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Fig. 1.

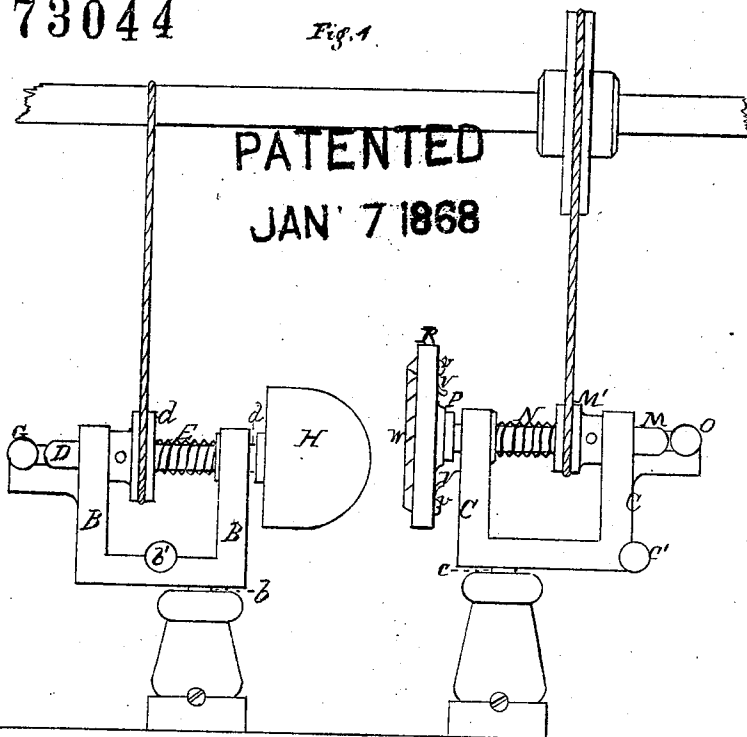


Fig. 2.

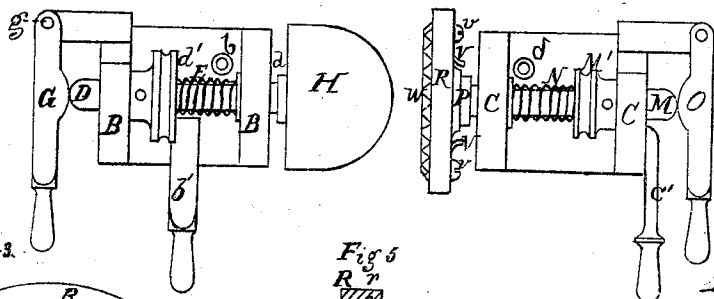


Fig. 3.

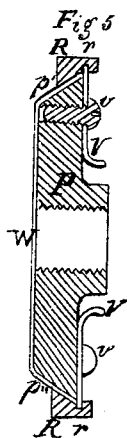
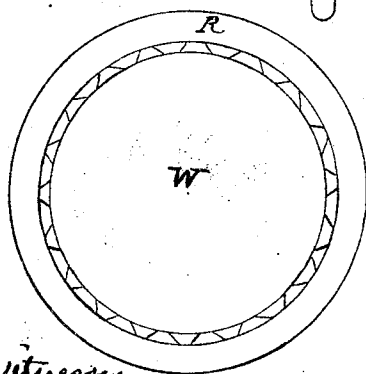
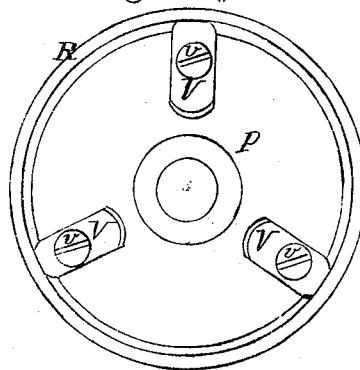


Fig. 5.



Witnesses
E. W. Luffin
H. Gardner

J. C. Richardson,
by his attorney J. S. Johnson

United States Patent Office.

JOHN C. RICHARDSON, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF
AND JAMES H. PRENTICE, OF BROOKLYN, NEW YORK.

Letters Patent No. 73,044, dated January 7, 1868.

IMPROVEMENT IN MACHINES FOR POUNCING HATS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN C. RICHARDSON, of Newark, in the county of Essex, in the State of New Jersey, have invented certain new and useful Improvements in Machines for Pouncing the Tips and Crowns of Hats; and I do hereby declare that the following is a full and exact description thereof.

I will first describe what I consider the best means of carrying out my invention, and will afterwards designate the points which I believe to be new. The accompanying drawings form a part of this specification.

Figure 1 is a general elevation of the working parts of the machine, with a portion of the shaft from which the belts run, which impart the proper revolving motions.

Figure 2 is a corresponding plan view. The additional drawings represent some of the details detached.

Figure 3 is a face view,

Figure 4 is a section, and

Figure 5 a rear view of the wheel which carries the sand-paper or emery-paper, which operates on the material of the hat.

Similar letters of reference indicate like parts in all the figures.

Tints are employed merely to aid in distinguishing parts, and do not necessarily indicate materials. The material of the metallic parts may be iron or steel.

