

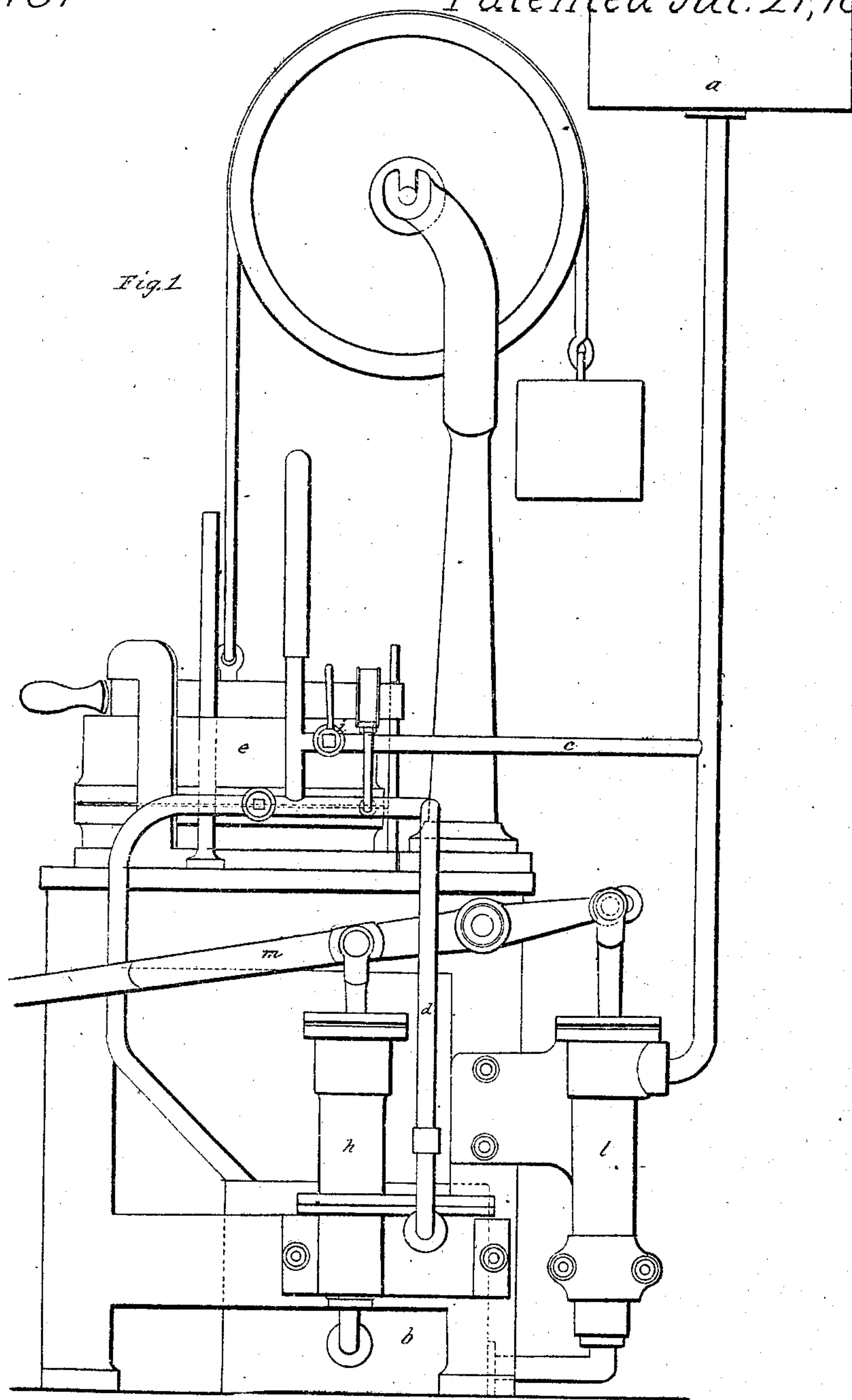
S. Howard.

