

J. E. Ward.

Pressing & Forming Hats.

N^o 85191.

Patented Dec. 22, 1868.

Fig: 1.

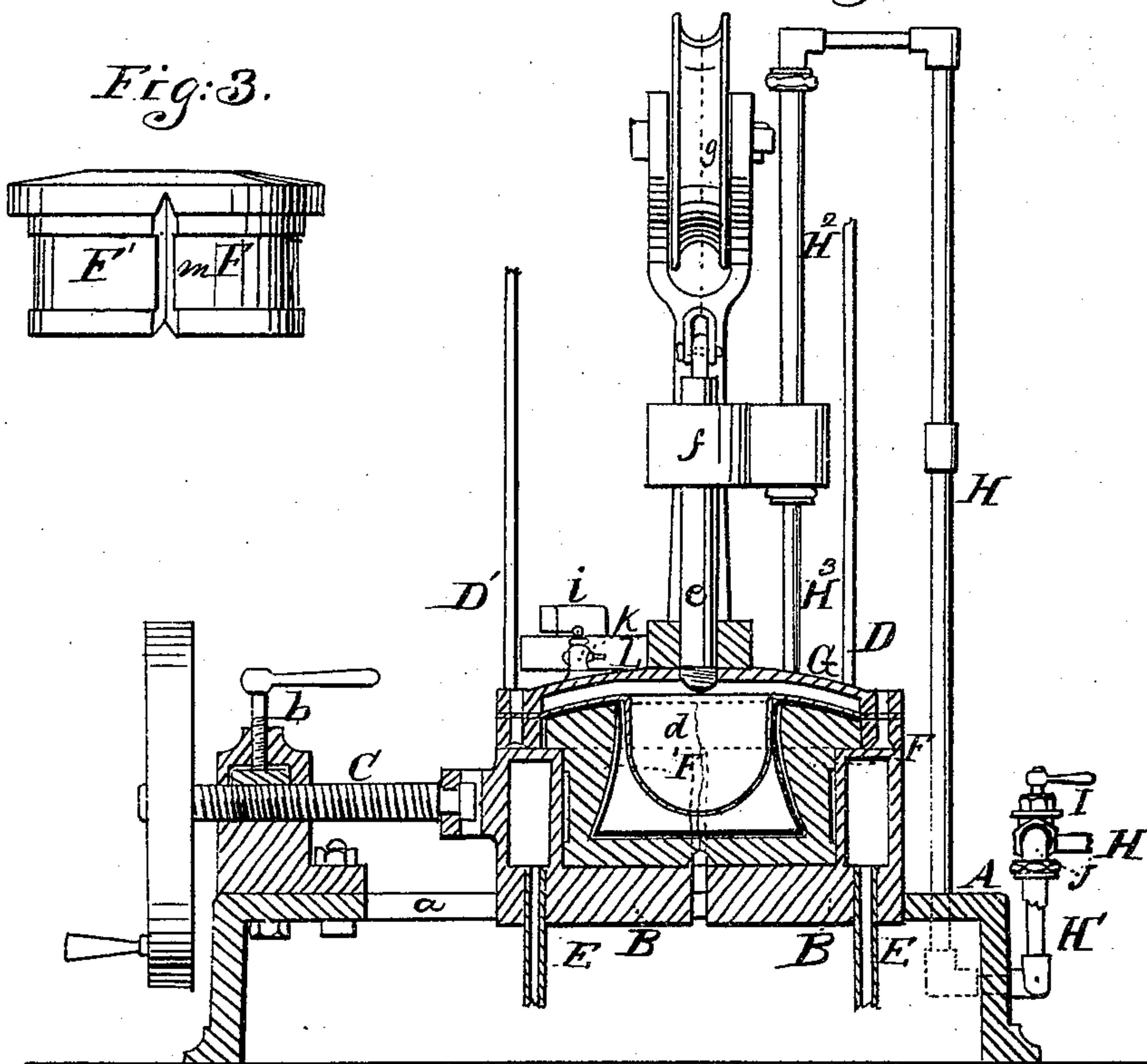


Fig: 3.

