

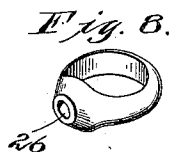
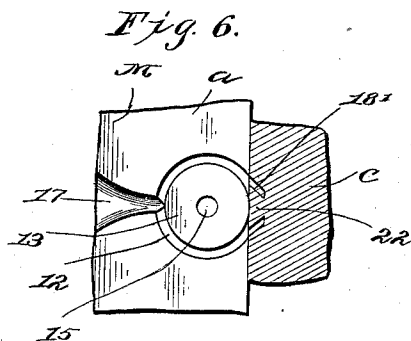
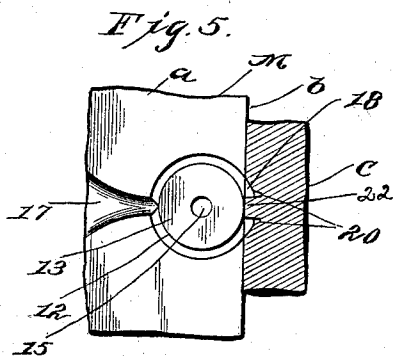
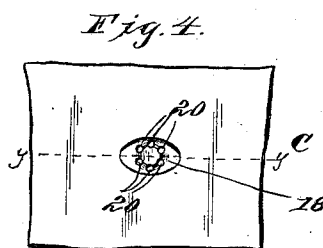
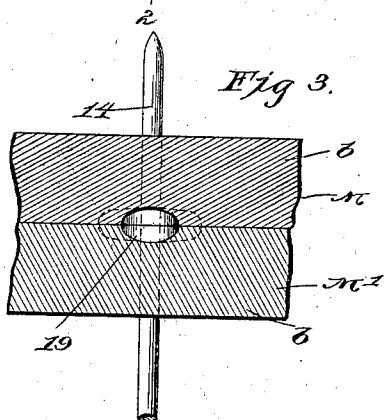
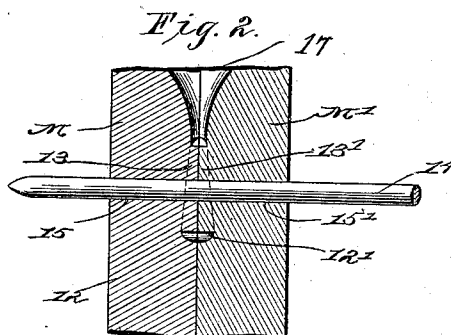
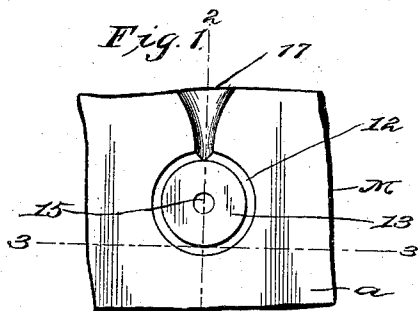
No. 662,562.

W. H. FORD.
RING MOLD.

Patented Nov. 27, 1900.

(Application filed Feb. 26, 1900.)

(No Model.)



Witnesses:
W. C. Sims for
Frank L. Hume

Inventor:
William H. Ford.
by Leroy & Gregory
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. FORD, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO CYRUS W. RUSSELL, OF SAME PLACE.

RING-MOLD.

SPECIFICATION forming part of Letters Patent No. 662,562, dated November 27, 1900.

Application filed February 26, 1900. Serial No. 6,491. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. FORD, a citizen of the United States, residing at Lowell, county of Middlesex, State of Massachusetts, have invented an Improvement in Ring-Molds, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to molds; and the object of the invention is to provide an improved device of this character especially adapted for casting finger-rings with crowns or enlargements adapted to receive jewels of various kinds.

