No. 740,815. PATENTED OCT. 6, 1903.

M. A. CUMING.

HAT SHAPING DIE.

APPLICATION FILED JUNE 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

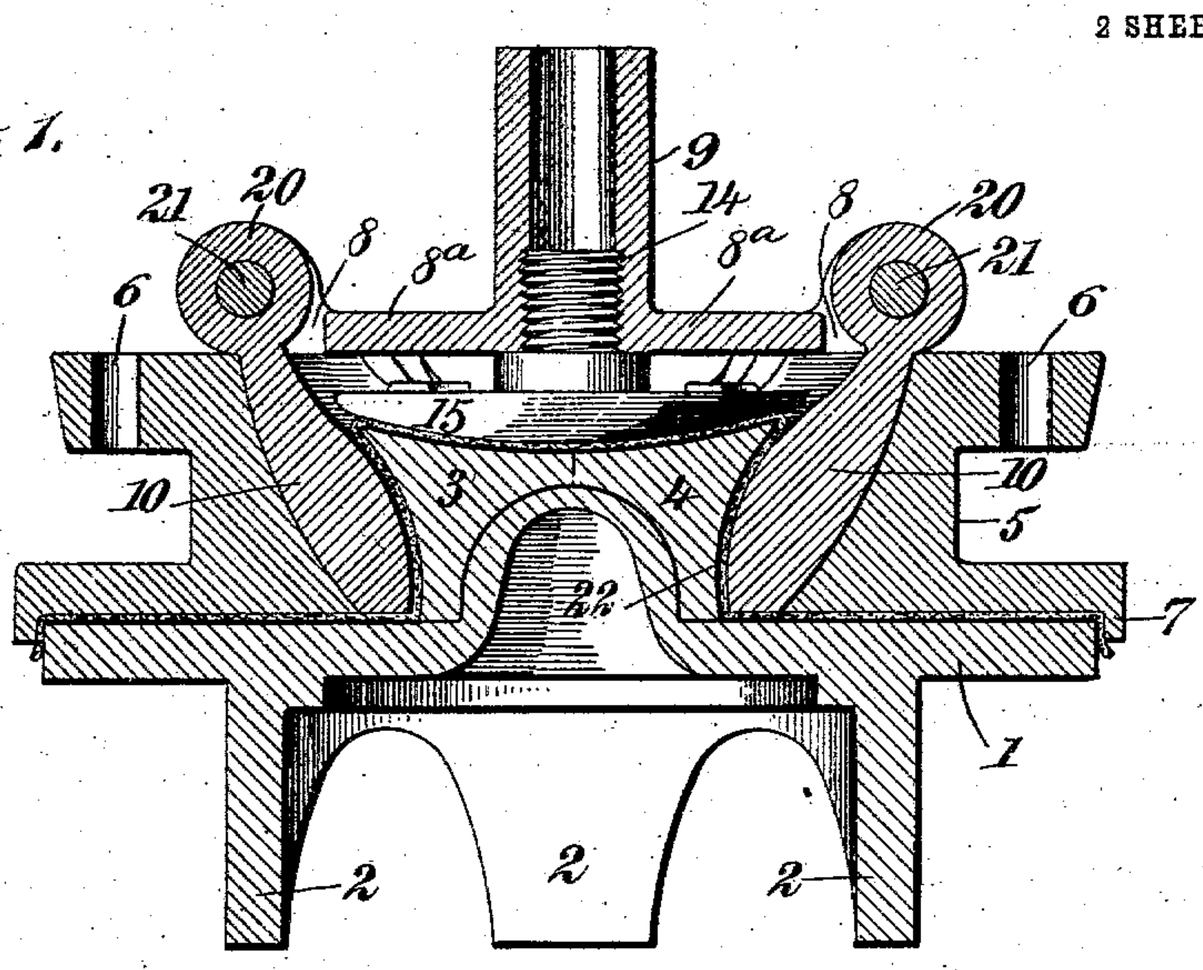


Fig. 4.

