

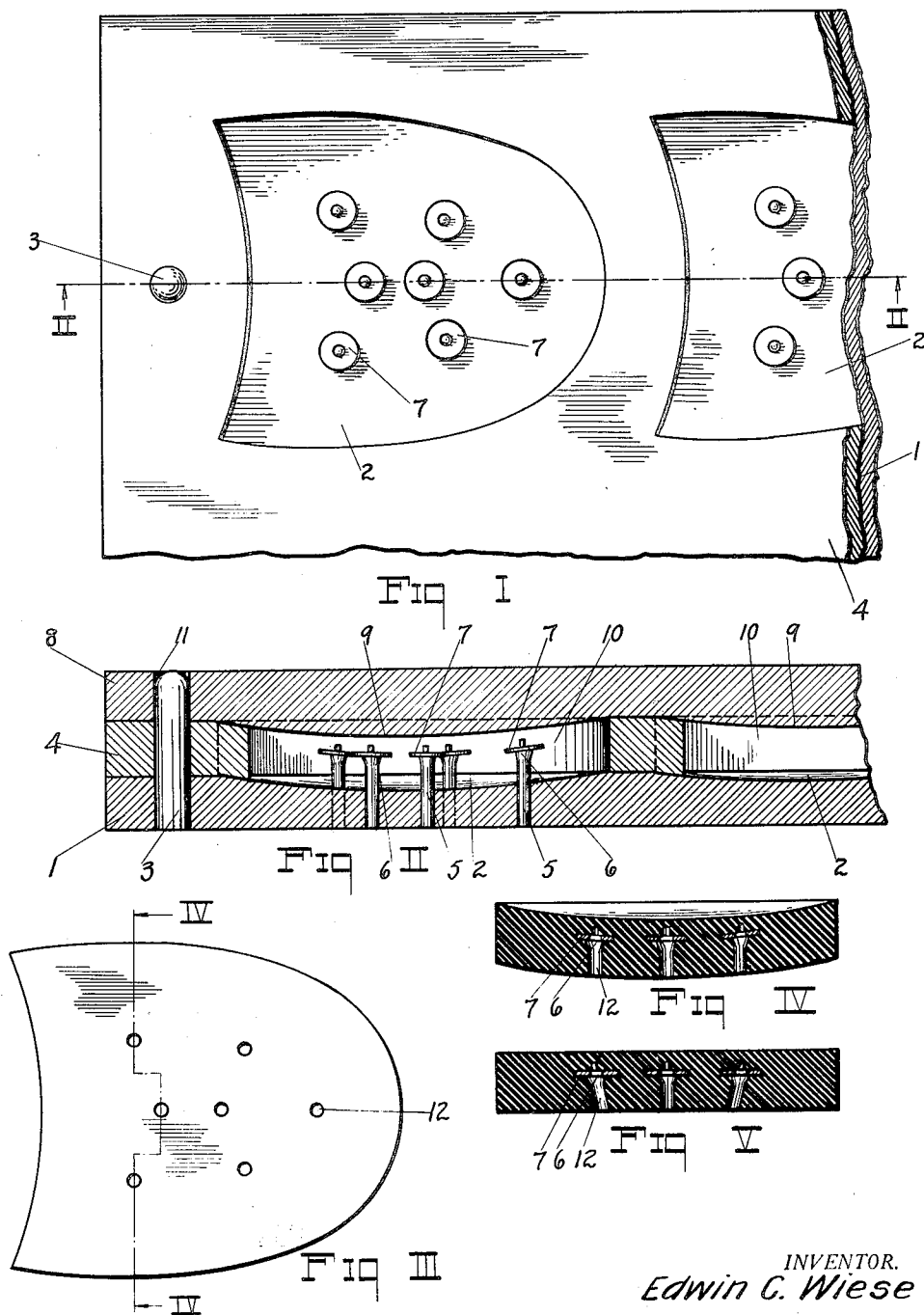
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MOLD FOR MAKING RESILIENT HEELS

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UNITED STATES PATENT OFFICE.

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MOLD FOR MAKING RESILIENT HEELS.

Application filed July 30, 1919. Serial No. 314,324.

To all whom it may concern:

Be it known that I, EDWIN C. WIESE, residing at Milwaukee, county of Milwaukee, State of Wisconsin, have invented certain new and useful Improvements in Molds for Making Resilient Heels; of which I declare the following to be a full, clear, and exact description.

This invention relates to molds for making resilient heels, particularly heels of that character which are adapted to be formed from plastic rubber or composition.

