

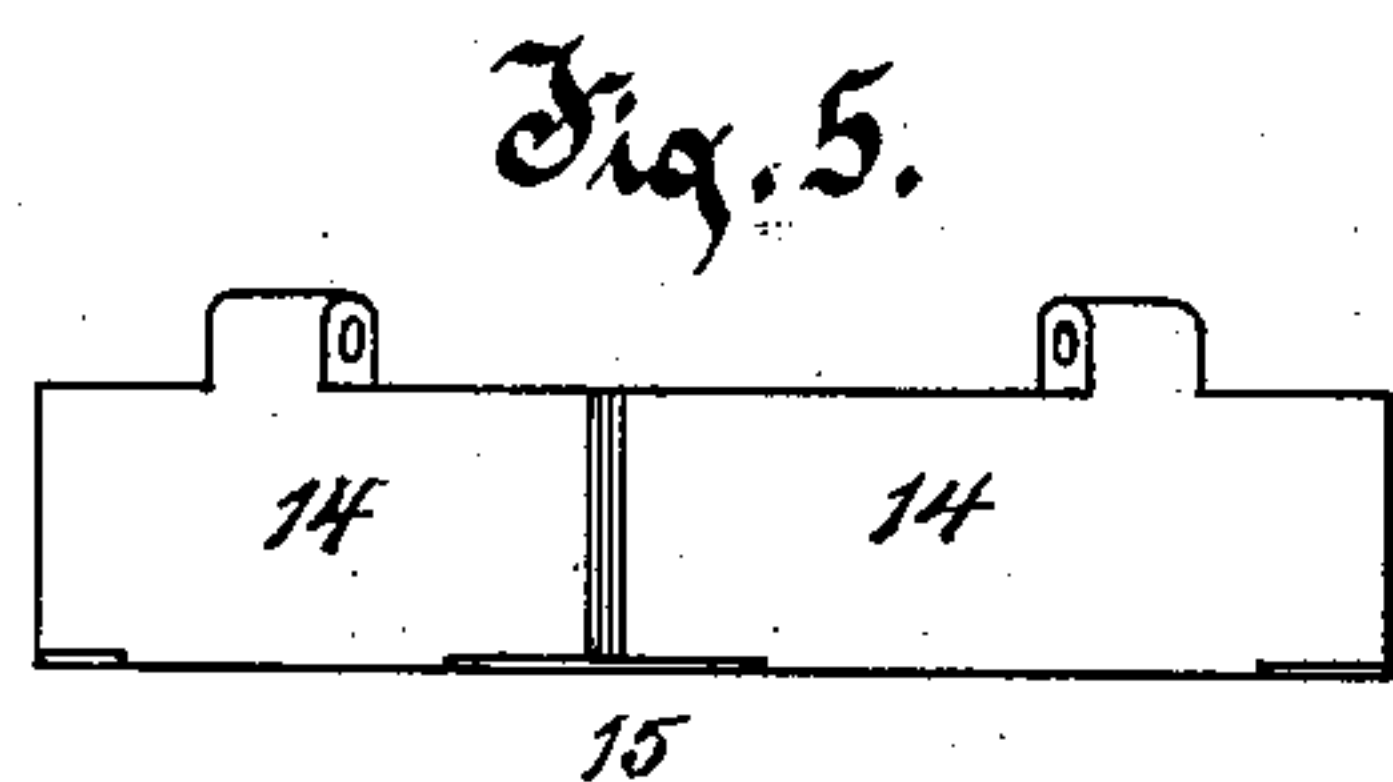