## Pressing Hats.

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*Nº 80181*

*Patented Jul. 21, 1868.*



*Witnesses*

Bro. Hughes  
Thomas Wrighty

Thomas Wrigley

*Inventor*

Samuel Howard

S. Howard.

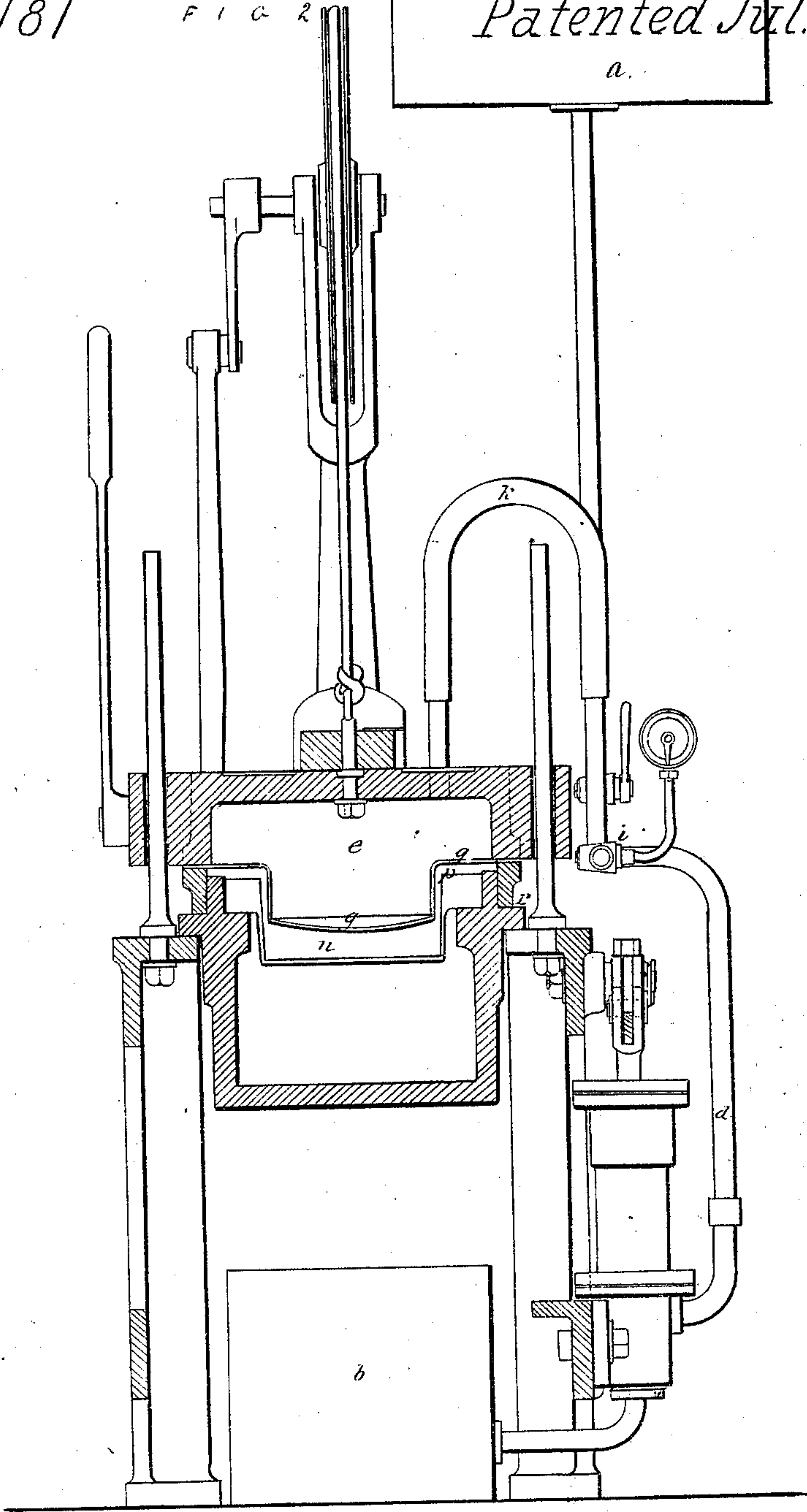
Pressing Hats.

N<sup>o</sup> 80181

FIG 2

Patented Jul. 21, 1868.

a.



