No. 666,523. Patented Jan. 22, 1901.

F. C. HODSHON.

HAT PERFORATING MACHINE.

(Application filed May 20, 1899.)

(No Model.) 2 Sheets—Sheet 1.

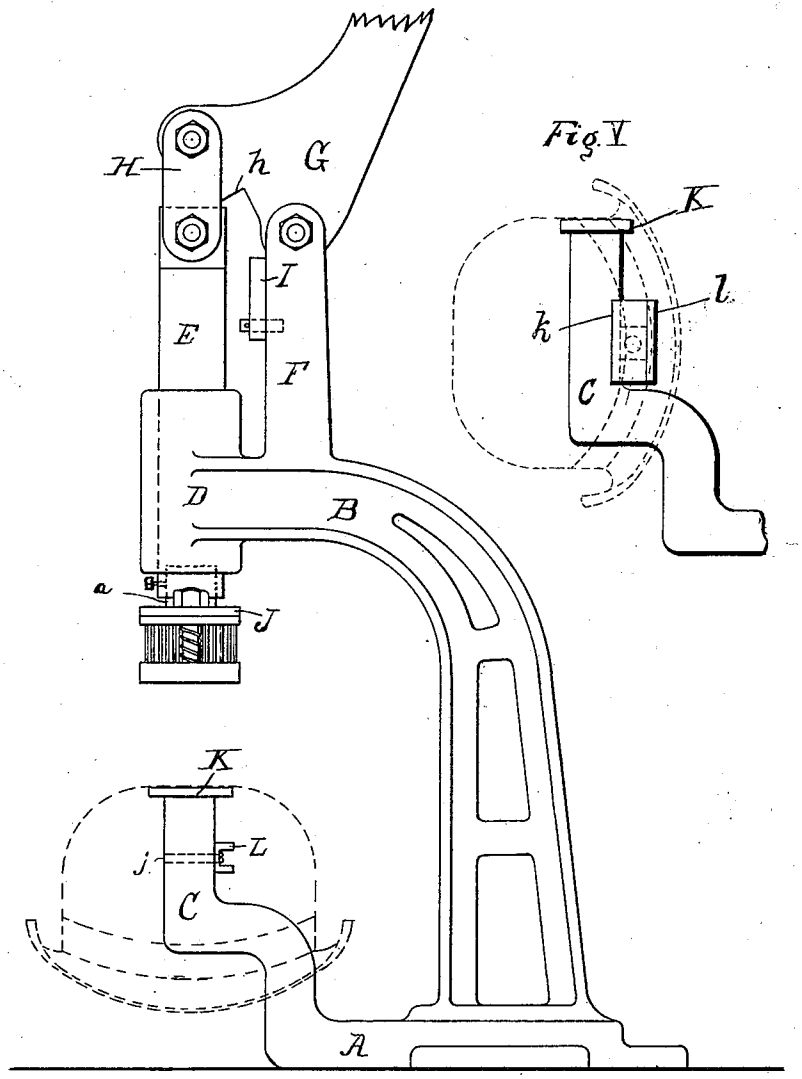


Fig. I

Fig. V

Witnesses.
R. C. Bancroft.
A. W. Macomber.

Frederick C. Hodshon Inventor
By
William Macomber Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig II

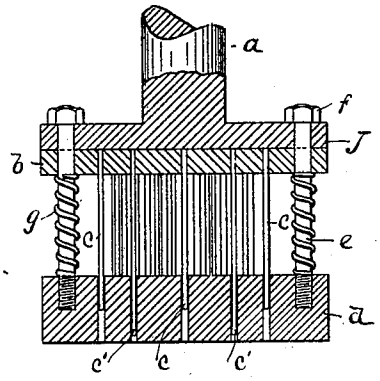
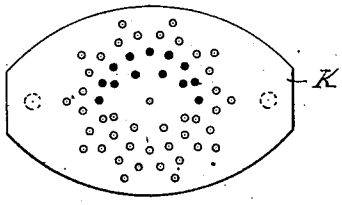


Fig III



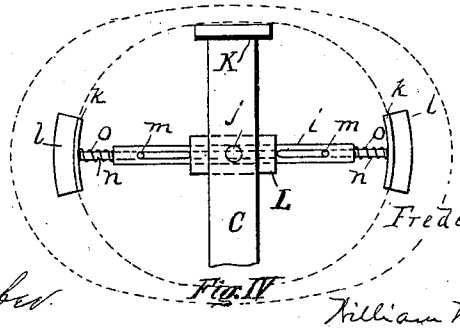


Fig IV

Witnesses.
B. B. Moore.
A. W. Macomber.

Frederick C Hodshon Inventor
By
William Macomber Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK C. HODSHON, OF ROCHESTER, NEW YORK.

HAT-PERFORATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 666,523, dated January 22, 1901.

Application filed May 20, 1899. Serial No. 717,639. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. HODSHON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Hat-Perforating Machines, of which the following is a full, clear, and exact description.

My invention relates to hat-perforating machines, and more particularly to that class of machines which employ a punch which is operated by a lever-arm.

