R. ROWLAND.

HAT PRESS.

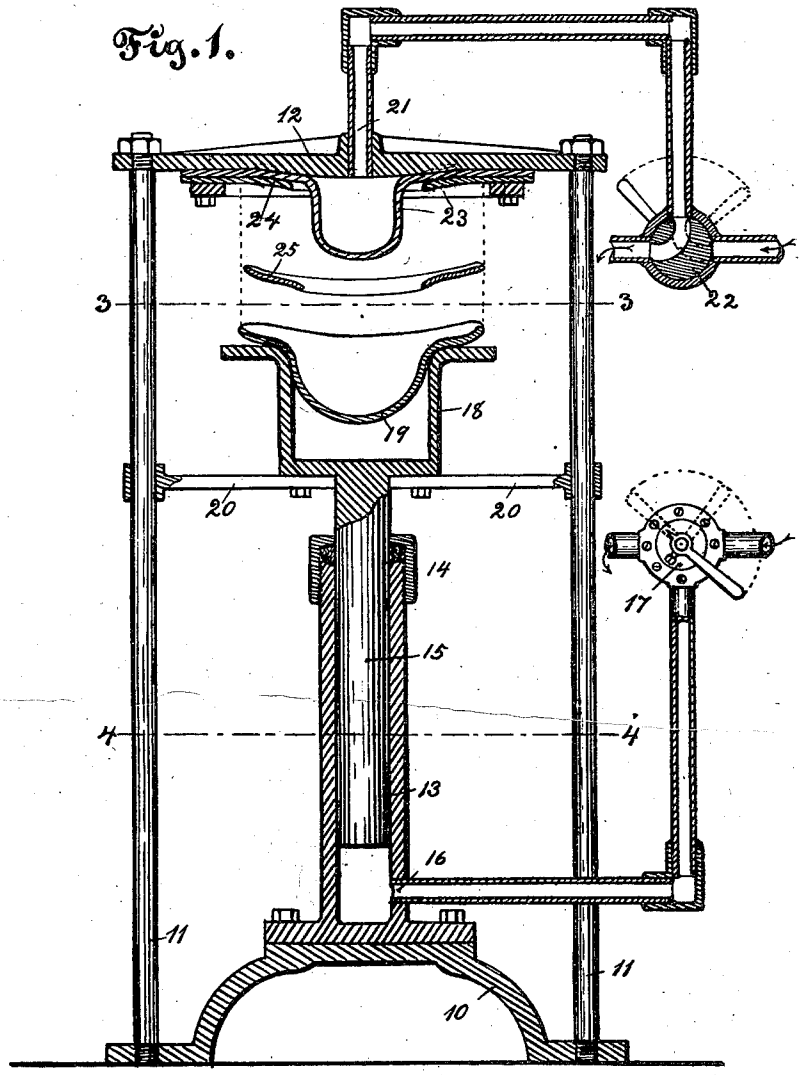
APPLICATION FILED JAN. 25, 1912.

1,043,466.

Patented Nov. 5, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

Bertha E. Henry.

Carl J. Kraus

Inventor

Robert Rowland

R. ROWLAND.

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2 SHEETS—SHEET 2.

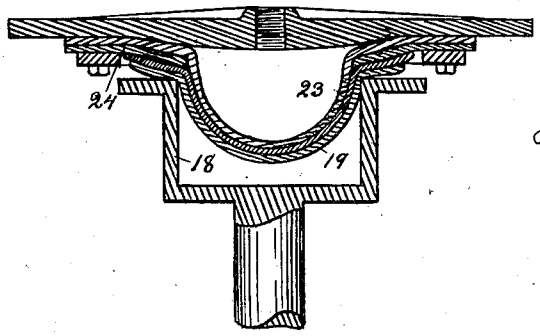

Fig. 2.

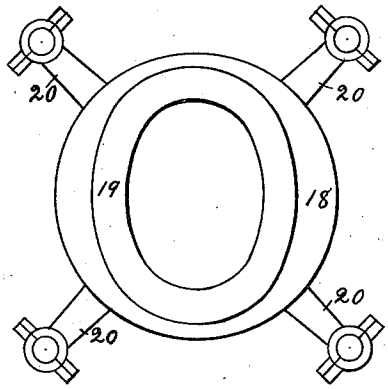

Fig. 3.

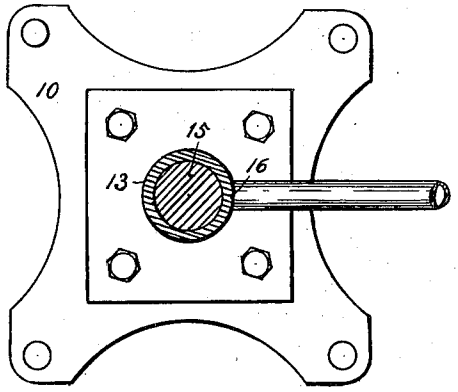

Fig. 4.

