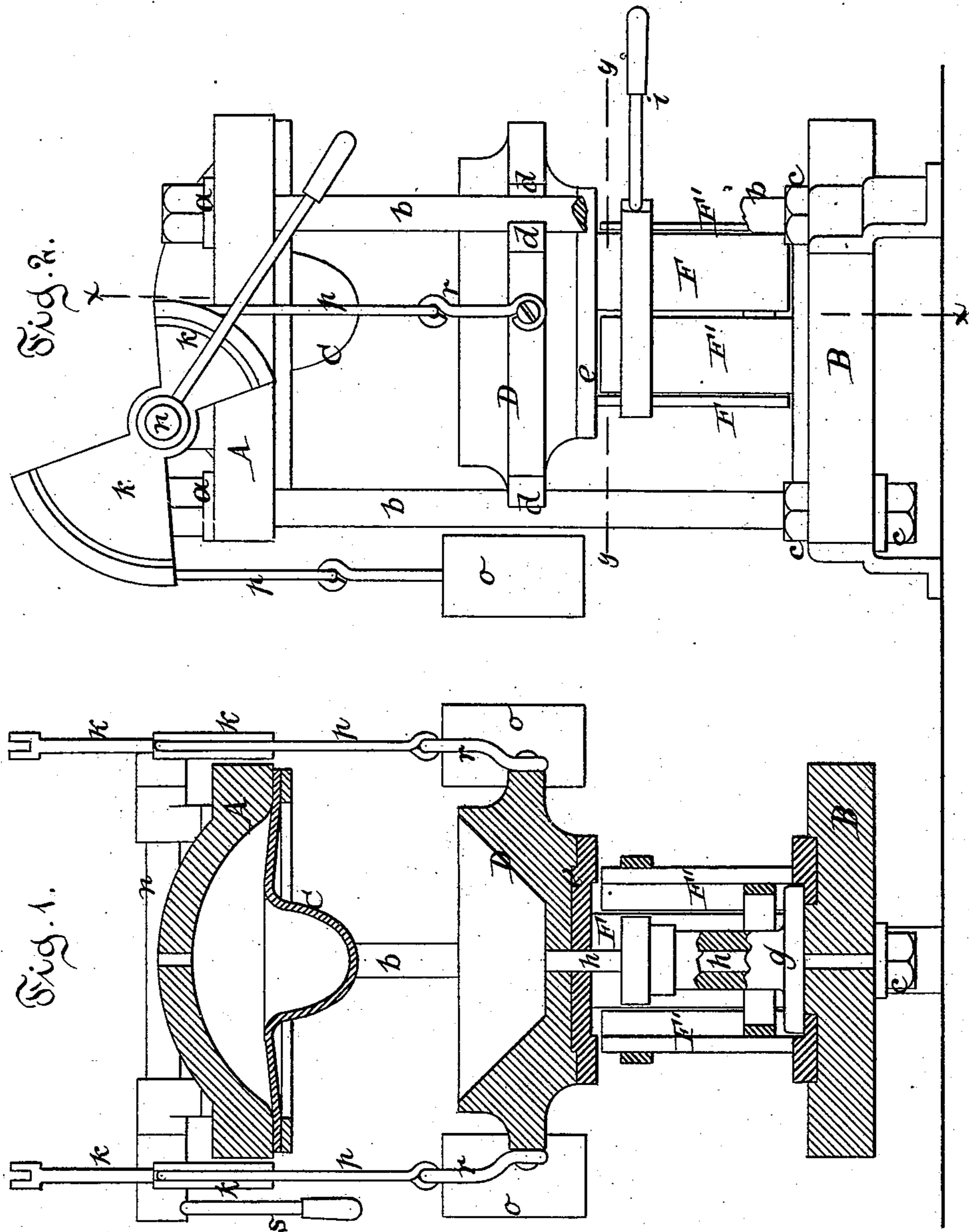


W. FOSTER.  
Hat-Pressing Machine.

**No. 226,393.**

**Patented April 13, 1880.**



Witnesses.

