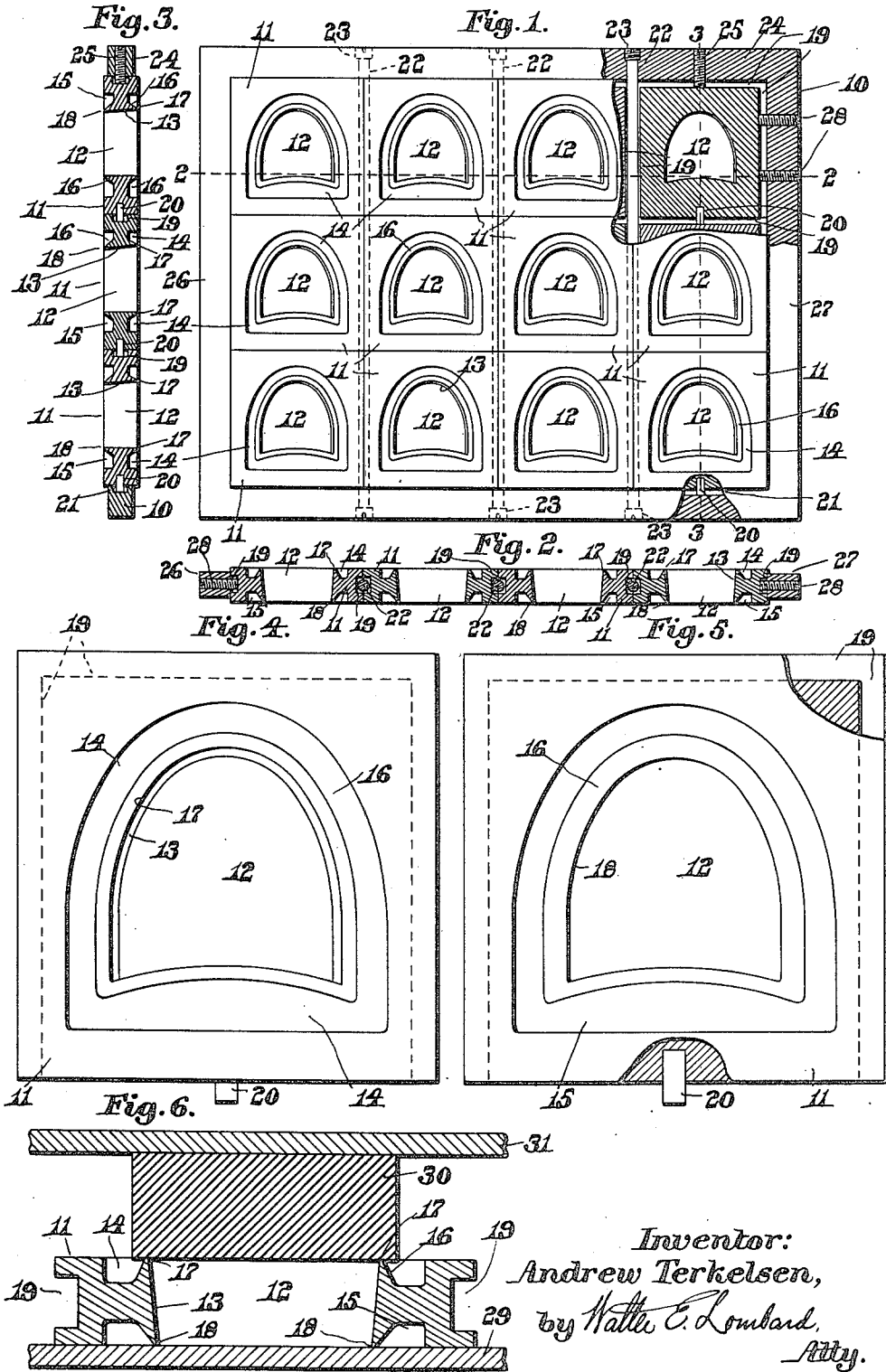


1,209,358.

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Inventor:
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UNITED STATES PATENT OFFICE.

ANDREW TERKELSEN, OF EVERETT, MASSACHUSETTS.

MOLD.

1,209,358.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDREW TERKELSEN, a citizen of the United States of America, and a resident of Everett, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Molds, of which the following is a specification.

This invention relates to die plates, and particularly to devices of this character that are intended for use in molding simultaneously a plurality of rubber heels or other similar members.

The invention consists in providing means whereby the fins usually formed in the molding operation will be cut away during the molding operation.

The invention further consists in so mounting a plurality of die members in a rectangular frame that said members may adjust themselves relatively to each other and to said frame when pressure is applied to the said die members.

The invention further consists in certain novel features of construction and arrangement of parts which will be fully understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents a plan of a die plate embodying the principles of the present invention. Fig. 2 represents a vertical section of the same on line 2—2 on Fig. 1. Fig. 3 represents a section of the same on line 3—3 on Fig. 1. Fig. 4 represents a plan of one side of one of the die members. Fig. 5 represents a plan of the opposite side thereof, and Fig. 6 represents a vertical section of a die member, its bed plate, the pressure plate, and the blank from which the heel is to be molded.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 is a rectangular frame in which are positioned a plurality of die members 11. Each die member has an opening 12 therethrough having inclined walls 13. Surrounding the opening 12 is a depression 14 in one face of each member 11 and a similar depression 15 in the opposite face thereof.