Witnesses

Moore  
Thomas Wright

Inventor

Samuel Howard

S. Howard.

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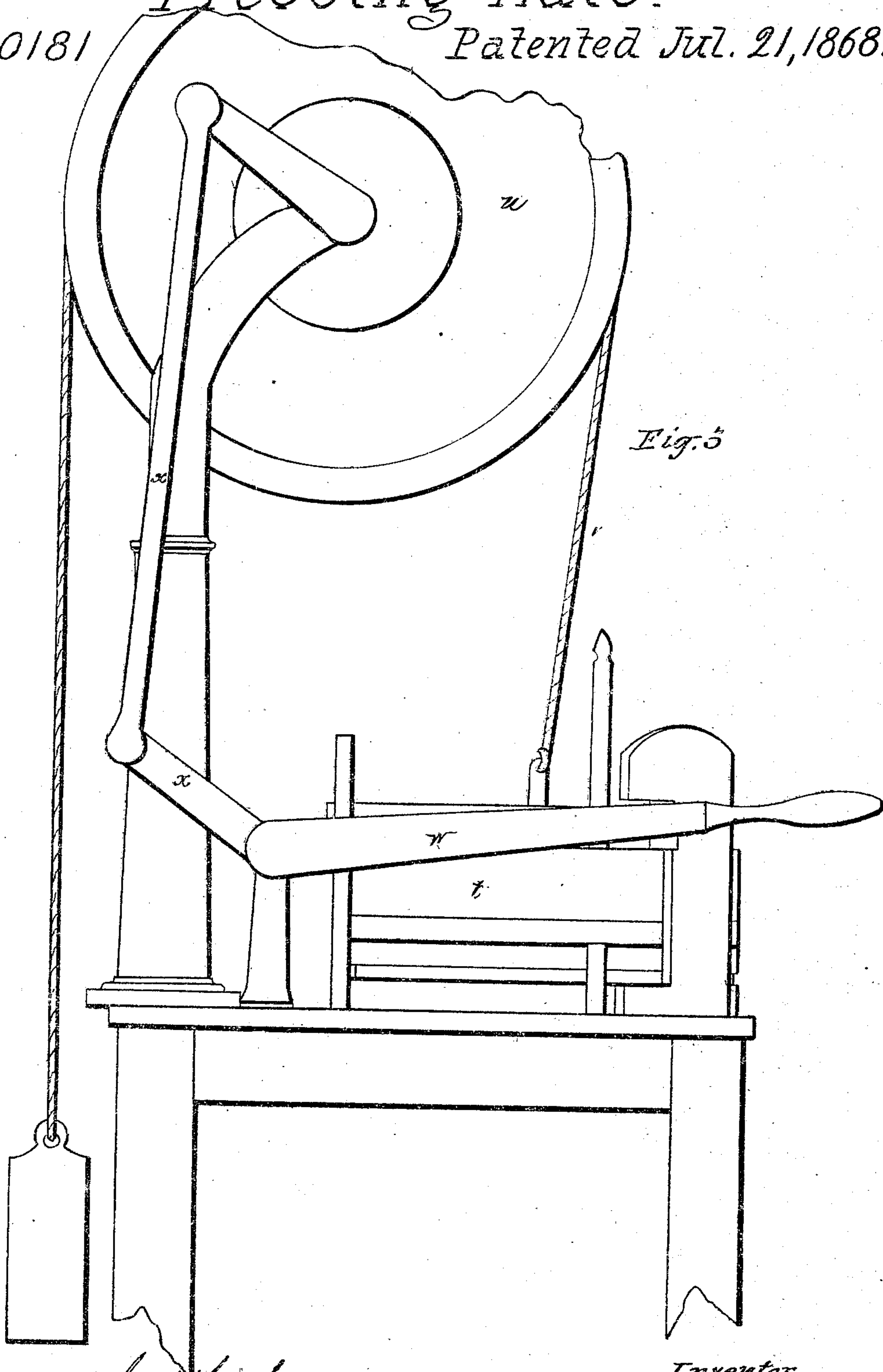


Fig. 5

Witnesses

Prothues  
Thomas Wright

Inventor

Samuel Howard



# United States Patent Office.

SAMUEL HOWARD, OF LUTON, UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

*Letters Patent No. 80,181, dated July 21, 1868.*

## IMPROVEMENT IN MACHINES FOR PRESSING 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, SAMUEL HOWARD, of Luton, in the county of Bedford, United Kingdom of Great Britain and Ireland, have invented a new and improved Hat-Pressing Machine; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to that description of machinery for pressing and shaping hats, bonnets, or other coverings for the head, wherein water is applied in connection with an elastic bag or sheet, and the improvements are applicable to the pressing of such articles, whether made of straw, felt, or other materials.

