R. EICKEMEYER.

HAT POUNCING-MACHINE.

No. 182,908. Patented Oct. 3, 1876.

Fig. 1.

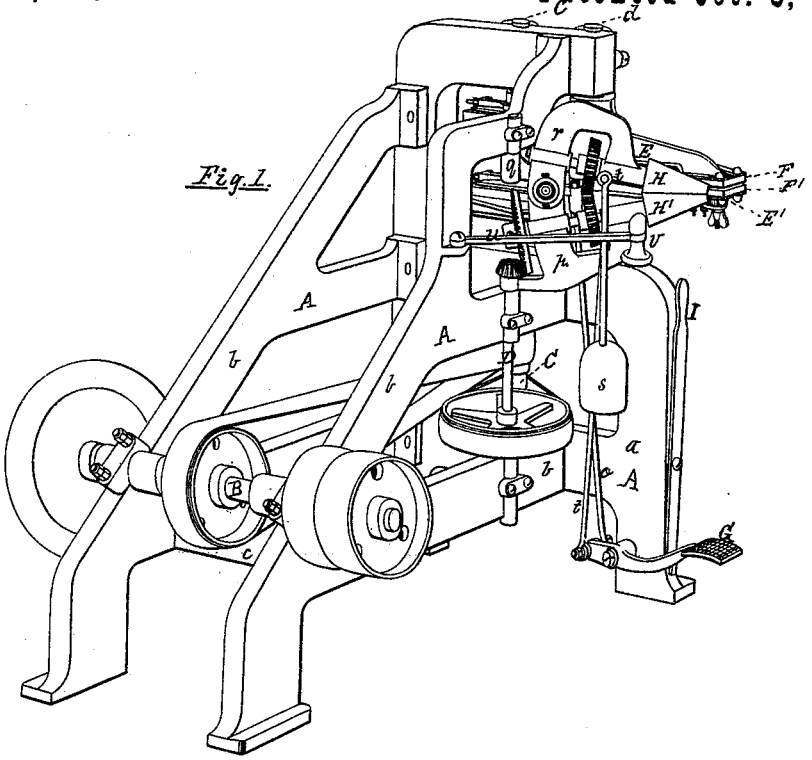


Fig. 2.

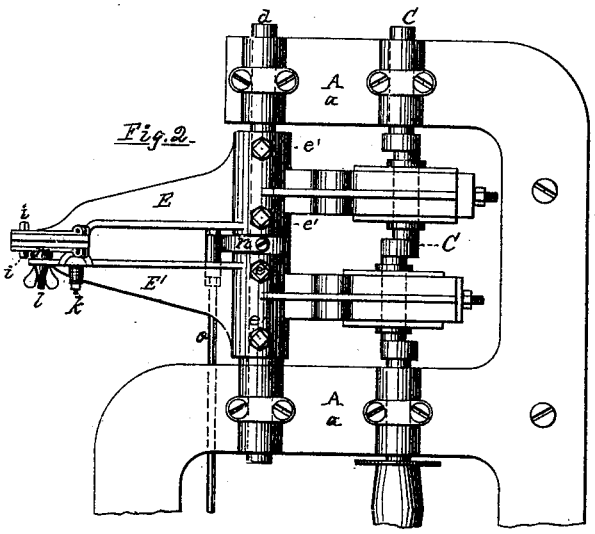


Fig. 3.

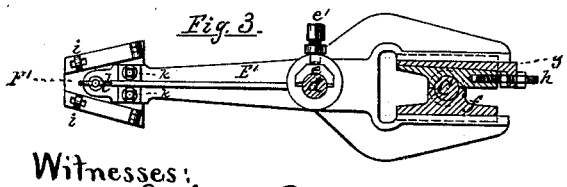
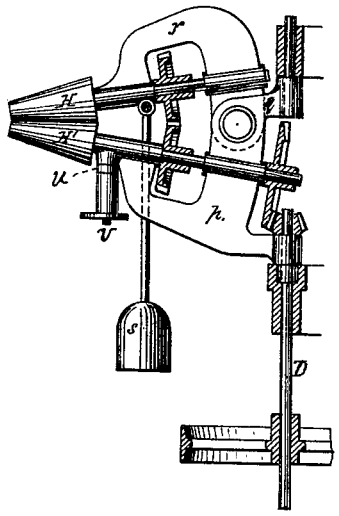


Fig. 4.



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UNITED STATES PATENT OFFICE.

RUDOLF EICKEMEYER, OF YONKERS, NEW YORK.

IMPROVEMENT IN HAT-POUNCING MACHINES.

Specification forming part of Letters Patent No. **182,908**, dated October 3, 1876; application filed September 2, 1876.

To all whom it may concern:

Be it known that I, RUDOLF EICKEMEYER, of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Hat-Pouncing Machines; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part thereof, is a clear, true, and complete description of the several features of my said invention.

