(No Model.)

D. E. FOLEY.

MACHINE FOR BLOCKING AND PRESSING HATS.

No. 576,567. Patented Feb. 9, 1897.

Fig. 1.

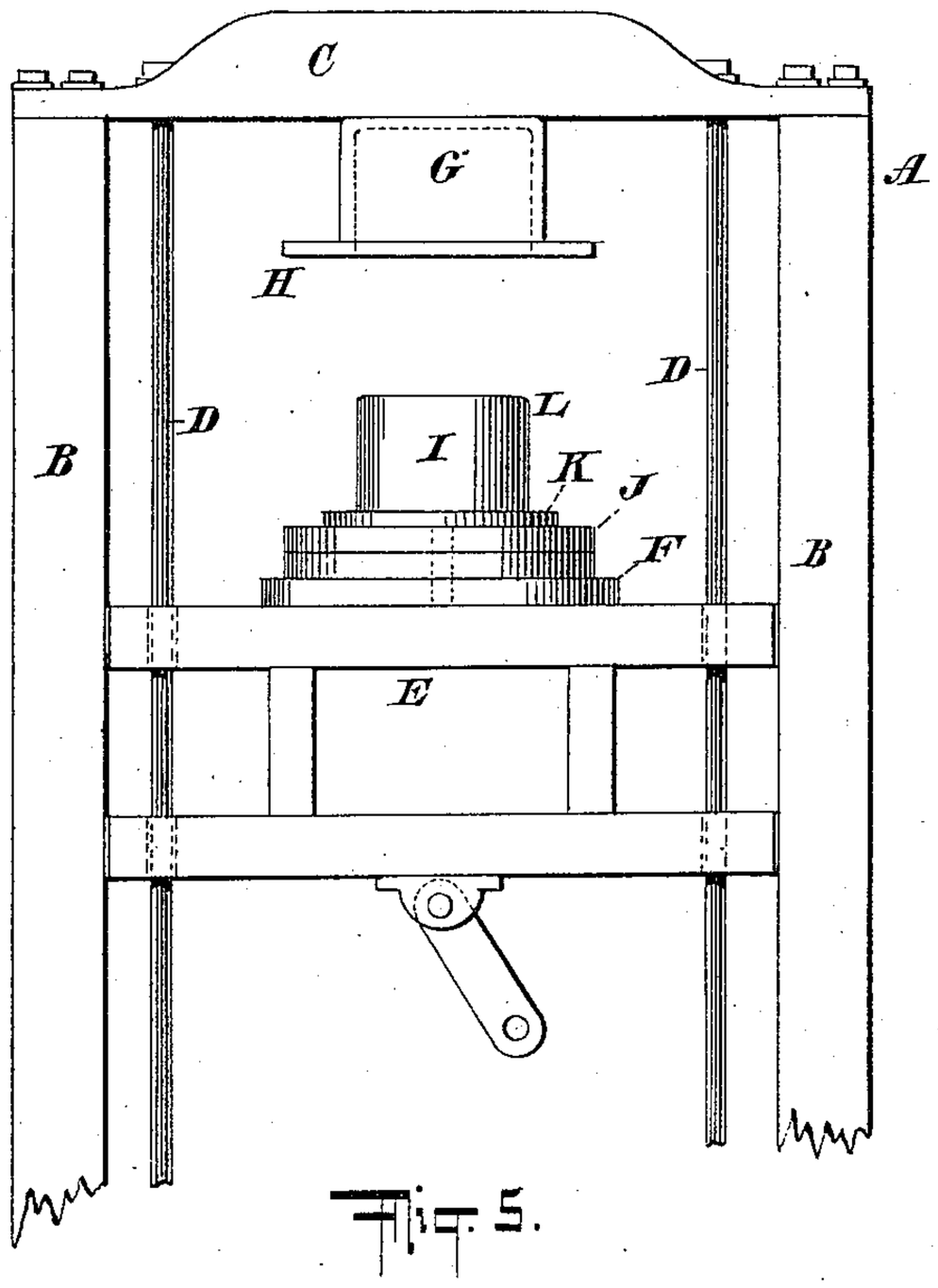


Fig. 2.

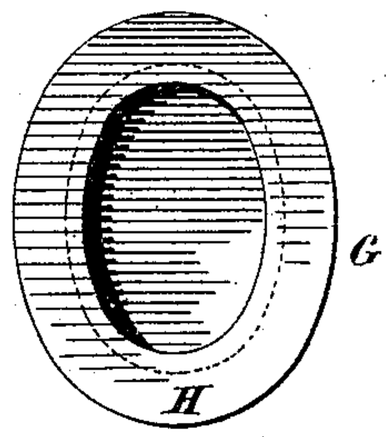


Fig. 3.

