

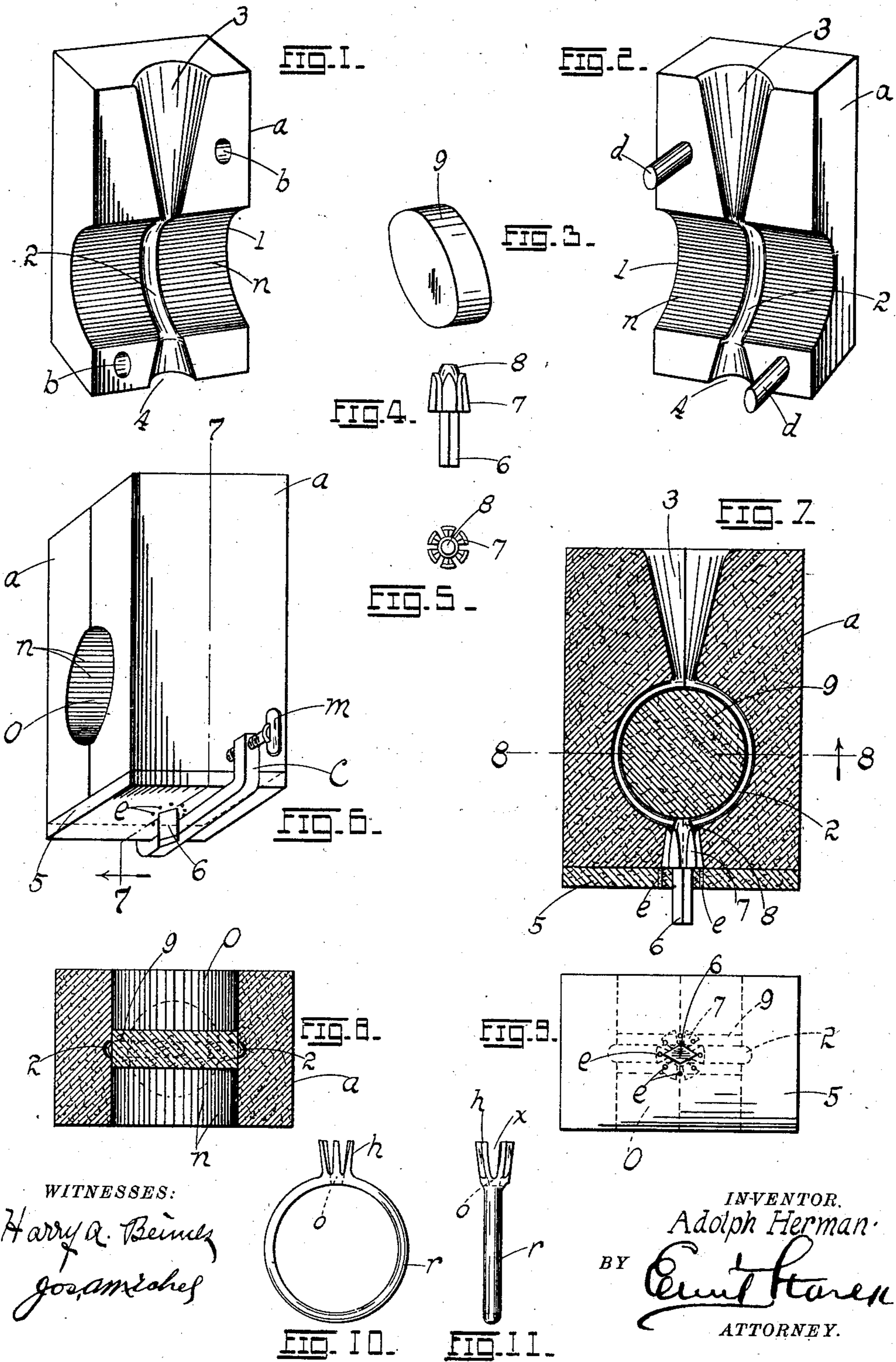
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RING MOLD.

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994,395.

Patented June 6, 1911.



WITNESSES:

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To all whom it may concern:

Be it known that I, ADOLPH HERMAN, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Ring-Molds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in ring-molds; and it consists in the novel construction of mold more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a perspective of one section of the mold; Fig. 2 is a perspective of the complementary section; Fig. 3 is a perspective of the disk-core; Fig. 4 is a perspective of the crown-core; Fig. 5 is an end view of Fig. 4; Fig. 6 is a perspective of the mold sections assembled and clamped together; Fig. 7 is a longitudinal section on the line 7—7 of Fig. 6; Fig. 8 is a cross-section on the line 8—8 of Fig. 7; Fig. 9 is a bottom plan of the assembled mold with clamp removed; Fig. 10 is a plan of the ring; and Fig. 11 is an edge view thereof.