The invention is shown in two of its simple embodiments in the accompanying drawings, wherein—

Figure 1 is a face view of a piece of material to constitute one of the main or body mold sections, it having a groove forming part of a mold-space in which the molten metal to form the ring is to be poured. Fig. 2 shows a transverse section in the line 2 2, Fig. 1, of two pieces, such as represented in Fig. 1, but face to face and pinned in such relation. Fig. 3 is a sectional view showing two pieces of mold material, such as shown in Fig. 1, cut in the line 3 3, Fig. 1. Fig. 4 is a face view of a crown-mold section. Fig. 5 is a view of one of the main or body sections with the crown-mold section represented in Fig. 4 cut in the line *yy* and fitted thereagainst. Fig. 6 is a view corresponding to Fig. 5, but showing a different type of crown-mold section; and Figs. 7 and 8 are perspective views of rings cast in the two forms of mold.

The improved mold in the present case comprises a plurality of body-sections disposed face to face, each having a parti-annular chamber, the chambers registering to form a mold-space, each chamber being cut away on a line making a chord to said chamber, to thereby expose a part of each chamber, each chamber containing a core, one side of which constitutes one wall of the mold-chamber and defines the internal diameter of the ring, and a crown-mold section having a crown-mold space in communication with the body-mold space, the face of the crown-mold section

abutting the face of the body-section left by the cut as a chord. The mold-sections have suitable openings or runways by which molten metal may be poured into the mold-space. The mold may be formed from any suitable material, preferably charcoal.

The chambers in the mold material are preferably of variable depths, they being deepest adjacent the crown-mold space that the ring may be made broader and heavier at the part which is to join the part of the ring to receive a jewel. The chambers may be formed in any convenient manner—say, by cutting annular grooves or channels in the adjacent faces of the mold material, leaving preferably a central core integral with each body-mold section.

In Fig. 1, *M* represents a piece of mold material, preferably charcoal, having a smooth face *a*, provided with a groove 12, shown as annular, the production, as herein shown, of said groove leaving a cylindrical projection 13, forming one-half of a core, a substantially similar core and groove, made in a like piece of mold material *M'*, forming, when said pieces are put together, a mold, one groove registering with another to form a mold-space. The groove in the mold material *M'* is denoted by 12' and the core part by 13'. Upon an inspection of Fig. 2 it will be seen that the grooves 12 and 12', as well as the core-sections 13 and 13', register.

To keep the mold-sections together during the casting operation I may pass a centering-pin, as 14, through centrally-bored holes, as 15 and 15', formed in the respective parts of the mold.

The meeting faces of the body-mold sections *M* and *M'* are made flat by suitable means before the holes 15 and 15' or the grooves 12 and 12' are made therein.

In Fig. 2 it will be seen that the registering grooves 13 and 13' vary in depth, the depth of the groove at its shallowest part being one-half the width of the ring at its narrowest part, the depth of the groove increasing from that point more or less according to the width of that part of the ring to contain the jewel-seat.

Each mold-section *M* and *M'* has a suitable runway 17, which put together form a pour-

ing-opening communicating with the grooves 12 and 12', as shown in Fig. 2. The molten metal is turned into the pouring-opening and flows into the mold-space and also into the crown-mold space, as will hereinafter appear. When the two parts of the mold material are centered, as represented in Fig. 2, they are cut away upon a straight line, as 3 3, Fig. 1, and the line of cut makes a chord to the circular mold-chamber. The body part of the mold is shown thus cut in Fig. 3, and it will be seen that a part of each chamber or groove is exposed, thereby leaving a substantially oval opening through which the molten metal can run to enter the crown-mold space to be described.

By the improved mold herein described I may cast a ring with a crown of any desired shape or character, and I may do this by employing a third or crown section, the same being denoted by C. (See Fig. 4.) The inner side of this crown-section C is cut or dressed flat, as shown in Fig. 5, that it may fit against the correspondingly-flattened faces b of the main portion of the mold left by cutting said section in the line 3 3. The crown-mold section C can be held to the body portion of the mold by any suitable means, I obtaining highly-satisfactory results by holding it in place by glue or any suitable cement. The crown-mold section C has formed in its flat face a depression or concavity, as 18, represented as substantially oval in outline, said cavity having at its center a projection 22, (see Figs. 4 and 5,) which defines the opening in the crown to receive the jewel; but said concavity may be variously modified in shape and yet be within the scope of my invention, and the molten metal runs into the mold-space and enters and fills the concavity 18, the part of the ring which is formed in said concavity constituting the crown or the part to receive the jewel.