My improvement consists in a hat-supporting attachment which holds the hat in place and properly locates the perforations.

Referring to the drawings herewith, consisting of two sheets, in which like letters refer to like parts, Figure I is a side elevation of my invention with the hat-supporting mechanism removed. Fig. II is a vertical central section of the punch, hereinafter more fully described. Fig. III is a plan view of the die, showing the holes corresponding to the punches, the holes for one form of perforation being represented in solid black, forming a crescent, and the others, which, together with those forming the crescent, form a star, being shown by small circles. Fig. IV is an elevation of my hat-supporting device. Fig. V is a side view of a hat-support, a hat held thereby in position to be perforated through the side being represented in dotted lines.

A is the base of the machine, which may be secured to the bench or table in any desired manner.

B is the bracket, which carries the punch and lever-arm.

C is the die-support, integral with the base and curved as shown to permit the hat being put in place, as hereinafter described.

D is a cylindrically-bored head which carries the piston to which the punch is attached.

E is the piston.

F is a bracket to which the lever is pivoted.

G is the lever.

H is a toggle-joint connecting the lever with the piston.

I is a lug pivoted to the bracket F, which limits the action of the lever, as hereinafter more fully described.

J is the punch.

K is the die.

L is a bracket secured to the die-post, which supports the hat-supporting mechanism.

M is the hat-supporting mechanism.

Referring now especially to Figs. II and III, the punch consists of a plate J, which preferably corresponds in shape to the die K, Fig. III, and from the center of one side of which projects a shank or stem *a*, by means of which the punch is attached to the piston or reciprocating plunger E of the punch press or machine. A plate *b*, of the same shape or outline as the plate J, is secured to the face of the latter in such manner as to be easily removed or attached, and this plate *b* carries the punches *c* and *c'*, and these punches are rigidly secured to said plate *b*. *d* is a guide-plate of same shape as the plate *b* and provided with drill-holes to receive and guide the punches *c* and *c'*. A pair of studs *e* are screw-threaded into the plate *d* and pass upwardly and freely through the plates J and *b* and are provided at their upper ends with nuts *f*, which limit the action of the springs *g*. The springs *g* surround the studs *e* and tend to separate the plate *d* from the plate *b*. It will be noted that the punches *c'* are longer than the punches *c*. The punches *c'* (in the construction shown) together constitute the crescent.

i is a tubular rod which is adapted to be securely held in a bracket L, carried by the die-post C, the bracket being secured to such post by a suitable pin or stud *j*, as indicated in Figs. I and IV.

k k are plates conformed to the interior front and back of a hat and which are provided with flanges *l l* to engage with the under side of the brim of the hat. These plates are secured to rods *n*, which pass into the tubular rod *i*. Pins *m* engage with these rods *n* through longitudinal slots in the rod *i*. Spiral springs *o*, taking over the rods *n*, tend to force the plates *k* outwardly. The pins *m* are so set in the rods *n* that when a hat is in place the said pins will approximately reach the outer limits of the slots in the tubular rod *i*, thus substantially counteracting any inequality in the springs *o*.

In operation the hat is slipped on over the plates *k* until the under side of the brim strikes the flanges *l*. The spread of the plates

k will determine the position of the hat forward to back and the flanges *l* will determine the position up and down. The hat is then punched, turned over, and punched in the other side in like manner.

It will be observed that the plates *k*, which engage with the inside of the hat, are arranged approximately in planes parallel with the direction of movement of the punch and in this respect differ from those forms of apparatus which support and hold the hat in a position with the brim approximately in a horizontal position and where the holding-plates are horizontal and substantially at right angles to the direction of movement of the punches.

It will of course be understood that the forms of perforation may be varied at pleasure and also that by having two or more sets of punches of different lengths and providing the lug I with one or more stops a variety of figure-perforations may be attained with a single punch. It will also be understood that instead of the toggle-joint connecting the lever and piston I may substitute the well-known construction of a retraction-spring for the piston commonly used in similar constructions without departing from the spirit of my invention.

Having thus described my invention, and without limiting myself to the particular construction shown, what I claim is—

1. In a hat-perforating machine, the combination of a stationary die, a reciprocatory punch, and a hat-supporting device arranged to hold and center the hat while being perforated in the side and consisting of plates for engaging with the front and back inside portions of the hat and arranged approximately parallel with the direction of the movements of the punch, substantially as set forth.

2. In a hat-perforating apparatus, the combination of a reciprocatory punch, a stationary die, a support therefor, a pair of hat-holding plates supported upon the said die-support and extending out therefrom on either side of the die, substantially as set forth.

3. In a hat-perforating machine, the herein-described hat-holder consisting of a pair of plates, *h*, to engage with the inside of the hat and provided with the flanges *l* to engage with the hat-brim, supporting-rods *n*, which carry the said plates, a tubular rod in which the rods *n* are mounted, springs tending to force the said rods *n* and plates *k* outward, and stops for limiting the extent to which said parts may be moved outward, substantially as set forth.

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

FREDERICK C. HODSHON.

Witnesses:
W. C. KOHLMETZ,
WM. HORCHELER.