The inner walls 16 of the depressions 14 and 15 are inclined to form cutting edges 17 and 18. Each die member 11 has formed

in three of its edges grooves 19 while the fourth edge thereof has projecting therefrom a pin 20 or some similar projection. One of the inner walls of the rectangular frame 10 is provided with a groove 21 into which extend the projections 20 in the row of die members 11 adjacent to said grooved wall. The projections 20 in the other die members 11 extend into grooves 19 of other die members 11, as shown in the upper right hand corner of Fig. 1 of the drawings, and also in Fig. 3. The rectangular frame 10 is provided with a plurality of rods 22 extending across the opening of said frame as shown in Fig. 1 of the drawings. These rods are positioned in adjacent grooves 19 of the various rows of die members 11. The rods 22 are held in position by means of the screw plugs 23 threaded to the rectangular frame 10. One side bar 24 of the rectangular frame 10 is provided with a plurality of threaded members 25 in alignment with the projections 20, the inner ends of said threaded members extending into the grooves 19 of the row of die members adjacent to said side bar 24. The end bars 26 and 27 are each provided with a plurality of threaded members 28 which extend into grooves 19 in the end die members 11 of each row.

By adjusting the members 25 and 28 the various die members 11 may be forced into close contact with each other. The grooves 19 are in all cases of greater width than the diameters of the rods 22, the projections 20, and the threaded members 25 and 28, thereby providing means whereby said die members 21 may have a vertical movement relatively to each other.

Where a plurality of die members is positioned within a large rectangular frame 10, the frame is liable to become warped, and under ordinary conditions an imperfect operation of the dies would result. By mounting the various units or die members 11 in the manner hereinbefore described, these various units 11 are permitted to adjust themselves so that their cutting edges will be parallel with the bed plate 29 during the molding operation.

When the die plate is in use it is placed upon the bed plate 29 as indicated in Fig. 6 of the drawings in which figure only one unit is shown. Blanks 30 of rubber or other material are placed above each unit beneath a pressure plate 31 of any form of

press and when pressure is applied to the pressure plate 31 the blank 30 will be forced into the opening 12 and compressed, forming a compact heel of the desired shape.

5 Any material from the blank when being compressed which is squeezed beneath the lower cutting edges 18 and forms a fin thereon will be cut from the heel during the final movement of the pressure member 31. This waste material severed from the heel by the cutting edge 18 will be collected in the depression 15, thus preventing it from entering between the upper face of the bed plate 29 and the flat surfaces on the under faces 15 of each unit 11. It is obvious that if any surplus material was permitted to enter between the bed plate 29 and the under face of the die member 11 an imperfect result would obtain, which is wholly prevented by the construction shown and described herein.

In the molding of the blank 30 into a finished heel some of the material will be forced outwardly to form a fin at the upper portion of the heel, which fin will be severed from the heel by the cutting edges 17, this waste material entering the depression 14 and making it possible for the under face of the pressure member 31 to come into contact with the flat surfaces of the upper face of each die member 11.

While a small frame is shown in Figs. 1, 2, and 3 of the drawings with a minimum number of die members therein, in practice a much larger frame is used with a greater number of units positioned therein.

By means of this improved die plate with the die members adjustably mounted therein, any number of units may be used and a perfect operation is assured at all times inasmuch as the various die members have a movement relatively to the others whereby their cutting edges may be brought into parallelism with the bed plate of the press even when the holding frame has become warped from any cause.

The various rods 22, projections 20, and threaded members 25 and 28 will hold the units 11 in position when the frame 10 is being moved. By having each die member 50 11 provided with a cutting edge on its opposite faces the heel may be molded and the resultant fins severed therefrom at one operation, which is manifestly a great advantage.

55 It is believed that the operation and many advantages of this invention will be fully understood from the foregoing description. Having thus described my invention, I claim:

60 1. In a device of the class described, the combination of a rectangular frame; a plurality of die members having grooves in the

edges thereof; and a plurality of members secured to said frame and extending into said grooves.

2. In a device of the class described, the combination of a rectangular frame; a plurality of die members having grooves in the edges thereof; and a plurality of rods secured to said frame and extending into said grooves.

3. In a device of the class described, the combination of a rectangular frame; a plurality of die members having grooves in the edges thereof; a plurality of members secured to said frame and extending into said grooves; and means mounted on and movable relatively to said frame whereby said members may be forced toward each other.

4. In a device of the class described, the combination of a rectangular frame; and a plurality of die members positioned therein and interlocked with each other and said frame.

5. In a device of the class described, the combination of a rectangular frame; and a plurality of die members positioned therein and interlocked with each other and said frame and having provision for slight vertical movement relatively to each other.

6. In a device of the class described, a die plate having an opening therethrough; a cutting edge on each face surrounding said opening; a flat bearing surface on each face in the same plane with said cutting edge; and a recessed portion between said cutting edge and bearing surface adapted to receive the overflow of the material being molded.

7. In a device of the class described, a die plate having an opening therethrough with inclined walls; a cutting edge on each face surrounding said opening; a flat bearing surface on each face in the same plane with said cutting edge; and a recessed portion between said cutting edge and bearing surface adapted to receive the overflow of the material being molded.

8. In a device of the class described, a die plate having an opening therethrough with cutting edges on opposite faces surrounding said opening.

9. In a device of the class described, a die plate having an opening therethrough with cutting edges on opposite faces surrounding said opening, said cutting edges being surrounded by recesses adapted to receive the overflow of material being molded.

Signed by me at 4 Post Office Sq., Boston, Mass., this 9th day of March, 1916.

ANDREW TERKELSEN.

Witnesses:

WALTER E. LOMBARD,
NATHAN C. LOMBARD.