The opening presented in the registered mold-sections M and M' by making the cut on the line 3 is denoted by 19, and it is of the same shape as the concavity 18, they registering during casting. A plurality of separated and comparatively narrow holes, as 20, are made in the concavity 18, said holes sloping slightly toward the center of the crown. These holes are adapted to receive the metal that is to form the prongs 25 of a ring of the kind shown in Fig. 7. The two main mold-sections being pinned together, as shown in Fig. 3, the crown-section C will be fitted against the flat outer faces b thereof and glued or otherwise secured in place. The molten metal will be then poured through the opening and will enter the registered grooves 12 and 12', constituting the mold-space, and surround the core-sections 13 and 13', and will flow thence into the concavity 18 and sockets 20, forming a cast ring of the shape shown in Fig. 7.

In Fig. 6 I show a slightly-different type of

crown-mold section C', it being shaped to produce the ring shown in Fig. 8, the enlargement of the ring having a hole 26 for a jewel. The crown-mold C' has an annular groove or channel, as 18', adapted to register with the body-mold space. The groove 18' is inwardly tapered and in its formation produces a core 22. The metal fills the mold-space and runs into the annular groove 18', and when it is cold the parts of the mold can be separated and the ring detached. As the core 22 cannot be removed with the ring, it is simply broken off and afterward removed from the jewel seat or recess 26.

From the foregoing it will be evident that the core or projection 22 defines the size and shape of the jewel seat or recess.

The invention may be considerably modified within the scope of the following claims. Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A mold comprising a plurality of body-sections disposed face to face and each having a parti-annular chamber, said chambers registering to form a body-mold space, each chamber being cut away on a line making a chord to said parti-annular chamber, to thereby expose a part of each chamber, a core in said chamber, the face of the core constituting one wall of said chamber to thereby define the internal diameter of the ring, and a crown-mold section having a crown-mold space in communication with the body-mold space, said crown-mold section abutting the face of the body-section left by the cut as a chord and forming that portion of the other wall of the annular chamber which lies between the points where the chord cuts said annular chamber.

2. A mold comprising a plurality of body-sections disposed face to face and each having a parti-annular chamber of variable depths, said chambers registering to form a body-mold space, each chamber being cut away on a line making a chord to said annular chamber to thereby expose a part of each chamber, a core in said chamber, the face of the core constituting one wall of said chamber to thereby define the internal diameter of the ring, and a crown-mold section having a crown-mold space in communication with the body-mold space, said crown-mold section abutting the face of the body-section left by the cut as a chord and forming that portion of the other wall of the annular chamber which lies between the points where the chord cuts said annular chamber.

3. A mold comprising a plurality of body-sections disposed face to face and having parti-circular chambers registering to form a body-mold space, said sections being cut away on a line making a chord to the circle, to thereby expose part of the mold-space, a pin to unite the two sections, a core to define the internal diameter of the ring, and a crown-mold section having a flat face to fit against the

body-sections of the mold, and having a mold-space in communication with the body-mold space.

4. A multipart mold consisting of two main
5 separable substantially duplicate sections having like parti-annular chambers adapted to register one with the other, and a runway, said chambers being cut away on a line making a chord to said circular chambers to thereby
10 expose a part of each chamber, a core centered in said chamber, and a third or auxiliary mold-section adapted to fit against the face of the mold material left by the cut made as a chord, said auxiliary mold-section having a projec-
15 tion surrounded by a space, said space com-

municating with the mold-space of each main section and defining the exterior shape of the crown of the ring to be cast, the said projection defining the size and location of the jewel-space in the crown, said auxiliary section 20 being confined to the main section during casting.

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

WILLIAM H. FORD.

Witnesses:

GEO. W. GREGORY,
CYRUS W. RUSSELL.