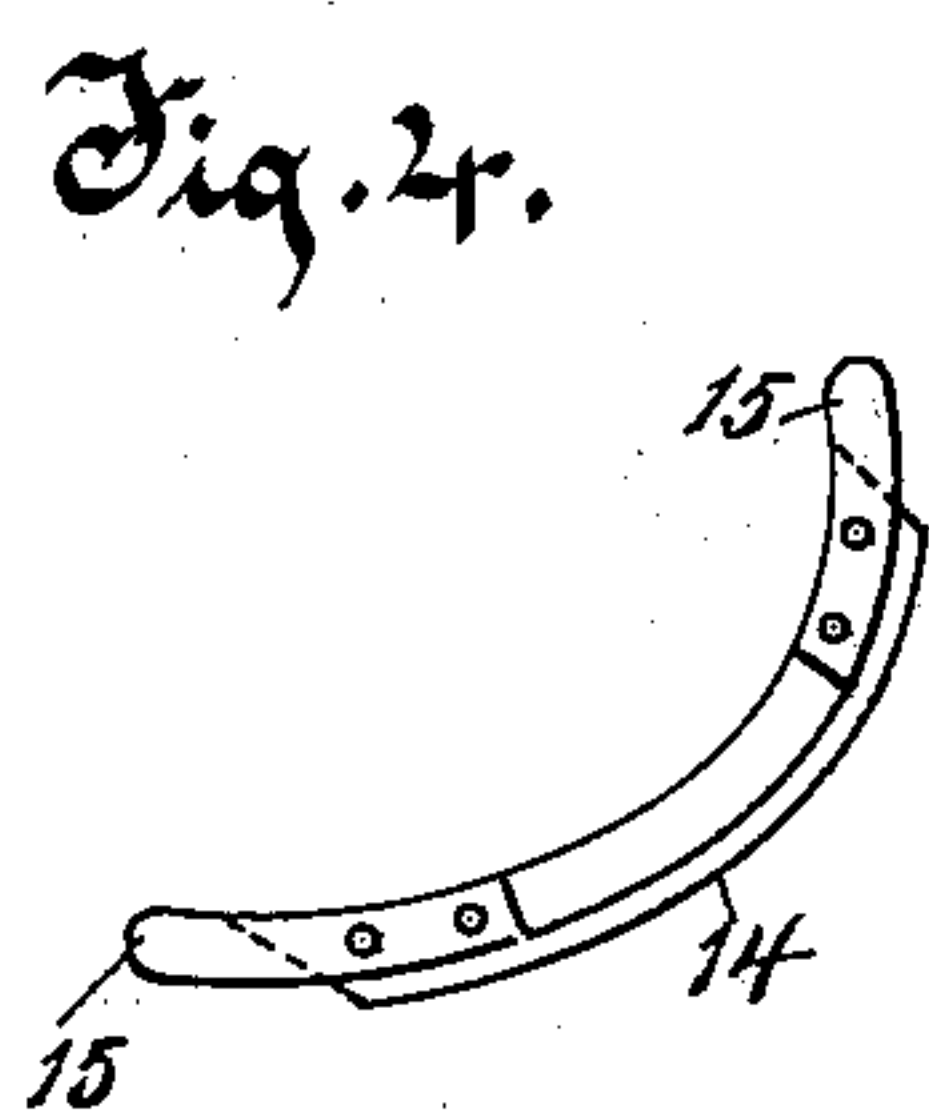