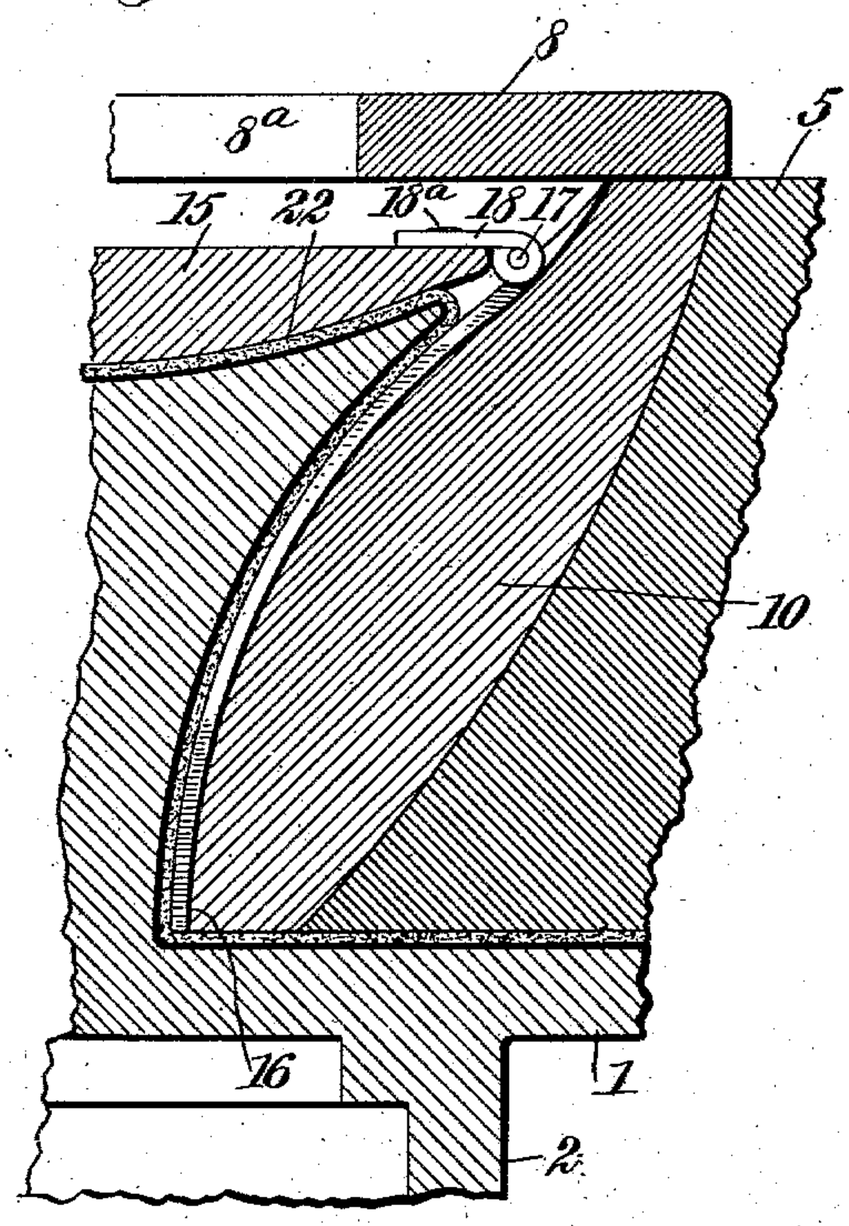


Fig. 5.