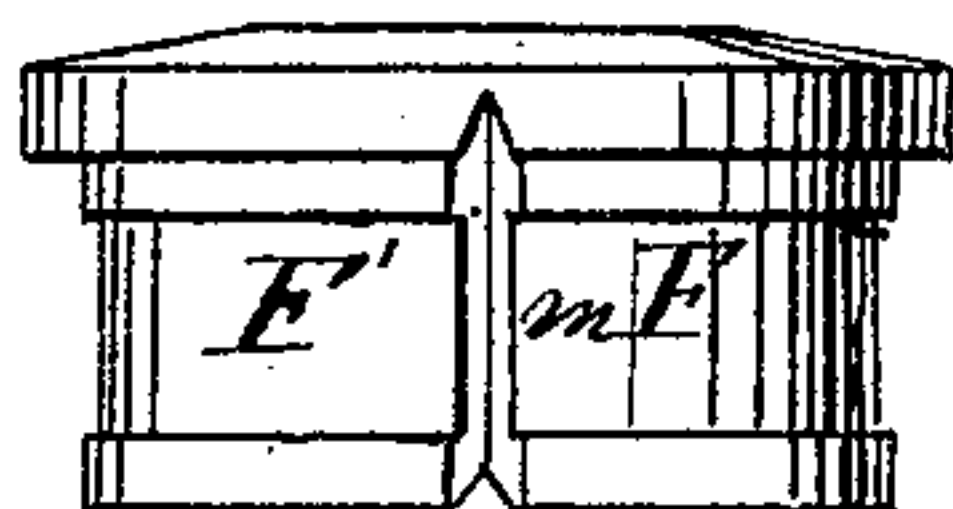
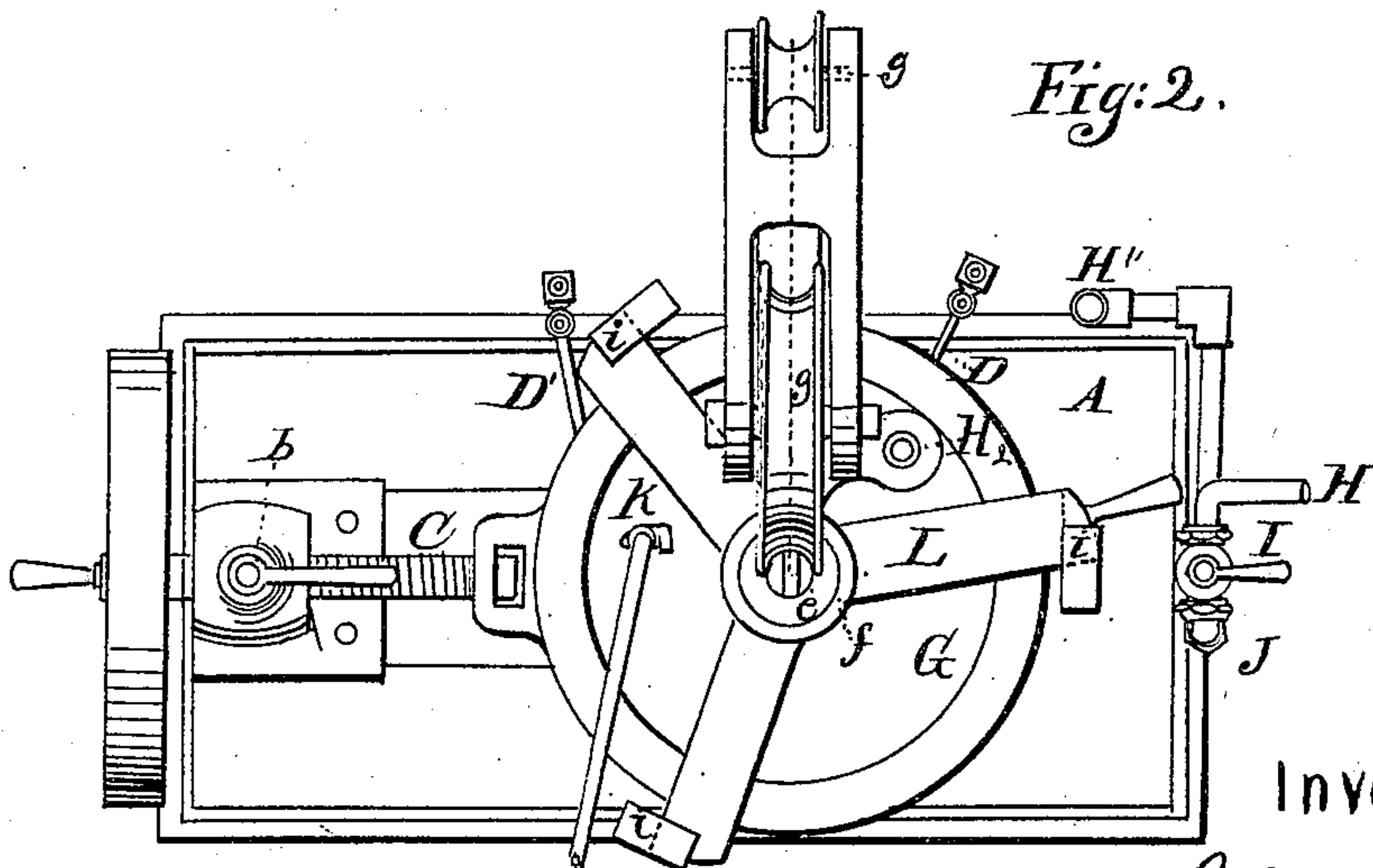


Fig: 2.



Witnesses:

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United States Patent Office.