It is to be distinctly understood that the machine herein described as embodying my present invention involves no novel mode of operation, so far as relates to pouncing hats, as its general operative features constitute, in part, the subject of several Letters Patent heretofore granted.

This machine pounces the brims of hats by means of reciprocating plates clad with brushes, sand-paper, or other suitable pouncing devices, which operate while the hat is rotated by means of conical rollers, after the manner substantially described in the Letters Patent of John Rosencranz, September 28, 1869.

One portion of my invention consists in the combination, with vibrating pouncing-plates, of laterally-adjustable feed-rolls and a treadle, whereby the rolls and plates may be readily separated for the insertion and removal of a hat without stopping the machine; and, further, my invention consists in the combination, with the pouncing-plates, rollers, and treadle, of an adjustable connecting-rod, connecting with the treadle and upper pouncing-plate, so as to permit the proper adjustment of the vibrating plates with relation to the feed-rolls.

Certain other features of my invention will be hereinafter fully set forth.

In developing the brims of hats, it is frequently the case that the brim at the outer edge is made thinner than at the junction of the brim with the side crown. As heretofore constructed, the pouncing-plates have not been capable of adjustment so as to evenly pounce the brim when its outer portion was thinner than the inner portion, and one object of my present invention is to obviate this difficulty, which I accomplish by mounting the lower pouncing-plate on a hinged joint, and providing it with an adjusting-screw, whereby the outer end of the plate may be raised or lowered, and set in any desired position.

In pouncing hats of various sizes and different widths of brim, it is of great practical value that the conical feeding-rolls be capable of adjustment in their position with relation to the pouncing-plates, and I provide for this capacity by mounting the lower roll on a bracket or arm, which is pivoted mainly on a shaft from which power is derived for operating the rolls, and in pivoting the upper-roll bracket to the lower-roll bracket, so that both may be swung to and fro without changing the relations of the rolls to each other or to the operative gearing.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 represents my improved machine in perspective. Fig. 2 represents, in side view, the pouncing-plates, a portion of the crank, and a portion of the frame of the machine. Fig. 3 represents, in top view, one of the pouncing-plates and its lever, detached, and also exhibits the sliding box in section. Fig. 4 represents, partly in side view and partly in section, the conical feeding-rollers and their operative mechanism.

The frame A of the machine is designed with special reference to strength and solidity. The end plate *a* projects to the front of the machine beyond the side plates *b*, which are bolted thereto, and also to a cross-bar, *c*, at the opposite end. The main shaft B is provided with a driving-pulley, and is belted to the vertical crank-shaft C, which is in turn belted to the vertical shaft D.

E and E′ denote, respectively, the upper and lower pouncing-plate levers. F and F′ denote, respectively, the upper and lower pouncing-plates, which are mounted upon the outer end of the levers. Both levers are pivoted on a vertical rod or shaft, *d*, which is supported by the end plate *a*. To secure at all times a perfect contact with the rod *d*, each lever is provided with a bushing, *e*, and set-screw *e′*, as shown in Fig. 3. Each lever has at its rear end two arms, the inner surfaces of which are parallel with each other,

for the reception of the sliding box *f*, which encircles the crank-shaft C. Each box is provided at one side with a sliding block, *g*, slightly wedge-shaped, and controlled by the screw *h*, which is tapped into a threaded hole in the end of the sliding block. The two halves of the box are slightly separated, so that when wear occurs between them and the crank-shaft, and also between them and one arm of the lever, the sliding block may be advanced, and thus maintain proper contact and obviate all lost motion. Each sliding block is recessed at the side for receiving the adjacent arm of the lever, as indicated by the dotted lines in Fig. 3. When the crank-shaft C is rotated the pouncing-plate levers are vibrated to and fro in opposite directions, and the pouncing-plates at the outer ends of said levers, when thus vibrated and in contact with a hat-brim, perform the pouncing operation. Both pouncing-plates are provided with clamping-bars near each edge of their rear sides, so that sand or emery paper may be placed on the front surfaces, folded backward and secured by the clamping-bars, which are hinged at one end to the plate, and confined at the opposite end by a screw or button, as at *i*. The lower pouncing-plate F′ is hinged at its rear end to its lever. The latter has a convex seat, to which a concave portion of the plate is fitted, and the connection between the two is effected by bolts *k*, which project downward from the plate through a slot in the convex seat. The bolts are provided with a convex block and an elastic or spring washer, as is clearly shown in Fig. 2, whereby a close hinge contact may be always maintained. From the front end of the lower plate is a downwardly-projecting thumb-screw, *l*, which has a bearing against the under side of the outer end of the plate-lever, and between said lever and the plate surrounding the thumb-screw is an elastic washer or spring, *m*.