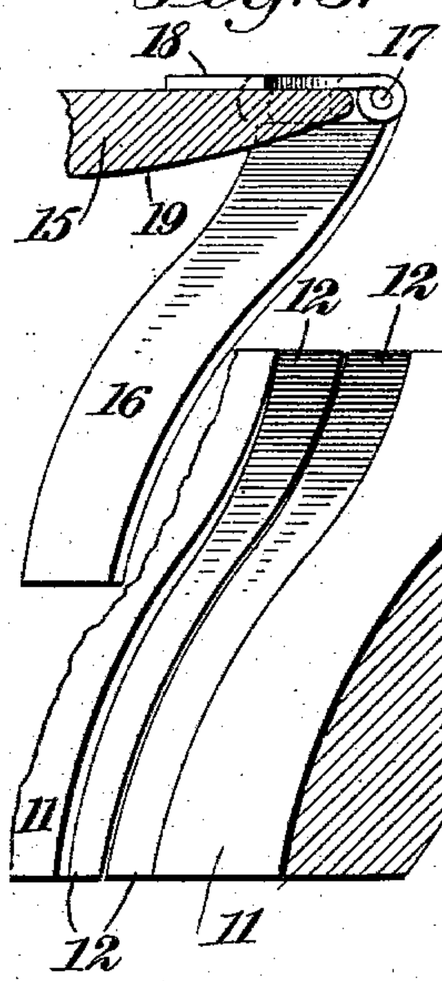
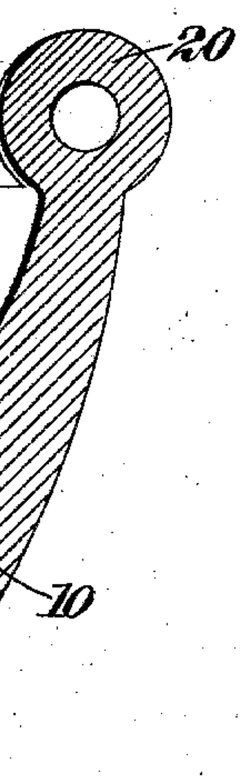