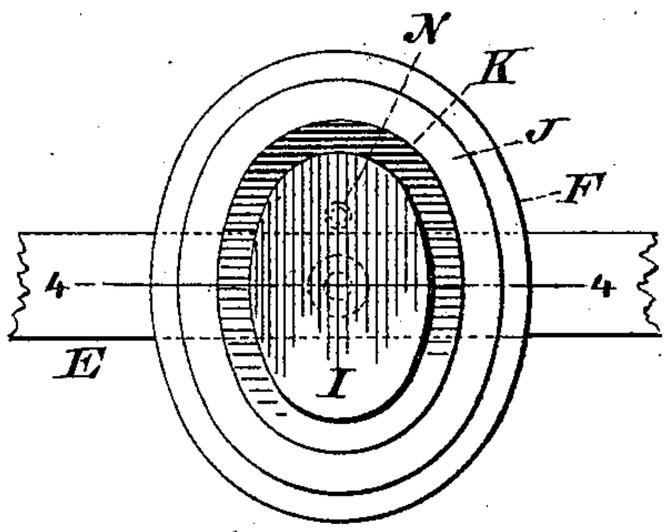


Fig. 5.

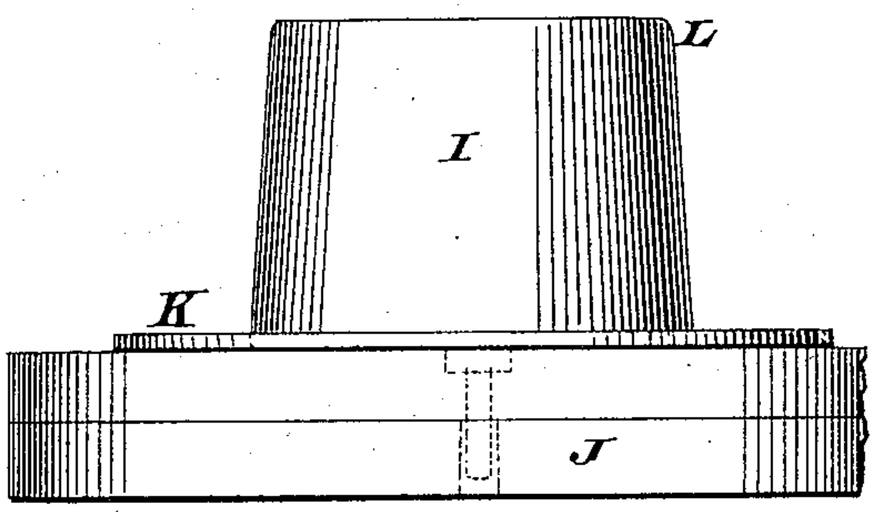


Fig. 4.

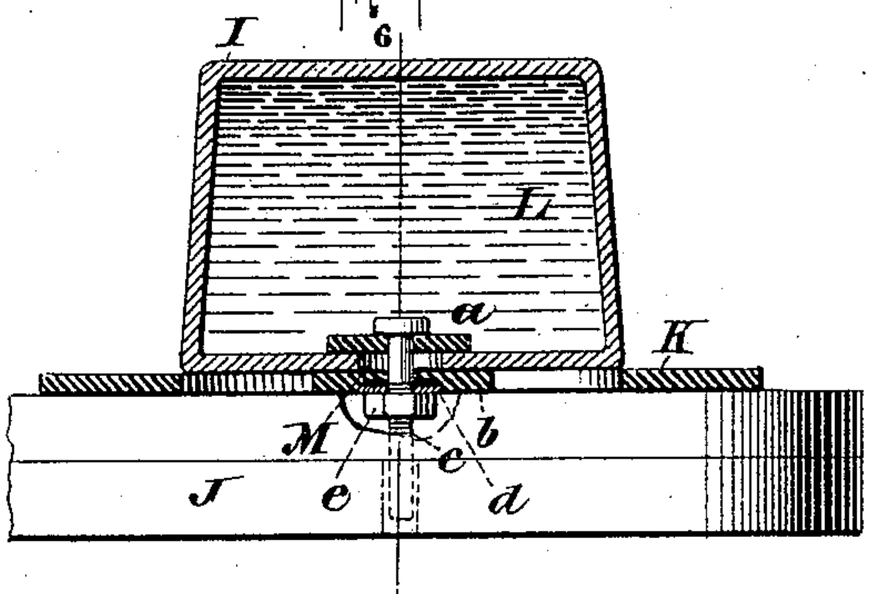
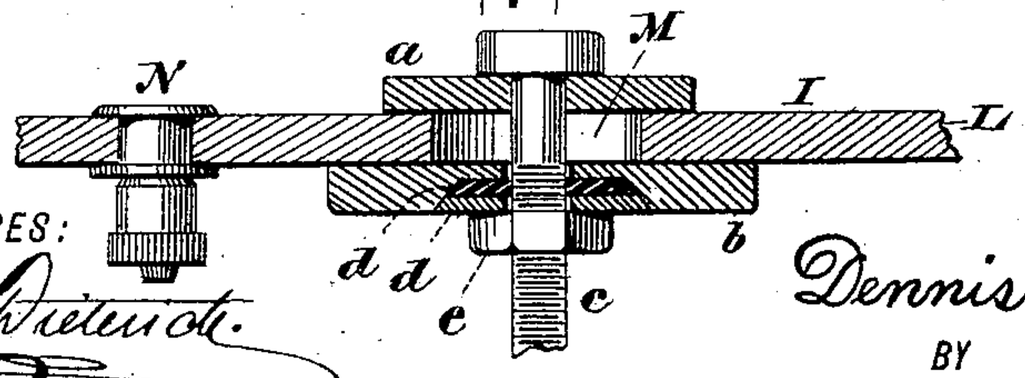


