M. Morse,
Pressing.

No. 57,638. Patented Aug. 28. 1866.

Fig. 1.

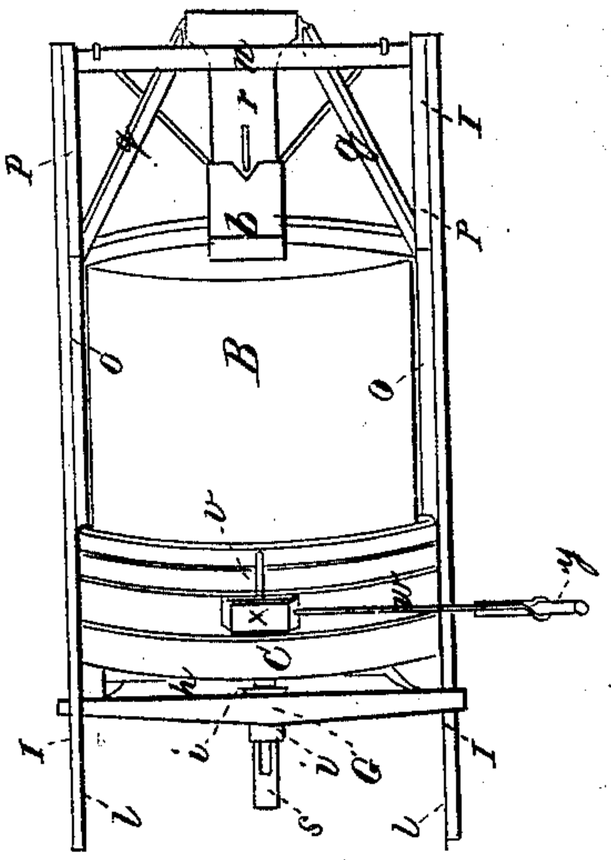


Fig. 4.