Fig. 6.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

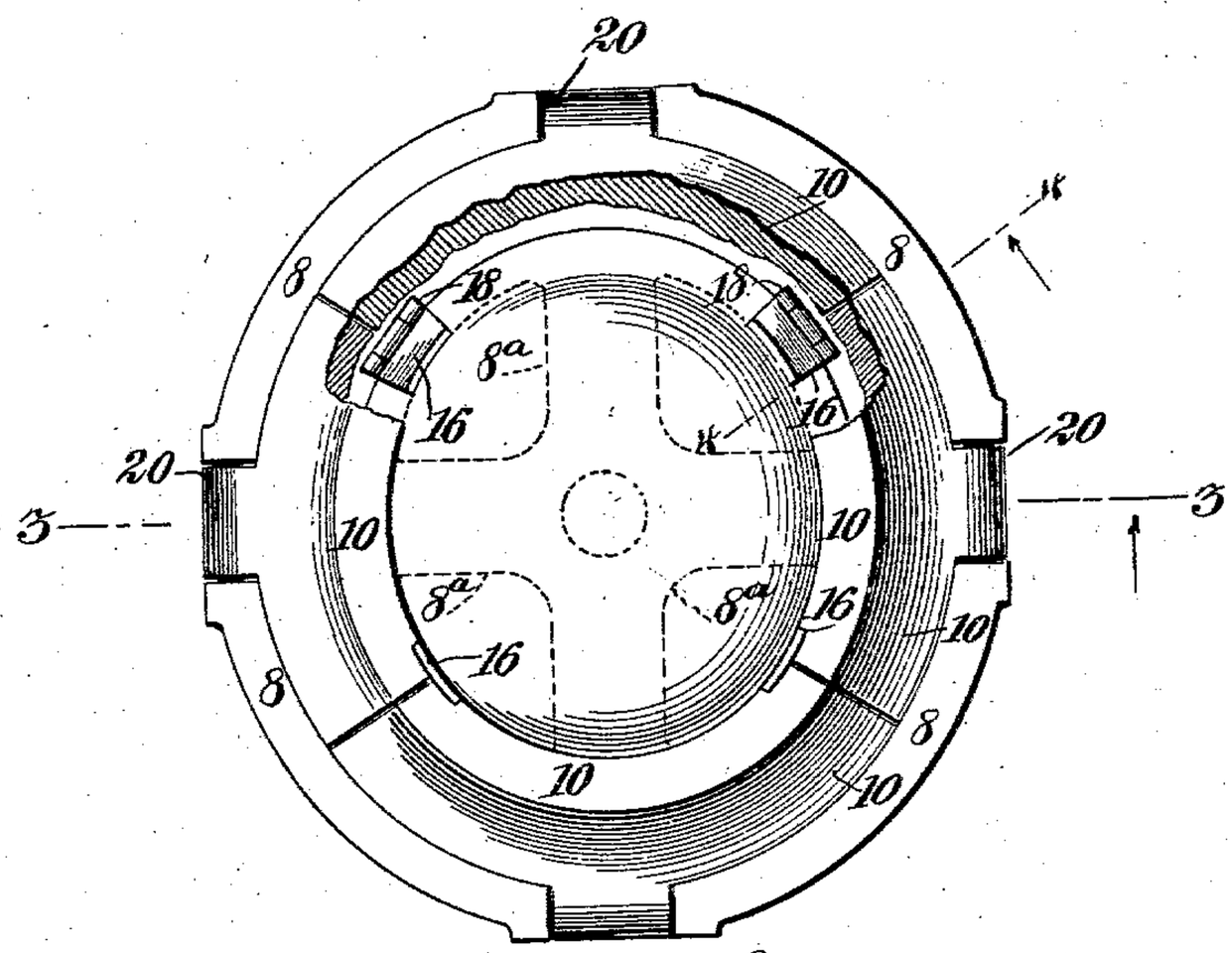
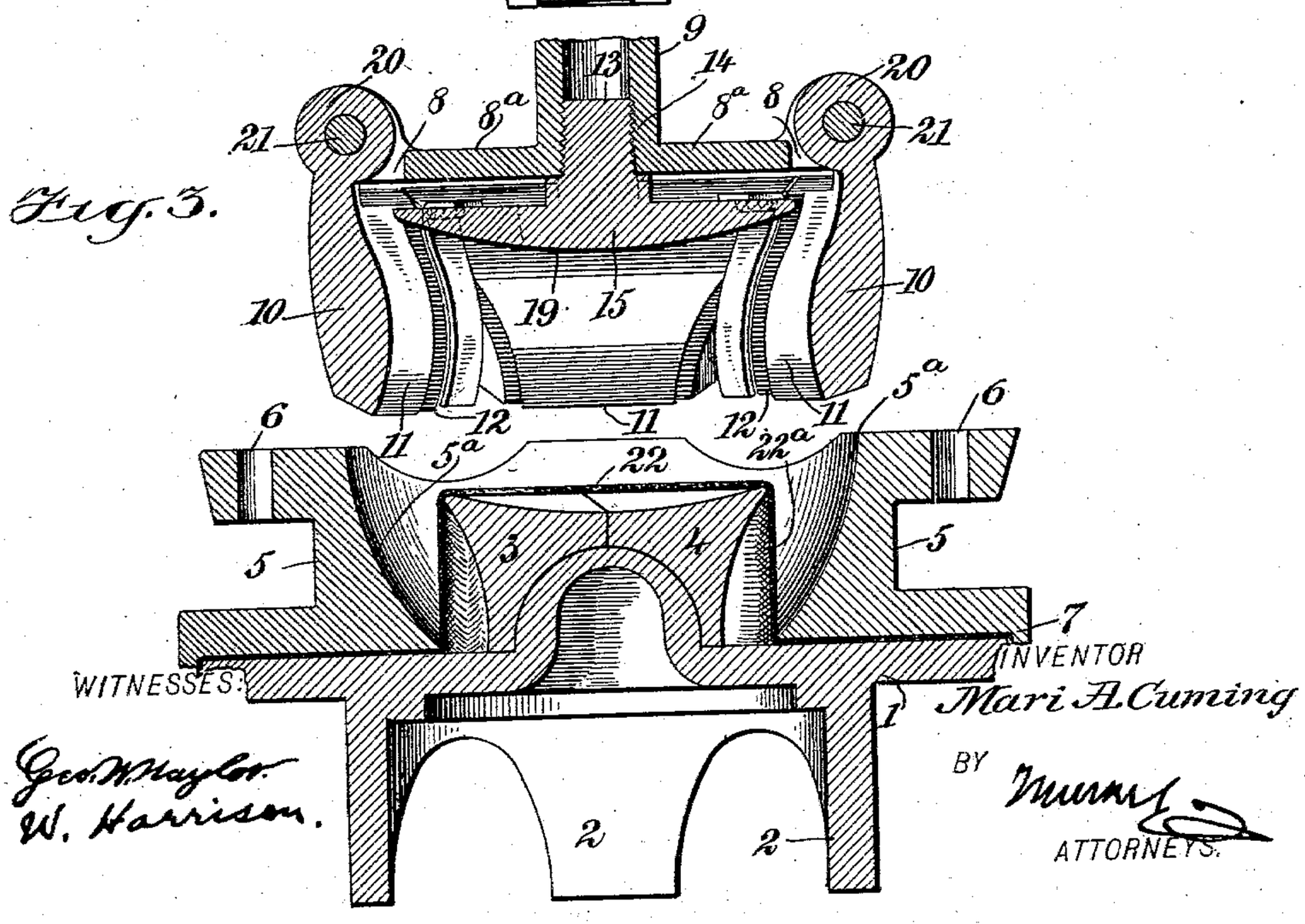