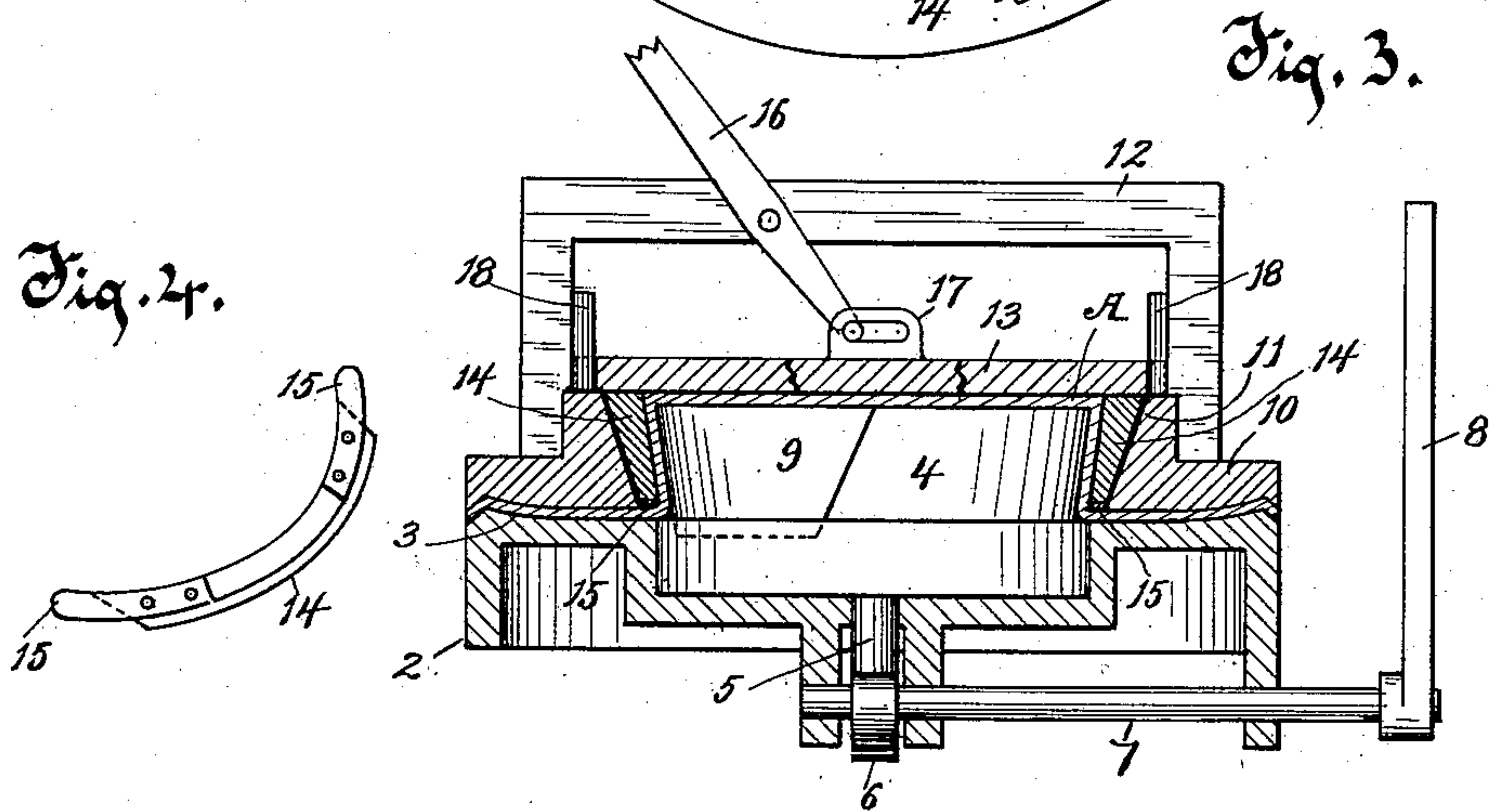