A is a fixed framework of the machine. B is a frame, capable of being partially revolved on the vertical axis *b*, and of being controlled in position by the handle *b'*. C is a corresponding frame, mounted on the vertical axis *c*, and controlled by the handle *c'*. Both these frames are mounted on posts, as represented, to allow clear space between and below them, for turning and otherwise operating the hats. D is a shaft, turned by a belt running from any convenient power upon the pulley *d'*. This shaft is mounted horizontally on the frame B, but not directly over the axis *b*. It is so much out of the line of the axis that the partial turning of the frame B on the axis *b* will not only change the direction in which the shaft D extends, but will also move it to a small extent bodily to or from the frame C. The shaft D is encircled by a spiral spring E, which acts between one of the bearings and the pulley *d'*, tending to press the latter always hard against the opposite bearing, as will be obvious. G is a hand-lever, turning on the centre *g*, adapted to be pressed against the rounded end of the shaft D, and to move the shaft axially in opposition to the spring E, when required. H is a hat-block, which may be made of well-seasoned wood, accurately turned to the proper form. A hole in the line of the axis of this hat-block H is threaded, and adapted to fit on a male screw, *d*, formed on the end of the shaft D. The hat-block H is fitted firmly on the shaft D by means of this screw. It may be removed and exchanged for another of a different size, or different form, by operating the screw, as will be obvious. This hat-block H is revolved slowly by means of the belt represented acting on the pulley *d'*. The frame C is fitted with a corresponding shaft, pulley, spring, and lever. The shaft is marked M, the pulley M', the operating spring N, and the hand-lever O. By operating the hand-lever O, the shaft M is moved at will towards the hat-block H, and in doing so, it compresses the spring N. When the hold upon the hand-lever O is relaxed, and the lever is allowed to move back to its ordinary position, the force of the spring N moves the shaft M and its connections back to the position represented. This shaft M is mounted out of line with the vertical shaft C. There is a screw-thread on the end of the shaft M, nearest to the hat-block H, which is adapted to fit in a female screw in the main body of the pouncing-wheel. This main body is denoted by P. Its edges are bevelled as represented at *p'*, and it is encompassed by a correspondingly bevelled ring, R. This ring is of such depth that its rear edge extends a considerable distance back of the rear face of the part P. This projecting rim is grooved on its interior, as indicated by *r*. A series of strong buttons, V V V, are fitted to turn on the pins *v* on the back of the piece P. The ends of these buttons catch in the groove *r*, and lock the parts firmly together, confining the sand-paper, emery-paper, or analogous material in the manner indicated in figs. 3, 4, and 5. The sand-paper is marked W. It is notched or scalloped at its edges to adapt it to better apply on the bevelled edge of the part P.

The hat to be pounced is fitted on the hat-block H, and sand-paper, of the proper grade, being fitted in the pouncing-wheel P R, the machine is ready to operate. The belt which turns the shaft M traverses much faster than the belt which turns the shaft D, and the pouncing-wheel is therefore rotated at a considerable

velocity, while the hat-block H is turned quite slowly. The sand-paper on the pouncing-wheel P R acts on the hat on the hat-block H, and removes the surplus material; in other words, it pounces the hat over the entire surface of the tip and crown. By turning the frames B and C, and by operating the levers G and O, the hat-block H and pouncing-wheel P R are presented in all the various relations to each other which are required to pounce properly the whole surface of the hat-tip and crown. The proper manipulation of these parts is soon acquired by practice; and it is believed to be unnecessary to give any instructions therefor, further than to say that it is desirable that the pouncing-wheel and its attached sand-paper should touch the hat most of the time, not at or near its centre, but at or near its periphery, so that there shall be always, or nearly always, a high velocity to the sand-paper, where it acts on the hat.

It will be observed that the mounting of the frames B and C on the vertical axes *b* and *c*, not directly under the shafts D and M, but considerably to one side thereof, as represented, allows a wide range of variation in the position or relations of the parts, which could not be gained by correspondingly turning the frames and their connections on supports directly under the shafts. By turning the frames B and C to a greater or less extent, and at the same time operating the levers G and O to the extent required in the various relations, all parts of the crown and tip of each hat can be treated with the rapidly-moving portion of the sand-paper. If the centres *b* and *c* were directly under the shafts D and M, it would be difficult, if not impossible, to properly act upon some parts of the hat.

The peculiar construction of my pouncing-wheel affords a great facility for changing the sand-paper. I can change very quickly, and can preserve the papers which have been used sufficiently at one stage or on one kind of hat, to use at other stages or on other kinds of hats, if desired.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. I claim mounting the partially-revolving frames B and C, and their connections on the centres *b* and *c* arranged out of line with the shafts D and M, and arranged to operate relatively to each other, substantially as and for the purposes herein set forth.

2. I claim, in pouncing-machines, the sand-paper W, or its equivalent, the bevelled parts P and R, and the buttons V and grooves *r*, or their equivalents, combined and arranged for joint operation as a pouncing-wheel, substantially as and for the purposes herein set forth.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN C. RICHARDSON.

Witnesses:

W. C. DEY,

C. C. LIVINGS.