Fig. 3.



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No. 740,815. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

MARI A. CUMING, OF NEW YORK, N. Y.

HAT-SHAPING DIE.

SPECIFICATION forming part of Letters Patent No. 740,815, dated October 6, 1903.

Application filed June 18, 1903. Serial No. 162,015. (No model.)

To all whom it may concern:

Be it known that I, MARI A. CUMING, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Hat-Shaping Die, of which the following is a full, clear, and exact description.

My invention relates to hat-making machinery, and more particularly to a die for forming bell-crowned hats—that is, hats in which the crown diminishes in diameter from the tip to the base.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical central section through a hat-shaping die of my invention. Fig. 2 is an inverted plan or bottom view of the swinging sections and mechanism for supporting the same. Fig. 3 is a vertical central section on the line 3 3 of Fig. 2 through the die, showing the upper member raised above the lower member thereof. Fig. 4 is a fragmentary section, somewhat enlarged, upon the line 4 4 of Fig. 2, looking in the direction of the arrow. Fig. 5 is a perspective view of one of the shields used for preventing the hat material from being damaged by the movable sections, and Fig. 6 is a sectional detail showing two of the swinging sections and the grooves thereof for engaging the shield hereinafter described.

Like practically all hat-dies now used, my die is operated in a stamping-press, which is so old and well known as to need no description.

The base-plate is shown at 1 and is mounted on legs 2. The members 3 4 are fragmentary portions of the crown-block, which, as usual, is of composite form. A movable member 5 is provided with apertures 6 for facilitating the raising and lowering of said member. The member 5 is provided with a curved surface for the purpose of rendering the interior of said member substantially funnel-shaped, as indicated more particularly in Fig. 3. The rim 7 of the member 5 slightly overhangs the outer surface of the member 1. A top plate is shown at 8 and is movable relatively to the crown-piece and the crown-block and also to the member 5. The top plate 8 is mounted upon a spider 8^a and a tubular stem 9, all of these parts being integral. A plurality of swinging sections 10, each having an inner surface 11 of the shape shown, are connected with the top plate 8. Each section 10 is provided with a groove 12, these grooves being in alinement with each other and free to close together, as indicated in Fig. 6, when the sections are moved radially toward each other. Depending centrally from the tubular stem 9 is a threaded stem 13, which is connected with said tubular stem 9 by means of screw-threads 14. Integrally connected with the stem 13 is a tip-shaping plate 15, having preferably a general outline of oval form. Mounted upon this tip-shaping plate 15 are shields 16, connected therewith by means of pivots 17 and hinge members 18, the latter being secured to the tip-shaping plate 15 by means of screws 18^a. (Shown to better advantage in Fig. 4.) The tip-shaping plate 15 is provided with a shaping-surface 19, of a conformity corresponding to that of the upper surface of the crown-block, for the purpose of forming the tip or extreme upper portion of the hat. Each section 10 is provided with a pivotal bearing 20, engaging a pin-pivot 21, as indicated more particularly in Fig. 3. The buckram or other fabric used for making the hats is shown at 22 and is formed over the crown-block substantially in the usual manner.