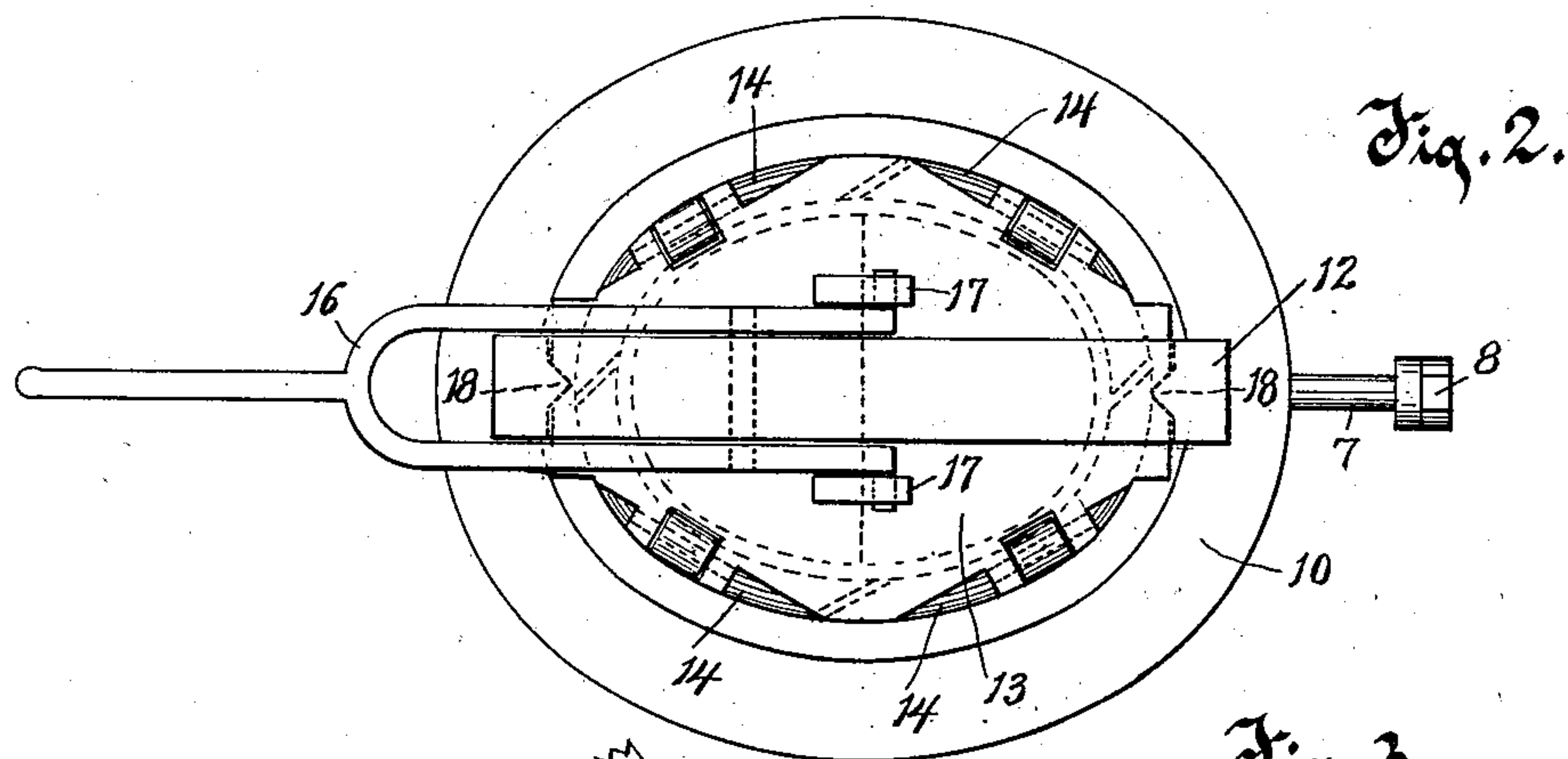