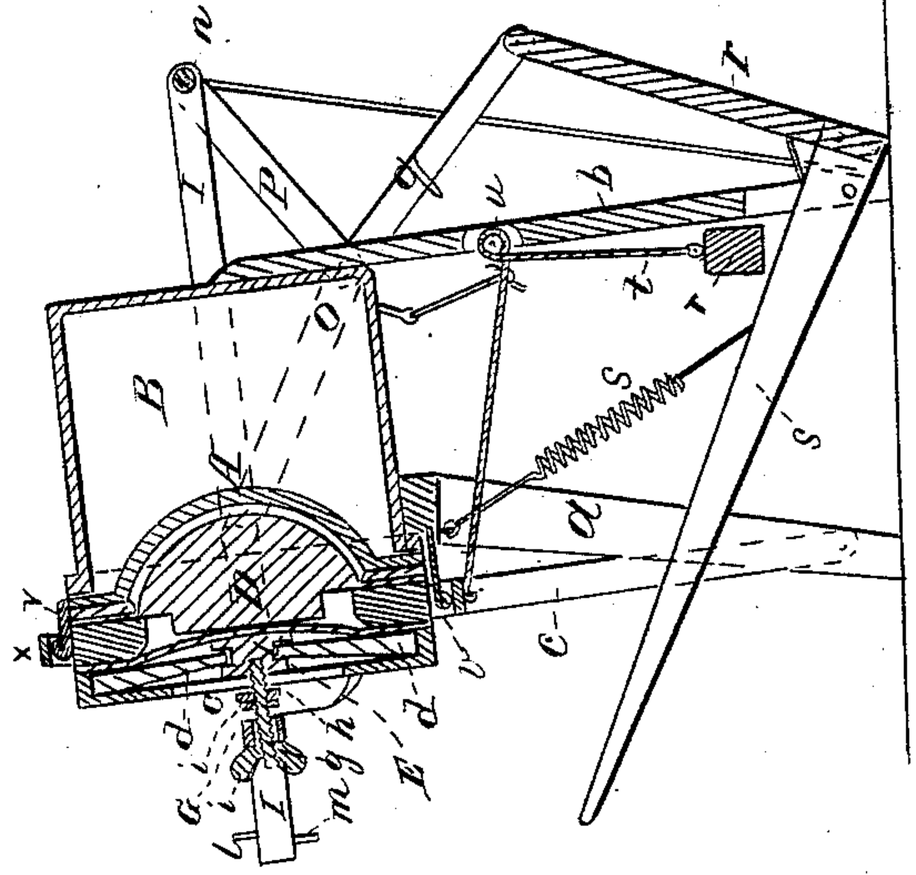
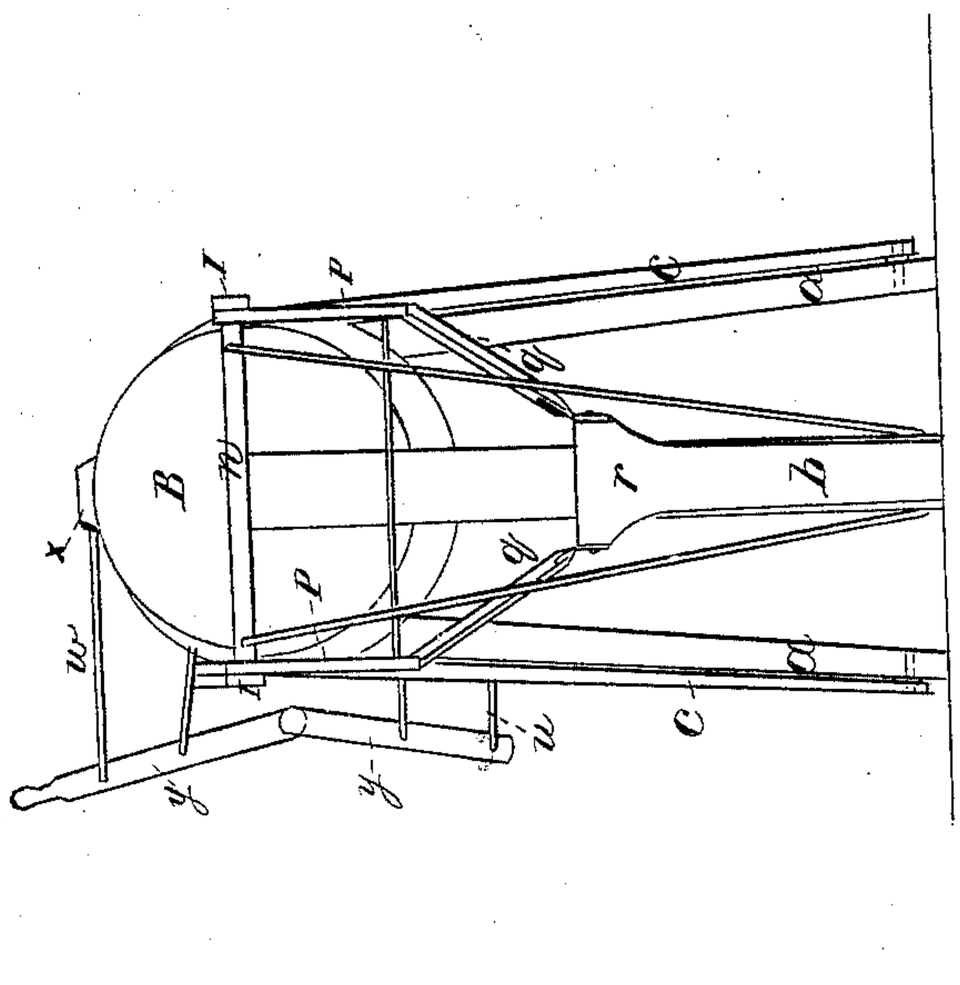
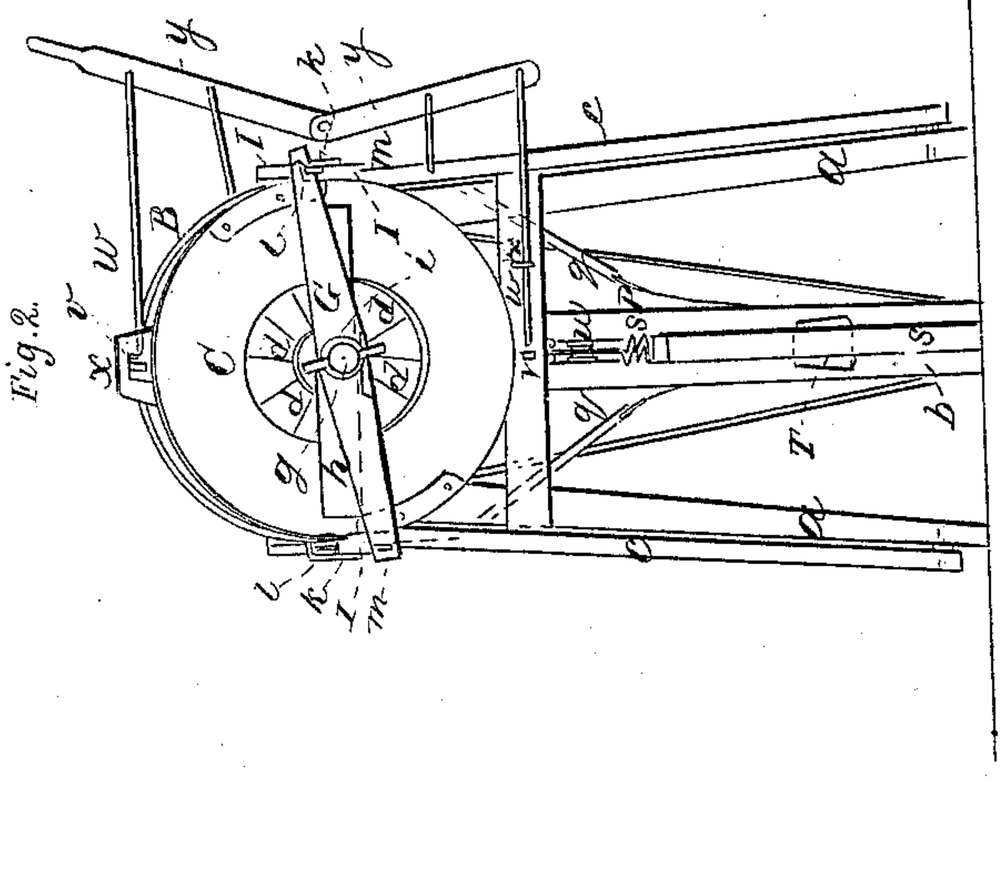