Fig. 6.



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WITNESSES:

Gustave Dieterich.

John C. Kehlenbeck.

INVENTOR

Dennis E. Foley,

BY

Chas. C. Gill

ATTORNEY.

UNITED STATES PATENT OFFICE.

DENNIS E. FOLEY, OF NEWARK, NEW JERSEY.

MACHINE FOR BLOCKING AND PRESSING HATS.

SPECIFICATION forming part of Letters Patent No. 576,567, dated February 9, 1897.

Application filed February 4, 1896. Serial No. 577,971. (No model.)

To all whom it may concern:

Be it known that I, DENNIS E. FOLEY, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machines for Blocking and Pressing Hats, of which the following is a specification.

The invention relates to improvements in machines for blocking and pressing hats; and it consists in the novel features hereinafter described, and particularly pointed out in the claims.

The machine made the subject of this application comprises an inverted female die of usual form and construction and a vertically-reciprocating frame supporting, directly below said female die, a head or block upon which the hat is placed and which with the hat thereon is moved into said female die and there subjected to pressure, whereby the hat is most effectually and satisfactorily blocked and pressed, as hereinafter more fully explained. The head or block to receive the hat is the more important feature of the present invention, and I do not confine its use to any special form of machine. This head or block is in the desired outline, and it is made of reasonably stiff rubber or other yielding material and is filled with water or air or other liquid or fluid. The head or block is removable from the machine, and when once filled with the liquid or fluid may be used almost indefinitely without requiring to be refilled. I prefer, however, to provide the lower surface of the head or block with a suitably-valved inlet, through which the head or block may be originally filled, and through which also it may receive an additional charge of the liquid or fluid in case any of the original supply thereof should become lessened by reason of evaporation or otherwise. The head or block constitutes a hermetically-sealed casing, which, in conjunction with the female die and means for applying the pressure, serves to effectually block and press the crown and sides of the hat and impart a highly-finished appearance to the same without the least danger of injury to the material of which the hat is composed. The brim of the hat is pressed at the same time the crown and sides thereof are pressed, this being effected between the lower horizontal surfaces surrounding the female die and the corresponding surfaces surrounding said head or block. The female die will be heated as usual.

Referring to the accompanying drawings, Figure 1 is a front view of a machine for blocking and pressing hats and embodying my invention. Fig. 2 is an enlarged detached view of the female die, looking into the same. Fig. 3 is an enlarged detached top view of the head or block and the supports for the same. Fig. 4 is an enlarged detached central vertical section through said head or block on the dotted line 4 4 of Fig. 3. Fig. 5 is an enlarged side elevation of said head or block and the support with which it is removable from the machine; and Fig. 6 is an enlarged central vertical section through a portion of the lower part of the head or block, the section being on the dotted line 6 6 of Fig. 4.

In the drawings, A designates the main frame of the machine, said frame comprising the side standards B B, the cross-bar C, connecting said side standards, and the vertical guide-rods D D. Between the standards B B and guided on the rods D D is the reciprocating frame E, which carries the table F and is adapted to be raised and lowered by any suitable means. The inverted female die G is secured to the central part of the cross-bar C and is surrounded at its lower edges by the smooth-surfaced horizontal flange H, against which the hat-brims are pressed. The die G will be heated as usual.