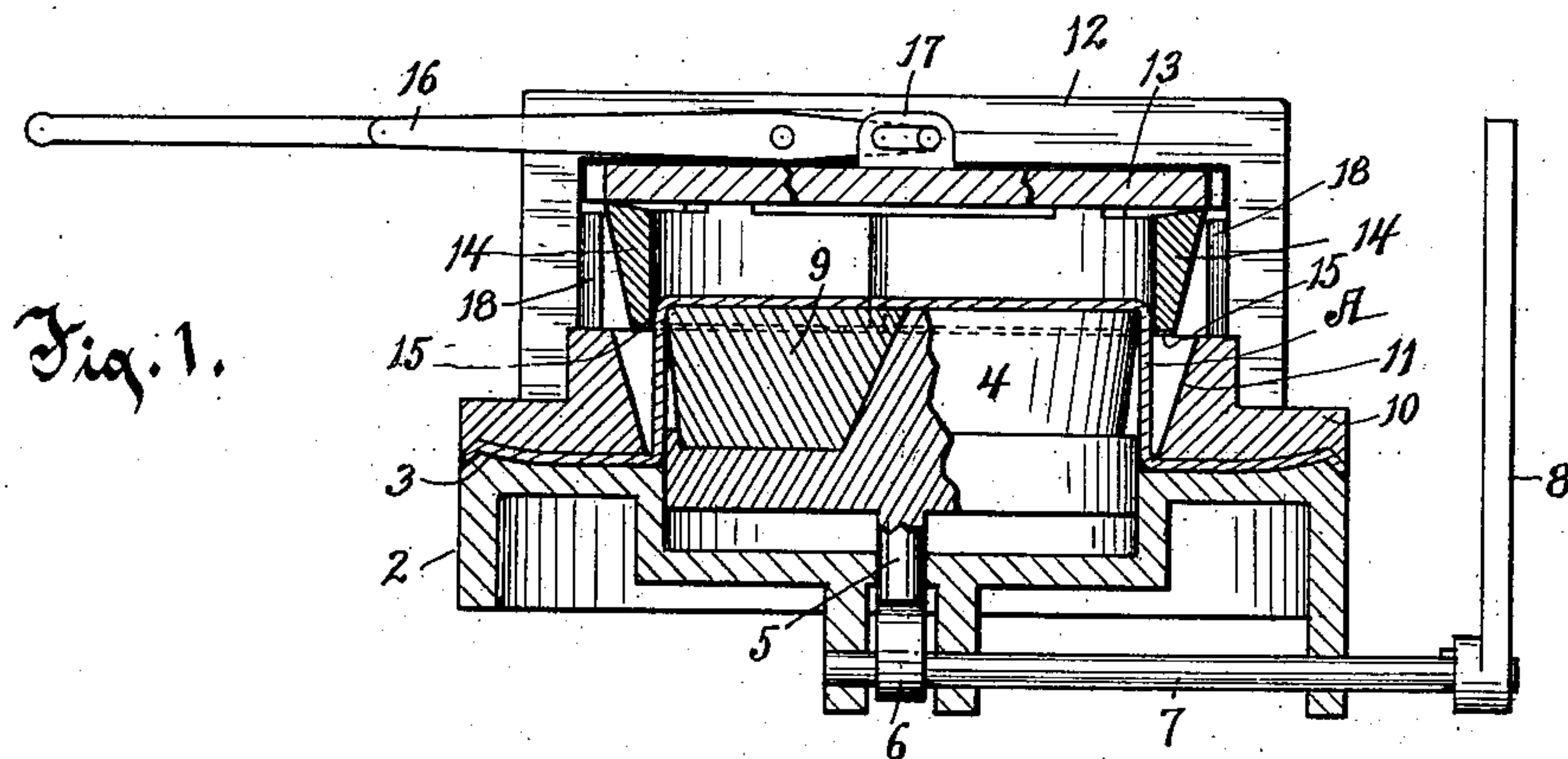
No. 744,402.