One object of the invention is to produce a device of this character wherein the molded heel can be easily and readily removed from the mold after the completion of the forming operation.

A further object of the invention is to provide a device of this character which is of simple construction and efficient in operation.

A further object of this invention is to provide a device of this character having a concavo-convex mold chamber wherein means are provided for suitably supporting the washers in the molds so that the washers are located substantially parallel with the adjacent concave surface of the mold.

Further objects of the invention relates to economies of manufacture and details of construction as will hereinafter appear from the detailed description to follow.

The objects of the invention are accomplished in one instance by the devices and means described in the following specifications, but it is evident that the same may be varied widely without departing from the scope of the invention as pointed out in the appended claims.

A structure constituting one embodiment of the invention, which may be the preferred, is illustrated in the accompanying drawing forming a part hereof in which:

Figure I is a top plan view of a portion of the mold with the cover removed.

Figure II is a vertical sectional view through a portion of the mold, taken along the lines II—II of Figure I.

Figure III is a bottom plan view of the finished heel.

Figure IV is a sectional view through the finished heel, taken along the lines IV—IV of Figure III.

Figure V is a sectional view through the

finished heel in the position which it occupies when it is applied to the heel of a shoe.

Referring to the drawing, similar reference characters designate the corresponding parts throughout the several views, and the sectional views are taken looking in the direction of the small arrows at the ends of the section lines.

In the embodiment of the invention illustrated herewith, 1 indicates the base member of the mold which is provided with a plurality of concave recesses 2 formed therein, each of which conforms to the outline of heel which it is desired to construct. A plurality of pins 3 are positioned at suitable points in the base member and extend upwardly therefrom for the purpose of securing the intermediate and top members of the mold in proper position relative to base member so that the recesses and projections carried thereby will suitably register with the concave recesses formed in the base member. Positioned above the base member and retained in position relative thereto by means of the pin 3 is an intermediate member 4, which is provided with a plurality of openings extending therethrough each of said openings being formed to conform with the outline of the heel which it is desired to construct. The concave recesses formed in the surface of the plate 1 are each of substantially spherical form, and a plurality of washer supporting devices 5 are suitably mounted within the base plate and extend upwardly therefrom so as to project above the concave recesses formed in the upper surface of the base plate. Each of the washer supporting devices 5 is provided at a point adjacent the end portion thereof which projects within the mold chamber with an enlarged portion 6 which is adapted to support a small washer 7. The several washer supporting devices are positioned in the base plate to extend substantially parallel with each other as they project within the mold chamber. The enlarged portions 6 of the washer supporting devices are constructed to support a washer thereon so that the plane of the washer is substantially parallel with the concave surface at the point where the concave surface most closely approaches the washer, or to the tangent to the concave surface at the point where the

concave surface most closely approaches the washer. In other words, the washers are carried by the supporting devices so that the plane of each washer except that washer which is located at substantially the heel center is somewhat inclined to the longitudinal axis of its supporting device whereby the circular edge of each washer has every point thereof located at a substantially equal distance from the concave surface of the base plate.

The upper member 8 of the mold is provided at suitable intervals throughout one surface thereof with a plurality of convex depressed portions 9 adapted to register with the openings formed in the intermediate plate when the top member is suitably positioned thereon so as to form a plurality of mold chambers 10, each of which is substantially concavo-convex throughout a portion of its extent. The top plate or member of the mold is also provided with a plurality of openings 11 formed therein which are suitably positioned to register with and receive the upper end portions of the pins 3 so as to cause the top member to suitably register with the intermediate and base members of the mold when these members are arranged in superposed position.

When the various mold sections are assembled in position it will be seen that a plurality of mold chambers are provided, each of which is substantially concavo-convex throughout a portion of its extent, and the parts are arranged in such a manner that the washer supporting devices carried by the base plate project within each of the mold chambers and terminate a substantially equal distance short of the convex surface of the top plate. In the practice of the invention the several plates are superposed to have the corresponding parts properly register with each other for the purpose of forming the heel. The base plate and the intermediate plate being properly arranged with respect to each other, a suitable amount of plastic rubber is positioned within each of the cavities thus formed therein, the top plate is placed in position and forced downwardly into close contact with the intermediate plate whereupon the plastic rubber material is pressed into each part of each of the mold cavities so as to completely fill the same, whereupon the sections of the molds may be secured together in any suitable manner and subjected to the necessary degree of heat for vulcanizing the rubber in the mold chambers. After the completion of the vulcanizing operation the plates forming the mold are separated from each other, the heels being retained in position within the openings formed in the intermediate plate from which they may be forced in any desired manner.

