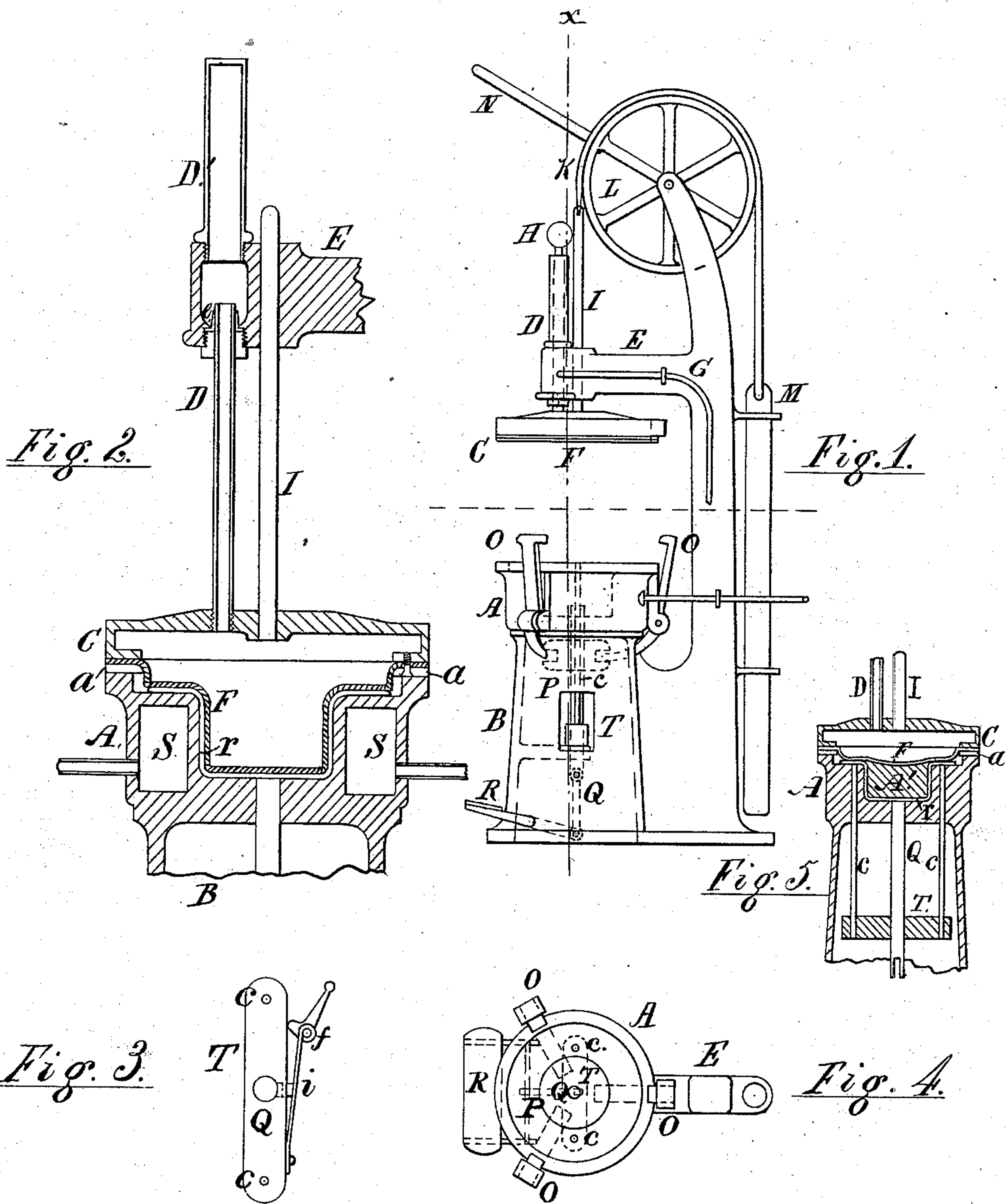


G. YULE.
Hat-Pressing Machine.

No. 219,559.

Patented Sept. 9, 1879.



Attest:
Thos. S. Crane.
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Inventor.
George Yule
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Atty

UNITED STATES PATENT OFFICE.

GEORGE YULE, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN HAT-PRESSING MACHINES.

Specification forming part of Letters Patent No. **219,559**, dated September 9, 1879; application filed March 18, 1879.

To all whom it may concern:

Be it known that I, GEORGE YULE, of Newark, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Hat-Pressing Machines, of which the following is a specification.