Witnesses:
Bertha E. Henry.
Carl J. K. Larsen

Inventor
Robert Rowland

UNITED STATES PATENT OFFICE.

ROBERT ROWLAND, OF BROOKLYN, NEW YORK.

HAT-PRESS.

1,043,466. Specification of Letters Patent. Patented Nov. 5, 1912.

Application filed January 25, 1912. Serial No. 673,347.

To all whom it may concern:

Be it known that I, ROBERT ROWLAND, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hat-Presses, of which the following is a specification.

This invention relates to hat presses and particularly to that class in which hydrostatic pressure is employed in producing a desirable shape and density of the finished product, and its objects are to provide an efficient mechanism for producing such results more rapidly and effectually than has hitherto been attained. These objects are secured by mechanism hereinafter fully described and shown in the annexed drawings, forming part of this specification, and in which:—

Figure 1 is a sectional elevation of the entire machine. Fig. 2 is a sectional view taken through the molds and showing several parts at the time pressure is applied. Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 1, and Fig. 4 is a similar sectional view taken on line 4—4 of Fig. 1.

In all these several views similar characters refer to similar parts.

The invention comprises a suitable base-plate 10 adapted to rest upon the floor or other foundation and is provided with columns 11 at each of its corners which extend upward to a suitable height where they are connected with a cap plate 12.

Centrally mounted on the base-plate 10 is a vertically disposed cylinder 13 provided at the top with a packing ring 14 having means of adjustment and through which passes a plunger 15 adapted to extend nearly to the bottom of the cylinder bore; within the space below the end of the plunger is an inlet for a pipe 16 extending outwardly and upwardly to a suitably arranged three-way valve 17 conveniently arranged for operation, its inlet being connected to the source of water or air supply according to whether hydrostatic or pneumatic force is employed. At the upper end of the plunger 15 is a receiver or mold holding member 18 adapted to receive and maintain the different sizes and shapes of molds 19, it may be desired to use; guides 20 are also provided, attached to the receiver 18, which extend outwardly to the four columns 11 with which they slidably engage.

The cap plate 12 is provided with an opening adapted to receive a pipe 21 communicating with a second three-way valve 22 leading to the pressure supply source; the lower side of the cap plate 12 is made to conform to the shape of the hat brim in accordance with the form of the mold below. A distensible flexible internal mold member 23, such as a rubber bag of suitable shape, directly connected with the pressure supply controlled by the valve 22, is secured on the lower face of the cap-plate and held in position by a plate of leather 24 or other similar semi-yielding material, having a central opening agreeing with the size and shape of the hat brim, disposed below the corresponding flanged portion of the rubber bag and attached to the cap-plate in such manner as to maintain the rubber member thereto. Thin metal brim plates 25 shaped to agree with the contour of the lower molds, are made interchangeable to suit the various styles and sizes of hats operated upon and are adapted to be disposed over the hat material when placed on top of the mold, in such manner as to have a slight amount of resilience when brought against the semi-yielding plates 24 by the upward motion of the plunger 15. These parts are so arranged that the brim of the hat is uppermost, the crown being disposed within the mold as this arrangement is believed to be more convenient in handling the work.

In operation the partially formed hat to be pressed is disposed in the lower mold, the three-way valve opened so that the plunger and its attached parts move upwardly, the flexible bag at that time being within the hat body; pressure is applied through the second three-way valve, whereupon the bag becomes expanded forcing the hat material strongly against the confined lower mold which is thereby made to produce a perfect, regular shape as desired, notwithstanding any irregularities, as thick or thin portions in the hat material, which may exist; obviously when the pressure in the cylinder is removed, the lower mold descends and the hat may be readily taken out. It may be stated that the brim of the

hat has previously been pressed and formed into shape and that this invention is adapted to operate upon the crown only.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a hat press, in combination with other operative mechanism, of a vertically movable die carrier, lower dies interchangeably mounted thereon, said lower dies being adapted to receive the crown and body of a hat and semi-yielding upper dies interchangeably secured to the under side of the press cap-plate in register with said lower dies.

2. In a hat press, in combination with other operative mechanisms, movable concave lower rigid dies adapted to receive a hat, fixed flexible upper dies corresponding to the lower dies, a rubber bag capable of expansion arranged with reference to the opening through said upper die and adapted to enter a hat in the lower die, means for raising and lowering said lower die and means for distending said rubber bag.

3. In a hat press, the combination with a base plate having columns at each of its lower corners, a cap-plate at the top of the columns, a cylinder vertically mounted central of the base and a piston operatively combined with the cylinder, of an enlarged annular die holder on said piston, guides therefor slidable on said columns, concave rigid dies disposed interchangeably within said holder, upper dies interchangeably secured yielding below said cap-plate in register with said lower dies, a distensible member extending through said upper dies below said cap-plate, means for expanding said distensible member and means for raising the lower die into operative engagement with the upper die.

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

ROBERT ROWLAND.

Witnesses:
BERTHA E. HENRY,
CARL J. LARSEN.