It will be seen from the above description that by positioning the washer supporting devices in the base plate so that their longitudinal axes are in substantial parallelism that portion of these devices which project within the mold chambers may be readily withdrawn from the completed heel, while the washers supported by the said devices remains embedded within the rubber of the heel. As the washers are carried by the supporting members so that they are all positioned a substantially equal distance from the convex surface of the cover member, and substantially parallel to a plane tangent to the concave portion at the point where it most nearly approaches the washer it results that the washers are positioned a substantially uniform distance from the upper surface of the completed heel and are substantially parallel with the upper surface of the heel when such heel has been applied to a plane surface.

It will be seen upon reference to Figures III and V of the drawing, that the completed heels are each provided with a plurality of the washers 7, each washer being located a substantial equal distance from the upper surface of the heel, and openings 12 are formed in the lower surface of the heel in registry with the openings in the washer to provide means for readily inserting the necessary fastening devices for securing the rubber heel in position upon a shoe.

While the invention is shown and described in considerable detail it is to be understood that this showing and description is illustrative only and for the purpose of rendering the invention more clear, and the invention is not to be regarded as limited to the precise details of construction illustrated or described except in so far as such limitations are included within the terms of the following claims, in which it is my intention to claim all novelty inherent in my invention broadly as well as specifically.

What I claim as new and desire to secure by Letters Patent is:

1. A mold for rubber heels comprising a base portion provided with a concave surface adapted to form one of the side walls of the mold chamber, washer supporting devices carried by the base portion and projecting at substantially right angles to said base portion above the concave surface, and means carried by certain of said devices for supporting a washer whereby the washer is supported in a plane substantially parallel to the tangent to the concave surface at the point where said surface most nearly approaches the washer.

2. A mold comprising a plurality of members, certain of said members being recessed to form a mold chamber, a plurality of washer supporting devices carried by one of said members and projecting within the

mold chamber, the longitudinal axis of said devices being substantially parallel, and means carried by said devices for supporting washers in such a manner that the plane of the washer is inclined to the longitudinal axis of the supporting device, whereby the washers are positioned in desired relation to the surface of the article and the article may be easily removed from the mold in the direction of the longitudinal axis of the supporting device.

3. A mold for rubber heels comprising a base portion provided with a concave surface, washer supporting devices carried by the base portion and projecting above the concave surface, and means carried by certain of said devices for supporting a washer whereby the plane of the washer is inclined to the longitudinal axis of the washer supporting member, and substantially tangent to the said concave surface.

4. In a mold structure for rubber heels, a base portion having a concave surface, a plurality of washer supporting devices extending upwardly from the base portion at substantially right angles to the main plane of the mold and projecting above the concave surface thereof, said devices being located substantially parallel to each other, means carried by each of said devices for supporting a washer in such a manner that the plane of the washer is substantially parallel to the tangent to the concave surface at the point nearest the washer.

5. A mold for rubber heels comprising a base portion provided with a concave surface, washer supporting devices extending at substantially right angles from the main plane of the base portion and projecting within the mold chamber, and means carried by each washer supporting device for supporting a washer substantially parallel with the concave surface of the mold.

6. A mold for rubber heels provided with a concave surface, a plurality of washer supporting devices arranged substantially parallel with each other carried by the mold and projecting within the mold chamber at substantially right angles to the base plane of the mold, and means carried by each of the washer supporting devices for supporting a washer substantially parallel with the tangent to the nearest point on the concave surface.

7. In a concave mold for rubber heels, a plurality of washer supporting devices all extending perpendicular to the base plane of the mold, several thereof being constructed to each support its washer in a plane parallel to the concave surface of the mold at the nearest point thereof.

8. In a concave mold for rubber heels, a plurality of washer supporting columns all extending perpendicular to the base plane of the mold, several thereof being constructed to each support its washer in a plane parallel to the concave surface of the mold at the nearest point thereof.

9. In a concave mold for rubber heels, a plurality of washer supporting columns all extending perpendicularly to the base plane of the mold, several thereof being each provided with an inclined table for supporting its washer in a plane parallel to the concave surface of the mold at the nearest point thereof.

10. In a mold for rubber heels, a washer supporting device adapted to support the washer in a plane inclined to the axis of said supporting device whereby the washer may be set in desired relation to the heel and the latter removed from the mold in the direction of the axis of said supporting device.

In testimony whereof, I affix my signature.

EDWIN C. WIESE.