PATENTED NOV. 17, 1903.

M. QUINN.  
HAT DIE.

APPLICATION FILED SEPT. 8, 1902.

NO MODEL.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

MICHAEL QUINN, OF MILWAUKEE, WISCONSIN.

## HAT-DIE.

SPECIFICATION forming part of Letters Patent No. 744,402, dated November 17, 1903.

Application filed September 8, 1902. Serial No. 122,507. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL QUINN, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Hat-Dies, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in blocks or dies for shaping hats made of felt, mohair, or other pliable material suitable for the purpose, and includes improved means for shaping the crown and the brim of hats, especially ladies' hats, and leaving the surface with a smooth, unwrinkled, and non-roughened surface adapted to be readily and quickly finished after the completion of the shaping process.

My present invention is particularly directed to improvements in the dies for which I filed an application for patent on August 16, 1902, Serial No. 119,864.

The invention consists of the improved devices and their combinations, as herein described and claimed, or the equivalents thereof.

In the drawings, Figure 1 is a side elevation of my improved die, parts being shown in section for convenience of illustration. The parts are shown in the positions, in connection with a hat in section, that they have when the brim-shaper has been brought to position on the hat and before the crown is shaped. Fig. 2 is a top plan view of my improved die. Fig. 3 is a view of the die with a hat therein in section, the parts being in positions occupied when the hat is being shaped. Fig. 4 is a detail showing the lower edge of one of the curved crown side sections. Fig. 5 is a detail showing the outer surface of two of the curved crown side sections and their overlapping joint in connection with a guard for the joint.

In the drawings, 2 represents the base member of the die and is in such general form as adapts it for taking other members of the die thereon, and is provided with an upper surface 3 of oval form and of such contour as desired for receiving and shaping the brim of a hat A thereon. This base member 2 is provided with a central depression just within the oval-formed brim-surface 3, in which

is fitted loosely the base of a crown-block 4. This crown-block is provided with a stem 5, extending from its lower surface movably through the bottom of the base member 2 and rests on a cam 6, fixed on a rock-shaft 7, mounted in the base member 2 and provided with a crank-handle 8. The upper portion of the crown-block 4 may have its periphery either parallel with or inclined to its vertical length, and in the drawings I have shown it as being inclined inwardly downwardly, adapting it for forming a hat with a bell crown. For convenience of removing such bell-crowned hat from the block after it is shaped I advisably form the block with a removable section 9, the section having an inclined wall abutting on a correspondingly-inclined wall of the main block.

A brim-shaping member 10 of the die of oval form has a lower surface of such contour as to complement the brim-surface 3 of the member 2, whereby it is adapted to press the interposed brim of a hat against the brim-surface 3, and thereby to properly shape it. This brim-shaping member 10 projects upwardly or away from the brim-surface a distance substantially equal to the height of the crown-block above the brim-surface 3 and encircles the crown-block, the adjacent encircling wall 11 of this brim-shaping member being beveled outwardly upwardly. This wall 11 has an oval shape, making it complementary to the periphery of the crown-block, but is located at a distance therefrom, so as to leave a space between this wall 11 and the hat placed over the crown-block for being shaped. The member 10 is also provided with a yoke 12, extending upwardly therefrom.

A crown-shaper consists of a plate member 13, the under surface of which opposite the top of the crown-block 4 is made of a similar contour and so as to be complementary thereto, either convex or concave or flat, as shown in the drawings, so as to be adapted when pressed against the interposed top of the crown of a hat to make it take the shape of the top of the crown-block. This crown-shaper also has a plurality of curved crown side sections 14 14, preferably four in number, as shown and indicated in the drawings. These sections are hinged to and depend from



the plate member 13, being arranged in series in oval line just within the oval encircling wall 11 of the brim-shaping member 10. The inner surfaces of these sections 10 are of a contour to complement the periphery of the crown-block 4, and their outer surfaces are beveled inwardly downwardly, and are thus adapted to fit slidably and wedgingly on the beveled encircling wall 11, whereby when the plate member 13 is forced down to the crown-block 4 in the manner shown in Fig. 3 these crown side sections will be forced downwardly against the inner circle of the brim of the hat and inwardly against the outer surface of the periphery of the crown of the hat, forcing it against the crown-block 4 and compelling it to take the shape of the crown-block. The ends of these sections 14 14 are necessarily formed so as initially to leave a space at their joints or abutting ends, which are advisably made to overlap tangentially, as indicated in Figs. 2 and 5. As these sections are forced into the space between the encircling wall 11 and the crown-block 4 they converge and close up the spaces between their ends, and because when in use this occurs just as the sections are coming into contact with the material of the hat it has been found that some of the material is liable to get into the spaces between the ends of these sections and be clamped, thereby resulting in forming either undesirable ribs or roughened or projecting surfaces or fibers of the material of which the hat is formed. I provide means for obviating this objectionable action of the parts, consisting of thin metal plates 15 15, curved to correspond with the curvature of these sections and of a width equal to the width of the lower edge of the sections and secured to the lower edge of one section and projecting therefrom under the joint between that section and the abutting section, and so as to overlap the edge of the abutting section, thus closing the joint between the sections. In Fig. 4 I have shown the lower edge of one of these sections 14 with a metal plate or guard 15 at each end thereof secured thereto, each guard being adapted to overlap the adjacent section, which in the completed construction is adjacent to the section shown. In Fig. 5 two sections 14 are shown with the guard 15 in place, showing how it is adapted to close the otherwise open joint between the sections, thereby preventing any of the hat material from entering the space between the sections. By means of this device the surface of the hat is left smooth and in unroughened condition when the hat has taken its shape. These guards 15 for closing the joint between the sections 14 may be placed two of them on one section, or they may be located one on a corresponding edge of each section as desired, though I prefer to locate them as indicated in Fig. 4.