The improvements consist, first, in the application and use of two cisterns of liquid, both in connection with the elastic bag, one placed at a convenient height above the bag, and the other below, from which the liquid is forced into the upper cistern by means of a pump. When pressure is required in the bag to press the hat or bonnet-body, a tap, between the bag and top cistern, is opened, and the downward pressure of the water rapidly fills the bag; and to increase the pressure to the required extent, this tap is shut and the pump is worked, and water injected from the lower cistern, and at the same time a second small pump is actuated by the same lever, which forces the same amount of water which was discharged from the bag (at the last operation) into the upper cistern, so that a constant circulation and supply are maintained, and by this means the usual air-vessel or reservoir is dispensed with.

A second part relates to the mould and block, between which the articles are pressed, and consists in so forming the interior of the mould-cover or lid as to leave a space between it and the hat-brim, so as to leave room for an extra thickness of material, out of which any peculiar shape of brim may be formed, and in lining these parts with pasteboard instead of leather; and also in fitting the exterior of such mould into a steam-tight recess in the framing, and applying steam direct to the exterior surface of such mould.

Lastly, the invention relates to such machines where "dome covers" are used, and consists in attaching such cover to a wheel by a chain or rope, and acting upon such wheel by a series of levers, so as to transfer the motion effected by the hand below to the wheel above, and cause it to rotate partly, and so to raise or lower the dome cover.

In order that the invention may be better understood and explained in detail, I have hereunto attached a sheet of drawings, made upon a scale of about three inches to the foot.

Figure 1 represents a front elevation of the improved machinery or apparatus employed for pressing and shaping hats or other coverings for the head.

Figure 2 represents a vertical section of the same, showing more particularly the internal arrangement of the chamber containing the elastic bag; and

Figure 3 represents the arrangement of apparatus employed in raising and lowering the dome cover.

In figs. 1 and 2, *a* and *b* are two cisterns, the upper one containing a "head" of liquid, and the lower one receives the discharged liquid, and are connected by the pipes *c* *d* with the interior of the dome *e* and chamber *f*, containing the elastic bag *g*, the cistern *a* being suitably supported at a convenient height above the bag, and the cistern *b* below the same.

When it is required to press the hat or bonnet-body, it is placed between the outer mould and the bag, and the tap *i* is turned so as to admit the liquid from the top cistern *a* into the bag at this time, and in order to obtain greater pressure, the tap *i* is turned so as to close the passage from the cistern to the bag, and the two pumps, actuated by the lever *m* at the same time, are set in motion, and the pump *h* forces liquid into the elastic bag, and exerts extra pressure on the hat-body, and the second pump, *l*, lifts from the lower cistern *b*, and forces into the top cistern the same amount of water that was discharged from the bag, (at the last operation,) effecting thereby a constant circulation and supply of liquid. By this means, and the use of the elevated water-pressure, the usual air-reservoir used to obtain pressure is dispensed with.

The mould *n* is constructed so as to leave a space, *p*, between the cover or lid *q*, in which space the hat-brim is placed, the extra space being allowed in order to afford room for an extra thickness of material, out of which any peculiar shape of brim may be formed, the surface or side of such space *p*, and of the mould, if necessary, being lined with pasteboard instead of leather. The exterior of the mould is fitted, as shown, steam-tight into the recess *r* in the framing, steam being caused to act upon the exterior surface of such mould through the pipe *s*, as usual.

The dome cover *t* is suspended from and attached to the wheel *u*, by means of the chain or rope *v*, the said wheel being caused to rotate so as to raise or lower the dome cover by means of the handle *u*, through the medium of the levers *x x*.

I would here remark that a four-way tap may be adapted instead of separate taps, in which case one pump would be sufficient to give the extra pressure in the bag and to raise the discharge-water to the upper cistern, by turning the tap in the required position and continuing the working of the pump after sufficient pressure was obtained.

Having now described the nature of the said invention, together with the method of carrying the same into practical effect, I wish it to be distinctly understood that I claim—

The pump *h*, acting directly upon the diaphragm *g* of the dome *e*, and pump *l*, which fills the cistern *a*, in combination with cisterns *a b*, and their connecting pipes, the whole being arranged in the manner and for the purpose described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL HOWARD.

Witnesses:

JNO. HUGHES,

THOMAS WRIGLEY.