivoted to arm 34 and engaging arm 61 to lift the holder independently of the arm a rest for said lever and a lever 65 bearing upon the angle-piece and provided with an adjustable weight by which pressure upon the upper pouncing-pad is regulated.

7. The combination with a rotating hat-holder, upper and lower pouncing-pads, carriers therefor curved longitudinally in an arc of a circle to correspond approximately with the curvature of a hat-crown, holders having correspondingly-curved ways to receive the carriers, and a swinging frame by which said parts are carried, of shaft 70 journaled in said frame and provided with eccentrics 71, rods pivoted to the carriers, straps by which the rods are connected to the eccentrics and means for rotating shaft 70 so that the carriers will be oscillated in the ways and in planes at right angles to the axis of the hat-holder.

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

CHARLES S. PECK.

Witnesses:
H. A. WILDMAN,
W. H. STEGEMAN.