Referring to the drawings, Figure 1 is a side elevation. Fig. 2 is a sectional elevation on the line of *x x* on Fig. 1. Figs. 3, 4, and 5 are detailed views.

My invention relates to hydrostatic hat-pressing machines having a head carrying a rubber diaphragm and having a heated mold in which the hat is pressed; and consists in the method of supplying water for the purpose of pressing; in the counterbalance of the head to carry it up out of the way when not in use; in the adjustable locking devices uniting the head and the mold; in the foot leverage operating the locking devices; in the adjustable fixtures for throwing up the hat or extra block to facilitate their removal after the operation of pressing, and in the safeguard against a liability of damage to the operators in case the chain suspending the head should break and allow it to fall.

In the construction of my machines, A is a hat-mold fixed on a suitable base, B. This mold has a chamber, S, for the admission of steam for the purpose of heating it. Above the mold is suspended a presser-head, C. This head, by the rim *a* on the lower side of it, holds and carries the elastic rubber diaphragm F.

The pressure is effected by water forced into the tube D, attached to the head, through the pipe G, which comes in direct contact with the diaphragm F to expand it and cause it to fill the hat or the extra block A' on the top of the hat (see Fig. 5) in the operation of pressing.

The tube D is made to slide in the frame E, with which also, above it, is secured the water-cylinder D', into which the tube D passes when the head is drawn up. The cylinder D' has in it a flanged packing, *e*, the upper edge of which, by the water being pressed against the outside of the tube, prevents any leakage of water through the slide-joint between the tube and cylinder. The gage H on the top of the cylinder D' will indicate the water-pressure.

The head is secured to a sliding shaft, I, mov-

ing in the frame E, which shaft is connected with a chain, K, passing over a pulley, L, and from the opposite end of the chain is suspended a weight, M, made to overbalance the weight of the head and automatically draw it up after it has been used.

When the head is brought down in contact with the mold, which is done by the lever N, it is locked, to enable it to stand the pressure on the inside, which presses the hat by the swing-catches O, made automatically to close over the edges of the head. These catches, when not in use, by their own weight close in around the mold, and have tops sufficiently flat to allow the head to rest on them and not descend farther onto the mold, to prevent a liability of the head falling in case of a breaking of the chain when the operators are at work and injuring their hands.

The catches are jointed to the mold A, and the swinging arms below connect loosely, allowing the ends to slide with the head P on the top of the shaft Q, operated by the foot-lever R. The pressure on the lever throws out the catches to allow the head C to descend to the mold at the proper time when the hat is in position to be pressed.

The head C or catches may be beveled, so that in the contact of the former with the latter they will open automatically and allow the head to go down to the mold without the action of the lever R, and in that case some other safeguard will be employed to prevent the damage to operators from the breaking of chain, as above noted.

On the shaft Q, under the mold, is placed a loose block, T, having two or more vertical rods, *c*, made to extend up through the bottom of the mold, which, with the shaft Q, are used to push the hat or block A' up from the mold A after the hat has been pressed, to facilitate taking it out; and these rods are forced up by being locked with the spring-catch *i* to the shaft Q; but when the hat is being put in the machine, and the shaft Q by the lever R is pushed up, these rods *c* are not pushed up, being released from the shaft by the cam-lever *f* throwing the spring-catch *i* out of connection, when the block T, with its rods, will remain stationary by its own gravity.

Many of these devices may be varied from

present detail and the same principles of action and the same results be secured.

I am aware of the patent of S. Howard, No. 80,181, and do not claim the subject-matter of his invention; but

What I claim is—

1. In combination with the pressure-head C, diaphragm F, and supply-pipe G, the water-tube D, cylinder D', and flange-packing c, substantially as and for the purpose specified.

2. The combination of the head C, diaphragm F, sliding tube D, and cylinder D' with the sliding shaft I, chain K, weight M, and pulley L, substantially as and for the purpose specified.

3. The swing-catches O, jointed to the mold A and forming a sliding connection with the head P on the top of the shaft Q, and oper-

ated by the foot-lever R, substantially as and for the purpose set forth.

4. The catches O, having the tops flat, forming a safeguard to support the head and prevent any damage in the event of the head being detached from the weight M.

5. The combination, with the lever R and shaft Q, of the adjustable block T and rods c, substantially as and for the purpose specified.

6. In combination with the shaft Q, the block T, having the spring-catch i, rods c c, and cam-lever f, substantially as and for the purpose set forth.

GEORGE YULE.

Witnesses:

HORACE HARRIS,
P. PEIFFER.