The object of my invention is to construct a mold for the casting of finger rings which will insure a smooth finish for the ring cast therein; one which will make ample provision for the escape of gases incident to the molding operation; one which will insure a uniform disposition for the crown or chaton relatively to the shank of the ring; one provided with specific means for clamping together the sections of the mold; one which will have a long life; and one possessing further and other advantages better apparent from a detailed description of the invention, which is as follows:—

Referring to the drawings, *a, a*, represent the main halves or sections of the mold-body, one of the sections being provided with sockets or holes *b* to receive the dowels or pins *d* of the opposite section. Disposed along the meeting faces of the sections are semi-cylindrical transverse depressions 1, 1, forming a cylindrical opening or passage-way *O* through the body of the mold as shown. Formed along the faces of the depressions 1, 1, and disposed in a plane at right angles to the axis of the opening *O* are inwardly opening semi-circular grooves or ducts 2, 2, forming, when the sections are

assembled, an annular passage-way or mold-groove which communicates at the top with an intake outwardly flaring or funnel-shaped passage or pouring spout 3, one-half of such passage being formed in each section of the mold. Leading from the bottom of the annular passage-way or mold-groove referred to, at a point diametrically opposite the intersection of said annular passage-way with the spout 3, is a smaller outwardly flaring passage 4, one-half of said passage being identified with each section of the mold. The passage 4 is closed by a bottom plate or removable mounting 5 which is held to the respective sections *a, a*, of the mold, by a screw-clamp *C* of any approved type, said clamp serving likewise to hold the sections *a, a*, to one another. As shown to best advantage in Fig. 6, the clamp is a mere U-shaped member engaging the several sections *a, 5, a*, of the mold, a screw *m* serving to draw the parts together. Obviously any equivalent clamp or device will answer to hold the mold sections together, the plate 5 being considered as one of the sections.

Through the center of the plate 5 is inserted the shank 6 of the (preferably metallic) crown-core 7, the inner end of the core terminating in a conical tip 8 which projects (during the casting of the ring) into the annular passage-way 2 (Fig. 7) and thus serves to form the opening *o* in the shank *r* of the ring, at the center of the bottom of the set of prongs *h* constituting the crown, setting, or chaton of the ring. The cross-section of the shank 6 is diamond-shaped, the longitudinal or longer axis of the diamond being disposed on the longitudinal axis of the plate or mounting 5, and in the plane of the shank *r* of the ring when the latter is cast. In other words, the longer axis of the diamond defining the cross-section of the stem 6, lies in the plane of disposition of the annular passage 2; and this for a purpose presently to appear. Formed in the plate 5 around the opening receiving the shank 6 are a series of ducts *e* filled with crushed charcoal and serving as vents for the gases which are generated in the casting of the ring. The surfaces of the depressions 1, 1, which form the central hole *O* are streaked with parallel marks or lines *n* to a sufficient depth to leave vents for the escape of the gases, the inner ends of these vents terminating behind the disk-core or

plug 9 inserted into the opening O, said disk being of sufficient width or thickness to overlap the sides of the passage-way 2 (Fig. 8). Obviously, the purpose of the 5 core 9 is to permit the formation of the ring-shank *r* by closing up the mold-groove 2 which would otherwise remain open to the passage O.

By making the cross-section of the shank 10 or stem 6 of the crown-core 7 diamond-shaped, with the long axis of the diamond in the plane of disposition of the annular passage 2, it is obvious that said shank can be inserted only one way through the plate 15 5, so that when the plate 5 is in position (Figs. 6, 7) the ribs composing the core will always be disposed in a fixed relation to the passage 2. This fixed relation contemplates the alining of two of the crown-core ribs 20 with the plane of the passage 2 (or general plane of the ring *r*) so that when the metal is cast, the said ribs will leave a space *x* (Fig. 11) between two opposite prongs of the crown *h*, said space being in the plane 25 of the ring. It is of course, not desirable to cast a crown prong in the plane of the ring as all the prongs should be disposed symmetrically on opposite sides of the plane of the shank *r*. It follows therefore that 30 the plate 5 and stem 6 of the core 7 serve to guide the core to its proper position within the mold, so that the prongs of the crown or setting will be uniformly disposed about the shank *r* as indicated. The parts *a*, *a*, 5, 35 are composed of hard gas-retort carbon (motor-brush carbon), which is compact and practically indestructible, the central disk-core 9 and the filling of the vents *e* being composed of crushed or powdered charcoal or carbon which may be renewed 40 from time to time, the porosity of crushed or powdered charcoal, even where pressed into a disk such as 9, affording the neces-

sary freedom for the escape of the gases during the casting operation. The mold is 45 shown ready for the casting operation in Fig. 6, being in practice set into a bed of hot sand contained in an open dish or vessel (not shown). The molten metal is poured into the spout or passage 3, flowing 50 thence around the core 9 through the annular channel 2, and into the spaces between the ribs of the core-crown 7, the gases escaping through the vents as already described. At the conclusion of the opera- 55 tion, the clamp C is removed, then the plate 5 is slipped off the shank 6, the latter being given a slight tap with a hammer or other tool to loosen the core 7 from the cast ring. The sections *a*, *a*, are then separated or part- 60 ed and the ring drops out. The metal solidified in the passage 3 and adhering to the shank *r* is cut off for use in subsequent operations as well understood in the art.

Having described my invention, what I 65 claim is:—

In a ring-mold provided with a mold-groove for the ring-shank, a crown-core insertible through the mold into coöperative position with the mold-groove, a shank on 70 the crown-core substantially diamond-shaped in cross-section, a plate forming the bottom of the mold and provided with an opening to receive the shank aforesaid, the main axis of the diamond cross section be- 75 ing in the plane of the axis of the plate and in the plane of the mold-groove whereby the crown-core is properly positioned to insure the proper disposition of the crown prongs on the ring-shank. 80

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

ADOLPH HERMAN.

Witnesses:

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