With this construction, which embodies one feature of my invention, it will be seen that the outer end of the plate is supported by the spring *m*, and that by turning the screw said outer end may be inclined from front to rear for operating on brims, which are thinner at the edge than at the side crown. The lower plate-lever E′ is only capable of a vibratory movement, and is always maintained in the same horizontal plane. The upper lever, however, while capable of the same vibratory movement, can also be raised bodily, so that the pouncing-plates may be separated sufficiently to introduce a hat-brim while continuing the vibratory movement. This lifting of the upper lever is accomplished by means of the sliding collar *n*, which is mounted on the vertical rod *d*, and loosely interposed between the two levers. The collar *n* is connected with the treadle G by the lifting-rod *o*, so that when the treadle is depressed the upper pouncing-plate is lifted. The treadle and upper pouncing-plate are rendered adjustable with relation to each other by means of a thread cut on the lifting-rod *o*, and two nuts clearly shown, which enables the collar *n* to be set at the requisite point longitudinally on the rod to secure the desired lift of the plate when the treadle is depressed. The importance of this feature will be readily seen when it is remembered that if the pouncing-surfaces were rubbed together they would be soon rendered smooth and inoperative.

I will next describe the feeding-rollers, whereby the hat is rotated for successively presenting all parts of the brim to the pouncing-plates.

The conical rollers H and H′ have their shafts or axes, as heretofore, set angularly with relation to each other. The shaft of the lower roller H′ is supported in boxes in an arm or hanger, *p*, which is pivoted to the vertical shaft D, and also to a vertical stud at *q*, which is truly in line with the shaft D. A small bevel-pinion on shaft D meshes with the larger bevel-gear on the shaft of roller H′; and, although the hanger may be moved to and fro, these gears will always maintain proper working relations.

The laterally-adjustable feed-rollers, their shafting and gearing, mounted in a hanger which is hinged to or in line with their driving-shaft, also constitutes one feature of my invention.

The shaft of the upper roller H is mounted in boxes in a hanger, *r*, which is hinged to the hanger *p* at its rear end. The pivot on which the upper hanger is hinged has bearing in bushings which are controlled by set-screws, to compensate for wear. A weight, as at *s*, is suspended from the upper hanger, for securing proper contact of the rollers with the brim when interposed between them. Power is communicated from the lower to the upper roll by gears, as shown. The upper hanger is connected with the treadle G by the lifting-rod *t*, so that when the treadle is depressed the upper roll and upper pouncing-plate will be simultaneously lifted, for the removal or introduction of a hat. In order that when thus lifted the operative may leave the machine without stopping it, I have applied the holding-lever I to the frame of the machine, and arranged its lower end so that it will engage with the top of the treadle when depressed, and thus keep the upper pouncing-plate and upper roller in their most elevated position.

The combination of the holding-lever with the vibrating plates, the rolls, and treadle constitutes one of the minor features of my invention.

In order to adjust the position of the feeding-rollers with relation to the pouncing-plates, and to maintain them in any desired position, I employ the adjusting-bar *u*, which is secured to the side plate of the machine, and is extended outward to a point near the inner end of the lower roller. At its outer end this bar is curved, and is slotted to correspond with the line in which the hangers travel when

moved to and fro. A threaded pin or bolt, as at *v*, projects downward from the hanger through the slot in bar *u*, and is provided with a setting-nut, as clearly shown in Fig. 4, for securing the rolls in position.

As before stated, my improved machine involves no novel mode of operation in the art of pouncing hats; but it will be obvious that much valuable time is saved by its use when compared with those machines which must be stopped whenever a hat is completed. The machine, as herein described, has been proven to possess great practical value, in that it is operated smoothly, and its parts are so constructed that such wear as is incident to its use may be readily compensated by the adjusting mechanisms.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with vibrating pouncing-plates and laterally-adjustable feed-rollers, of a treadle, substantially as described, whereby the rolls and the plates may be readily separaced for the insertion or removal of a hat while the rolls revolve and the plates vibrate, as set forth.

2. The combination, with vibrating pouncing-plates, feed-rollers, and a treadle, of a rod connected with the treadle, which is adjustable with relation to one of the vibrating plates, substantially as described.

3. The combination, with the feed-rollers, the vibrating pouncing-plates, and the treadle, of a holding-lever, substantially as described, whereby the plates and rollers, when separated, may be maintained in that position, as set forth.

4. In a hat-pouncing machine, laterally-adjustable feed-rollers, their shafting and gearing, all mounted in a hanger, which is hinged to or in line with the driving-shaft, from which power is derived for operating the rollers, substantially as described.

5. A pouncing-plate, hinged to its lever, in combination with an adjusting-screw, substantially as described, whereby said plate may be inclined from front to rear and held in position, as set forth.

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