My invention is used as follows: The crown-block, consisting of the loose members 3 4, is assembled in the usual manner. The fabric 22 is next placed over the crown-block and base-plate, and the member 5 is brought down, so as to encircle the crown-block, as indicated in Fig. 3. The fabric has now a rude semblance of the shape of a hat. The top plate 8 is next forced downward. The swinging sections 10 engage the rounded surface 5^a of the member 5 and are forced radially toward the crown-block and also forced serially toward each other until they come into engagement. Each of the shields 16 is wide enough at its top to overlap portions of the grooves 12; but at the bottoms of the sections each shield is free of the grooves and of the sections. The downward movement of the top plate first causes the shields 16 to

move radially outward slightly, so as to pass the top of the crown-block, and as the sections 10 are forced by the rotund surface 5^a toward the crown-block they carry the portion 22^a of the fabric against the top thereof. The shields 16 prevent the fabric from getting between any two adjacent sections 10. When the top member is in its lowermost position, as indicated in Figs. 1 and 4, the shields 16 are each sunken within the grooves 12 and completely fill the same.

It will be observed that the shields 16 are not mounted upon the swinging sections 10, but are supported independently thereof, being mounted upon the tip-shaping plate 15. It will also be observed that as the tip-shaping plate 15 may be taken off of one die and placed upon another die the shields 16 may be used successively for any number of dies, provided the shape of the hat will permit.

In order to remove the several shields 16, the tip-shaping plate 15 is simply unscrewed from the tubular stem 9 and the screws 18^a are loosened and removed, thus disengaging the shields 16.

Steaming, heating, and otherwise treating the material need not be discussed, for the reason that these features are not affected in any way by my invention.

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

1. A hat-shaping die, comprising a base member, a crown-block mounted thereon, a substantially funnel-shaped member for encircling said crown-block, a carrier movable relatively to said crown-block and said funnel-shaped member encircling the same, movable sections mounted upon said carrier, and shields mounted independently of said sections but free to engage the same.

2. In a hat-shaping die, the combination of a crown-block, a tip-shaping plate movable relatively thereto, forming mechanism for forcing the hat material against said crown-block, and shield mechanism mounted upon said tip-shaping plate and supported independently of said forming mechanism for preventing said forming mechanism from injuring said hat material.

3. In a hat-shaping die, the combination of a crown-block, a tip-shaping plate movable relatively thereto for the purpose of forming the tip of the hat, forming mechanism for forcing the hat material against the crown-block, said forming mechanism having members movable relatively to said crown-block and to each other, and shield mechanism mounted upon said tip-shaping plate and movable relatively thereto for preventing injury to the hat material by said forming mechanism.

4. In a hat-shaping die provided with a crown-block and with mechanism having movable sections for closing about said crown-block, the combination of a member movable relatively to said crown-block for the purpose of shaping the tip of the hat, and shields mounted upon said member for protecting the hat material from injury by said sections.

5. In a hat-shaping die, the combination of a top plate, swinging sections mounted thereon and free to move relatively to each other, said sections being provided with grooves, a tip-shaping plate connected with said top plate, and shields connected with said tip-shaping plate and free to engage said grooves.

6. In a hat-shaping die, the combination of a base member, a crown-block mounted thereon, a series of swinging sections movable relatively toward and from said crown-block, means for actuating said sections for the purpose of shaping the hat material upon said crown-block, and shields for closing the joints between consecutive sections, said shields being supported independently of said sections.

7. In a hat-shaping die member, the combination of a plurality of sections movable relatively to each other, and of proper conformity to encircle a crown-block, a plurality of shields for closing joints between said sections, and means for supporting said shields independently of said sections.

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

MARI A. CUMING.

Witnesses:
WALTON HARRISON,
EVERARD BOLTON MARSHALL.