Louis W. Frost  
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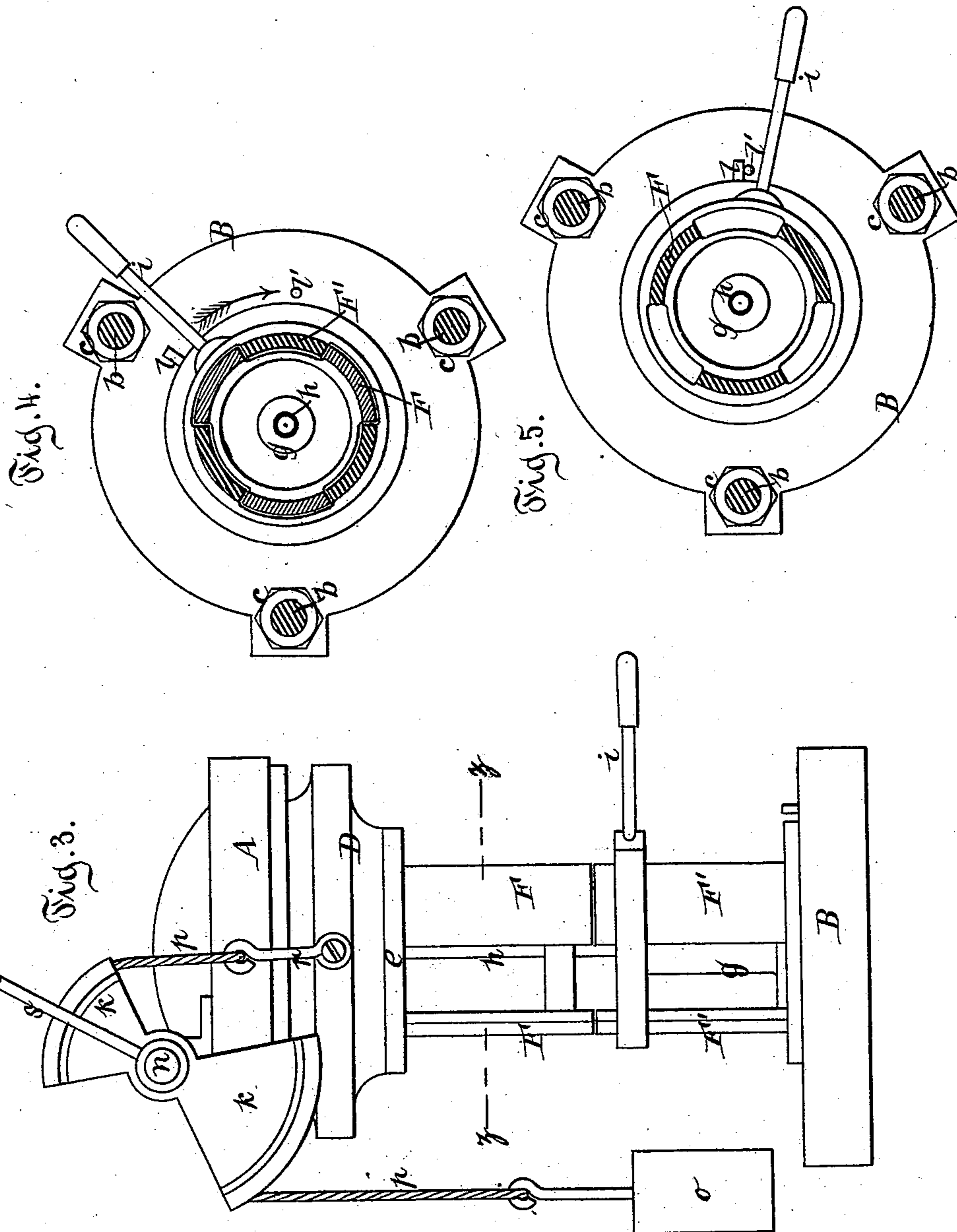
Inventor.

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*William Foster*

# UNITED STATES PATENT OFFICE.

WILLIAM FOSTER, OF BROOKLYN, NEW YORK.

## HAT-PRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 226,393, dated April 13, 1880.

Application filed November 26, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM FOSTER, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Hat-Pressing Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and accurate description.

My improvement relates to that class of hat-pressing machinery in which the hat, previously formed to nearly the proper shape or contour, is placed in a hollow or female die of the proper form and subjected to a severe hydraulic pressure, transmitted through a flexible diaphragm of vulcanized rubber or other suitable material, the die being maintained at the proper temperature to give the required gloss or finish to the hats or goods pressed.

My improvement for this purpose is at once simple and powerful, and capable of being conveniently and rapidly operated.

In the drawings, Figure 1 represents a vertical section of the machine, the plane of the section being indicated by the line *xx*, Fig. 2. Fig. 2 is a side elevation, showing the mold or die in a lower position. Fig. 3 shows the die raised. Fig. 4 is a horizontal section on the line *yy*, Fig. 2. Fig. 5 is a like section in the line *zz*, Fig. 3.

My improvement is constructed as follows: I secure by means of nuts *aa* a dome or head, A, to the rods *b*, which may be two or more in number, and which pass down vertically to the base B. These rods *b* can be lengthened, shortened, and adjusted by means of the double nuts *cc*, secured to their lower ends.

Attached to the dome or head A is the vulcanized-rubber diaphragm C. D is the die-seat for receiving the dies of various shapes and sizes for pressing the hats. This die-seat has ears or projections *d*, which are grooved so as to slide freely up and down on the vertical rods *b*.