For raising and lowering the crown-shaper, including the plate member 13 and the crown side sections 14, I provide a furcate hand-le-

ver 16, pivoted medially on the yoke 12 and having its furcate ends turned outwardly and projecting like trunnions into laterally-elongated slots therefor in ears 17 17 on the plate 13. Guides 18 18, fixed on the brim-shaping member 10 and conveniently on the legs of the yoke 12, enter grooves therefor in the plate 13 and form ways on which the plate 13 has its travel, and whereby the plate and the sections 14 depending therefrom are held to travel in a right line and without rotary movement relative to the brim-shaping member 10.

In use the brim-shaping member 10 and the crown-shaper are removed from the base member 2. The crown-block 4 is then elevated by rotating the cam 6, and the hat material being then placed over the crown-block and drawn down thereon and spread out over the brim-surface 3 the brim-shaping member 10, with the crown-shaper therewith, is then placed over the hat and the brim-shaper is forced down and held to the brim of the hat in substantially the manner shown in Fig. 1. The brim-shaper may be forced down and held to the hat-brim and in place on the case by any suitable means; but this is conveniently done by a stamping-press in common use in hat-making shops and with which this die is adapted to be used. The crown-block is then let down, providing a proper amount of sag or fullness to the crown of the hat to permit of its being forced inwardly against the crown-block adjacent to and upwardly from the brim. Thereupon the crown-shaper is forced down into position on and about the hat by means of the hand-lever 16. By means of the guides 18 the crown-shaper is guided in its movement downwardly, so as to bring the crown side sections into proper relations with the wedging walls of the brim-shaping member, which, in the manner they depend, they are adapted to strike first and ultimately against the crown-block and also to bring the under surface of the plate 13 into proper complementary position with reference to the top of the crown-block 4.

What I claim as my invention is—

1. In a die for shaping hats, a crown-shaper comprising a movable plate, a plurality of laterally-curved crown side sections depending from the plate adjacent one to another and overlapping at their lateral ends and having their lower edges in alinement, and guard-plates each secured to a section at its lower edge and extending across the intervening edge space and lapping onto the lower edge of the adjacent section whereby the joint between the sections is so covered as to prevent material of the hat from entering the space at the edge of the sections but so as to permit the sections to come together and to recede from each other.

2. In a die for shaping hats, a plurality of crown side sections arranged adjacent to each other laterally in series in oval line and having their lower edges in alinement and adapted to be moved closer to each other at their



lateral ends when brought down to their work, and guard-plates on one or more of the sections at their lower edges extending across the spaces between the lower edge of that section or sections and the lower edge of the adjacent section or sections and lapping unattached onto the adjacent section or sections.

3. In a die for shaping hats, a crown-block, a brim-shaping member encircling the crown-block, a crown-shaper including a plate adapted to move toward and from the crown-block, crown side sections secured movably to the plate and disposed in series near each other and adapted by movement of the plate to con-

tact with and be forced thereby toward the crown-block and into closer relations with each other, and guides on the brim-shaping member arranged to guide the plate in its movements toward and from the crown-block and brim-shaping member and into proper position for complementary action on the crown-block and with the brim-shaping member.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL QUINN.

Witnesses:

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ALMA KLUG.