Fig. 2.





Witnesses.
D. P. Wakefield
G. H. Washburn

Munroe Morse,
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

MONROE MORSE, OF FRANKLIN, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND AARON H. MORSE, OF SAME PLACE.

IMPROVEMENT IN HAT-PRESSING MACHINES.

Specification forming part of Letters Patent No. **57,638**, dated August 28, 1866.

To all whom it may concern:

Be it known that I, MONROE MORSE, of Franklin, in the county of Norfolk and State of Massachusetts, have invented an Improved Machine for Pressing Straw Hats, Bonnets, &c.; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Fig. 3 a rear elevation, and Fig. 4 a longitudinal section, of it.

In the said drawings, A represents the mold, which constitutes one end of a hollow drum, B, for holding steam for heating the mold. The said drum and mold are supported by three legs, *a a b*, to two, *a a*, of which a vibrating head, C, is applied by means of two arms, *c c*, extended from it, and being at their lower ends hinged to the two legs *a a*. This vibratory head is to hold a solid elastic presser, D, composed of vulcanized india-rubber or other suitable material or materials, it being formed so as nearly to fit to the concavity of the mold. At its rear it bears against a series of movable sectional plates, *d d d*, applied radially to the head C, and a disk, E, arranged concentrically within a circular aperture, *f*, made within the head C, the mode of application of the said plates being such as to enable them to yield or move inward at their inner ends when the disk E is pressed inward. The disk E is fixed to a screw, *g*, duly supported in a cross-bar, *h*, fixed to the head C.