Attached to the lower side of the die-seat D is a disk, *e*, to which is cast or secured a lock, F. This lock F is so constructed and arranged as, when the die-seat D slides down on the vertical rods, to fall with the die-seat D and slide into a lower lock, F', constructed and arranged in a similar manner to the lock F, and also capable of being rotated on the base B.

Within the inner periphery of the lower lock, F', is a hollow cylinder, *g*, flanged at its lower end, and secured at its lower end to the base B, around which cylinder *g* the lower lock, F', is turned or rotated.

Attached to the lower side of the disk *e*, which is secured to the die-seat D, is a pipe, *h*, which runs into the hollow cylinder *g*, and slides up and down in said cylinder with the upward and downward movement of the die-seat D.

Attached to the lower lock, F', is a handle, *i*, to which is applied the motive power for rotating the lock F' on the base B.

Attached to the outer periphery of the lower side of the lock F' is a horizontal pin or stop, *l*, (see Figs. 4 and 5,) which engages with a pin or stop, *l'*, projecting vertically from the base B. These stops are for the purpose of holding the lock F' in the proper position for locking the press after the lower lock, F', has been rotated to the proper place.

Secured to the dome or head A is an axle, *n*, to each end of which are attached quadrants K, of metal or other suitable material, on which run chains or cords *p*, to one end of which chains are attached weights *o*. The other ends of the chains *p* are attached to hooks *r*, which are secured to the die-seat D. A lever or handle, *s*, is attached to one end of the axle *n*, by which motion is imparted to the axle *n*. These weights *o* are balanced to the weight of the hats in the die-seat D, and by means of the quadrants K weights of much less gravity than the weight of the hats and the die-seat D can be used.

My improvement is operated as follows: The hat, being formed to nearly the right contour, is put in the proper die and placed in the die-seat D. The lever *s* is then lifted and the weights *o* are carried down, and by their weight carry up the die-seat D, which slides by its projections or ears *d* on the rods *b*, and press the die-seat D firmly against the diaphragm C, attached to the dome or head A, as shown in Fig. 3. The lower lock, F', is then rotated by the handle *i* until its parts, made of metal or other proper material, come under the corresponding parts of the upper lock, F. (See Figs. 3 and 5.) These parts of the upper lock, F, are thus made to rest on the cor-

responding parts of the lower lock,  $F'$ , while the lower lock,  $F'$ , is prevented from further rotation and secured in place by the engagement of the stops or pins  $l$  and  $l'$ . The hat in  
5 the die-seat  $D$  is then subjected to hydraulic pressure by means of any suitable pipe or connection attached to the dome or head  $A$  and connecting with the diaphragm  $C$ .

The die within the die-seat  $D$  is maintained  
10 at the proper temperature to gloss or finish the hat within it by means of steam or other heat passing through the pipe  $h$ , which runs in the hollow cylinder  $g$ . After the hat is pressed the lower lock,  $F'$ , is turned back by means  
15 of the handle  $i$ . The die-seat then falls by its gravity and carries down the lock  $F$  within the lower lock,  $F'$ , as shown in Figs. 2 and 4. The hat can then be taken from the die.

Having thus described my invention, what  
20 I claim, and desire to secure by Letters Patent, is—

1. The combination, with the reciprocating die-seat  $D$ , provided at its lower end with a lock,  $F$ , of a rotating lower lock,  $F'$ , substantially as described, and for the purpose set  
25 forth.

2. The combination, with the reciprocating die-seat  $D$ , provided at its lower end with the cylindrical lock  $F$ , having parallel openings  
30 in its sides, of the correspondingly-formed cy-

lindrical lower lock,  $F'$ , whereby the die-seat is guided in its reciprocating movements or locked when the die is up, substantially as described.

3. The combination, with the reciprocating die-seat  $D$ , provided at its lower end with a lock,  $F$ , of a rotating lower lock,  $F'$ , and dome  $A$ , having a diaphragm,  $C$ , on its under face, substantially as described, and for the purpose set forth. 35 40

4. The combination, with the reciprocating die-seat  $D$ , provided with the locks  $F$ , hooks  $r$ , and chains  $p$ , of the rotating lower lock,  $F'$ , dome  $A$ , having diaphragm  $C$ , rock-shaft  $n$ , carrying quadrants  $K$ , and weights  $o$ , substantially as described, and for the purpose set forth. 45

5. The combination, with the reciprocating die-seat  $D$ , provided with the central pipe,  $h$ , cylinder  $g$ , having a central longitudinal passage for said pipe, and a flange at its lower end, forming a guide for the revolving lower lock,  $F'$ , substantially as described, and for the purpose set forth. 50

In testimony whereof I have hereunto set  
my hand this 21st day of November, 1879. 55

WILLIAM FOSTER.

In presence of—

LOUIS W. FROST,  
WILLIAM FROST.