JOSEPH EDWIN WARD, OF BREDBURY, GREAT BRITAIN, ASSIGNOR
TO ANDREW DWIGHT CAMPBELL.

Letters Patent No. 85,191, dated December 22, 1868.

IMPROVEMENT IN MOULDS FOR FORMING 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, JOSEPH EDWIN WARD, of Bredbury, in the county of Chester, Kingdom of Great Britain, have invented certain new and useful Improvements in Machinery for the Manufacture of Hats, or other like head-coverings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a partly sectional elevation of a machine or apparatus for making hats, constructed in accordance with my improvement;

Figure 2, a plan of the same, with the pipe which conveys the water under pressure to the mould or elastic bag or medium contained therein, broken away or in section; and

Figure 3, an elevation of the mould as or before it is divided.

Similar letters of reference indicate corresponding parts.

This invention relates to machinery to be used for moulding or pressing a certain form of felt and other hats; that is, such as will not withdraw from the mould when pressed into the shape desired.

The means by which the pressure upon the hat is effected is or may be similar to that used for pressing hats which will withdraw from the mould when finished, namely, hydraulic pressure, acting through an elastic lining, bag, or medium, and the case containing the mould heated by steam; but in this, my improvement, the mould in which the hat is to be pressed is formed in halves, or two equal sections, which are held together when the hat is being pressed, and separated when the hat is to be removed, one part of the mould-case and mould being fixed and firmly secured to the bed or frame, while the other part of said case and mould is arranged to slide, so that it may be set by a screw, or its equivalent, to meet or withdraw from the fixed portion of the case and mould, and when adjusted to meet, be suitably or securely locked; also both divisions of the mould-case having steam separately conveyed to them, with or under suitable provision for adjustment of the movable portion of the case.

The invention consists in a peculiar construction of the mould, which is first cast as a complete mould, then finished internally and externally, and afterwards broken into halves, the same being cast with a thin place in the metal, at the part where the fracture is required, whereby a jagged joint, such as the fracture of metal gives, is secured in the place of a straight-line junction, that would leave a mark on the hat.

Referring to the accompanying drawing, A represents the bed of the machine, and B, one-half of the divided hollow mould-case, firmly secured to the bed, while B' is the other half of said case. This latter half

or portion of the case is arranged to slide in a groove, *a*, to or from the fixed half B, by means of a screw, C, provided with a locking-screw, *b*, to hold the movable section in place when set up against the fixed portion.

Instead of the screw C, any other suitable means may be employed for effecting the movement or adjustment of the mould-case section B'.

Each half B B' of the mould-case is made hollow, and heated by steam, introduced by separate pipes or branches D D', the one at least of which, namely, the one supplying the movable portion B' of the case, should be of such length as to admit of its springing when moving said case-section, or it may be fitted with a swivel or other joint, that will allow of such play of the mould-section without injuriously disturbing or breaking the connection.

Condensed steam may be drawn off from each half of the mould-case by pipes E E, that should be fitted with taps or cocks.

The moulds, or mould-sections, F F', for different sizes of hats, are all of the same size externally, and fit into the interior of the case or case-sections B B'.

The construction of the cover to the hat-mould or moulds, and the hydraulic apparatus, and its mode of action, being well known, need not be minutely described here. I will therefore only name some of such parts.

G is the cover, to which the elastic bag *d* is secured. *e* is a rod, passing through a guide, *f*, for lifting the cover G.

This rod *e* is attached to one end of a chain or cord, passing over pulleys *g g*, and to the other end of said chain or cord a balance-weight is attached.

H is the pipe from the hydraulic reservoir to a two-way cock, I, from which it ascends the pipe H¹, and descends the pipes H² H³ to the interior of the elastic bag *d*.

The pipe H³ is secured to the cover G, and slides through a gland into the pipe H² when the cover is lifted.

J is the pipe for conveying away the water from the elastic bag *d*.

K is a tap, for allowing the air to escape from the elastic bag.

L is a locking-brace, centred upon the rod *e*, and turned to lap under hooks *i*, when it is required to establish the lock of the cover.

The two-way cock I is so constructed and operated as that it is, or may be, always open to the pipe H¹, and in through communication either with the inlet-pipe H or waste-water pipe J, accordingly as it is required to enter or discharge water into or from the elastic bag.

The mould-sections F F' are made in one piece, or

entire, as represented in fig. 3, with a thin portion, *m*, down opposite sides of it, and thus constructed whole, the mould is turned or finished externally and internally, and afterwards broken at the reduced portions *m*, so as to give jagged or ragged instead of straight edges to the two mould-sections F F', as represented in fig. 1, and which avoids marking the hat.

What is here claimed, and desired to be secured by Letters Patent, is—

The mould F F', constructed perfect, or entire, with a reduction, *m*, where it is required to establish the joint, so as to form a jagged or ragged fracture when separating the mould into sections, essentially as and for the purpose herein set forth.

JOSEPH E. WARD.

Witnesses:

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