A bar, G, is also arranged on the screw *g*, and so as to be capable of being revolved thereon, the screw going through the middle of the bar. There are two nuts, *i i*, on the screw, they being disposed with respect to the bar G as represented. They serve to keep the bar on the screw and to adjust its distance from the disk E.

The bar G is to operate with two slide-bars, I I, which are disposed on opposite sides of the mold-drum B, and applied thereto by clasps *k k*. Pins *l m* are inserted and arranged in each of these bars, as shown in the drawings. Furthermore, there is connected with the mold-drum and a bar, *n*, which joins the two slide-bars at two of their extremities, two pairs of toggle-joints, *o p*, each of which, by means of one of two toggles, *q q*, is connected with a third toggle, *r*, which constitutes the shorter arm of a bent lever or treadle, *s*, the whole being arranged as represented. By forcing down the longer arm of the said lever both sets of toggles will be shortened or moved, so as to draw back the two slide-bars I I in a manner to carry their pins against the bar G, and consequently crowd the series of sectional plates against the elastic presser, whereby it will be forced into the mold and expanded so as to fit thereto, or to press a hat close into the mold or against its inner surface when such hat may be therein. These pins are not placed in each bar so that one shall be directly over the other, but they are so arranged that the bar G, when resting against either the upper or lower side of one of the slide-bars, shall bear against one of the pins of each slide-bar. As one pin of the pair of each slide-bar is nearer to the bar G than the other, the turning of the bar over on its screw, or reversing it will adjust the mechanism for obtaining either a greater or a less degree of pressure from the toggles—that is, when the bar rests against the inner pins the pressure of the toggles will be greater than when it rest against the outer pins.

On the longer arm of the lever *s* having been relieved from the force applied to depress it, it will be raised by a spring, S, the same serving to throw back the toggles to their normal positions.

A weight, T, suspended from a rope, *t*, attached to the head C, and going about a pulley, *u*, serves to counterbalance the said head.

A bolting apparatus consisting of two catches, *v v*, projecting from the mold, and also of two bolts, *w w*, arranged in guides *x x*, and jointed to two levers, *y y*, which are hinged together and arranged as represented in the drawings, serves to lock the head C to the mold while the toggles may be out of action, and such may be desirable for properly effecting the pressing of a hat.

With my invention I am enabled to dispense with the hollow presser to be inflated by steam or air. A solid elastic presser has been found to operate much better.

The advantage of having the head C to vibrate on centers is that while moving away from the mold it tips more or less, so as to bring the presser into a more convenient position for reception of the hat than would be the case were the axis of the presser to be kept in a straight line with that of the mold during the retreat of the presser.

I do not claim a hollow presser to be used with a hat-mold, and to be expanded by a liquid or by air, gas, or steam when forced into it, such being as represented in a patent granted to me March 6, 1866. My present invention contemplates the employment of a solid elastic presser of the kind described, and mechanism for pressing it directly into and so as to expand it within the mold, such being found to operate to very much better advantage than the hollow presser expanded by steam, air, or gas, or an elastic presser, as mentioned in my said patent.

Having thus described my invention or hat-pressing machine, what I claim therein is as follows:

1. The combination, as well as the arrangement, of a solid elastic presser with the mold, its head, and mechanism for expanding such presser by pressure against it, substantially as specified.

2. The application of the head C to the mold, by means of centers, as described, so that such head, while being withdrawn from the mold, shall be brought into an inclined position, in order to facilitate the application of a hat to the presser.

3. The combination of the bar G, the slides I I, and their pins with the toggles or progressive levers *o p q q r* and the foot-lever *s*.

4. The combination and arrangement of bolts *w w*, catches *v v*, and levers *y y*, applied to the mold and vibratory head, as described.

5. The combination of the adjusting-screw *g* and its nuts *i i* with the bar G, the vibratory head C, the disk E, and presser D.

MONROE MORSE.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.