The head or block is indicated by the letter I, and it is mounted on the bed J, which is preferably of wood and has surrounding the said head or block the smooth sheet-metal surface K, between which and the flange H of the die G the brim is pressed.

The head or block I constitutes a liquid or fluid filled casing L, of rubber or other suitable yielding material. In the manufacture of this casing I have secured the best results by making it of rubber about one-half inch in thickness throughout. In forming the head or block I, I first prepare a plaster-of-paris form of the desired outline and apply the rubber entirely over the surfaces of the same, after which the rubber, while on the form, is vulcanized by the usual processes. I then in what is to be the lower surface of the

head or block cut a central hole of about one and one-half or two inches in diameter in the rubber and through this hole extract in fragments the plaster-of-paris form, thus leaving the casing entirely hollow. This hole, which in the drawings is lettered M, is then effectually closed by means of the plates *a b*, bolts *c*, washers *d*, and nut *e*, as shown in Fig. 4. The bolt *c* is first inserted through the plate *a*, and the latter is then inserted through the hole M, the rubber being stretched to admit the same, and thereafter the outer plate *b*, washers *d*, and nut *e* are applied, as shown, to prevent any leakage from about the hole M or bolt *c*. In order that the then hollow head or block I may be conveniently filled with the liquid or fluid and recharged with same should circumstances render that course necessary, I provide in the lower side of the head the valved inlet-nipple N of well-known construction, through which the air or liquid may be very conveniently pumped into said head until the latter is completely and firmly filled. After the head or block I has been charged with the liquid or air it is mounted on the bed J and is then ready for use.

In the operation of the machine the bed J, carrying the head or block I, is removed from the table F and rested upon a suitable table or work-bench each time said head is to receive a hat to be blocked and pressed. The hat having been placed on the head or block I the bed J is placed upon the table F directly below the die G, and thereupon the frame E is elevated to carry the hat and said head or block into the die G and apply sufficient pressure thereto to effectually press the hat, after which the frame E is lowered, the bed J removed, and the pressed hat taken from the head or block I, whereupon another hat to be pressed is placed upon the said head or block and the latter with the bed J restored to the machine. The upward movement of the frame E moves the hat and block or head into the die G, and the final upward pressure applied on the lower surface of the head or block I causes the water or air to expand the surfaces of said head or block equally and firmly in all directions against the interior of the hat and press the same evenly against the entire inner walls of the heated die G, completely pressing the hat and imparting a very desirable finish to the same. The head or block I will be used over and over again until worn out or until, owing to accident or evaporation, the liquid or air has ceased to fill the same, and in this latter event the head or block will simply be recharged through the nipple N. The head or block I is a self-contained sealed casing and is both durable and effectual, it is simple of use and results in the production of an improved hat, and it forms a marked advance in this art.

The bolt *c* extends downward into the bed J, and the upper surface of the bed J is recessed to admit the nut *e* and permit the upward pressure derived from the movement of the table F to act against the central plate *b*, the surrounding rubber surface of the block I being above the lower bearing-surface of said plate *b*, as shown in Fig. 4. The great advantage of having the upward pressure act directly against the central plate *b* is that said pressure is thereby enabled to effect from a central force an equal distribution of the expansion of the rubber block I against the top and sides of the hat and that the latter is uniformly and accurately blocked and pressed to a finished condition.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine of the character described, the female die and the head or block to receive the hat and therewith enter said female die, said head or block comprising the sealed hollow yielding shell or casing having the central bearing-plate *b* which covers only the central portion of the base of said shell or casing, and a liquid or fluid filling the said shell or casing, combined with means for applying pressure against said central plate only for the purpose of causing the liquid or fluid within the casing or shell to uniformly expand the latter against the crown of the hat; substantially as set forth.

2. In a machine of the character described, the sealed head or block of comparatively stiff but slightly-yielding material filled with a liquid or fluid under pressure and having at its lower end the filling-nipple N and aperture M, combined with the plate *a* within said head and covering one end of said aperture, the plate *b* against the lower end of said head and covering the other end of said aperture, the bolt *c* passing through said plates and aperture, the washers *d* on said bolt and bearing against the plate *b* to prevent leakage around the bolt, and the nut *e* on said bolt and clamping the plates *a*, *b*, against the block on opposite sides of said aperture; substantially as set forth.

Signed at Newark, in the county of Essex and State of New Jersey, this 31st day of January, A. D. 1896.

DENNIS E. FOLEY.

Witnesses:
FREDERICK SCHARRINGHAUSEN,
EDWARD C. GEORGE.