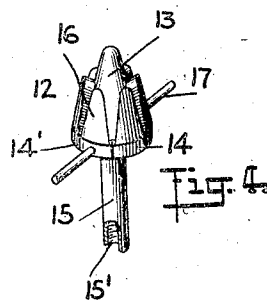
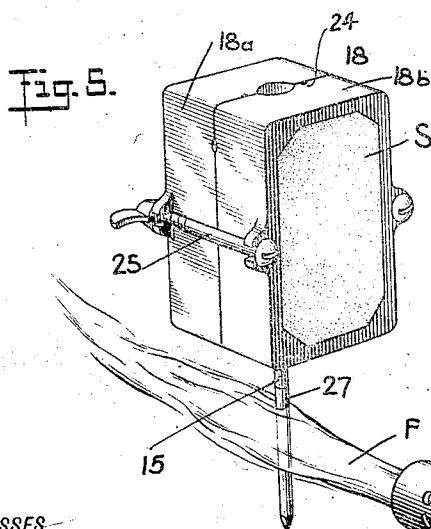
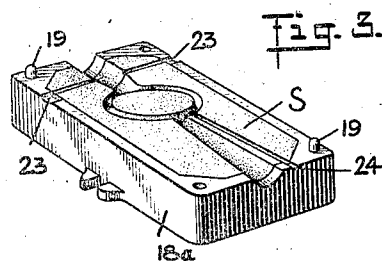
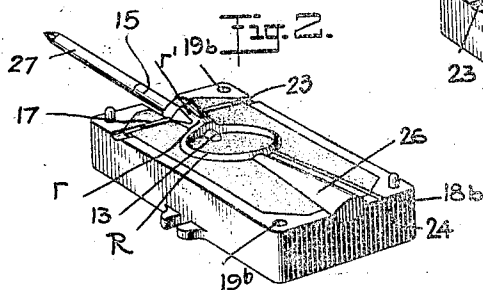


1,049,212.



WITNESSES

Whiting:
Geo. L. Beebe

INVENTOR
Fred H. Curl
BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

FRED H. CURL, OF LONGBEACH, CALIFORNIA.

MEANS FOR CASTING FINGER-RINGS.

1,049,212.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed May 15, 1912. Serial No. 697,362.

To all whom it may concern:

Be it known that I, FRED H. CURL, a citizen of the United States, and a resident of Longbeach, in the county of Los Angeles and State of California, have invented a new and Improved Means for Casting Finger-Rings, of which the following is a full, clear, and exact description.

This invention relates to molding operations of a general nature similar to the means set forth in my previous Patent No. 996,978, dated July 4, 1911.

The primary object of this invention is to improve the means for casting finger rings or similar symmetrical articles, whereby the operation may be performed much more rapidly and cheaply and with less mechanism or fewer parts than was necessary in the previous operation.

The foregoing and other objects of this invention will hereinafter be more fully described and claimed and illustrated in the drawings accompanying this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a perspective view of a pattern plate and one member of the flask in place thereon ready to be filled with sand; Fig. 2 is an inner face view of a ring casting showing the position of the parts just after a run has been made; Fig. 3 is a similar view with the core and ring removed, or showing the frame member just after removal from the pattern plate and filled with sand; Fig. 4 is a perspective view of one of the cores; and Fig. 5 shows the flask in position ready for the run.

Referring particularly to the drawings, I show at 10 a fragment of a plate which has formed with it integrally a series of patterns 11. The length of the plate will be sufficient to provide any number of different sizes of patterns 11 as may be required for ordinary molding operations, enabling the jeweler to mold or make any desired size of ring.

As indicated in Fig. 4 especially, I employ a core 12 comprising a cone 13, a cylindrical portion 14, a stem 15, prongs 16, and a pin 17 extending transversely through the core at right angles to the axis of the stem. In its essential characteristics the cores 12 are similar to the corresponding members set forth in the previous patent above identified.

The flask 18 comprises a pair of duplicate

frames 18^a and 18^b adapted to be filled with sand or other molding medium 8 successively in connection with any one of the patterns 11. The flask frames are shown each provided on its inner face with diagonally opposite dowels 19 adapted to cooperate first with a pair of diagonally opposite holes 19^a in the aforesaid plate for the purpose of determining the position of the frame upon any selected pattern and there securely hold it while being tamped with sand, and then to cooperate in turn with the diagonally opposed holes 19^b of the other frame when the frames are assembled, as shown in Fig. 5.

Each of the patterns made integral with the plate 10 comprises the following features, all, of course, integral with one another: A cylindrical stem 14^a, a pin 17^a, a core 16^a, a ring 20, a filler 21, and a vent finger 22. It will be understood that an outfit made in accordance with this invention will comprise a plate 10, a flask 18 and as many cores of different sizes as there are different sizes or forms of patterns 11. As already intimated, the patterns will vary in size with respect to the stems 14^a and cores 16^a in accordance with the several sizes of rings demanded, and the cores will be numbered or sized so as to cooperate in the casting operation with the respective patterns. Each of the frames will be formed with notches 23 which will admit the pattern pin 17^a of the larger size rings, and the frames may, furthermore, be provided, if desired, with a notch 24 to admit the vent finger 22, whereby the inner surface of the frame will lie snugly upon the main surface of the plate while being filled. The flask will, of course, include any suitable clamping means indicated at 25.

From the foregoing description of the parts, the operation may be briefly described as follows:—To cast a ring of any desired size, the proper number or size of pattern 11 will be selected. One of the frames will be placed in position upon said pattern as indicated, for instance, in Fig. 1, and will be tamped full of the molding medium. Said frame will then be removed with the result indicated in Fig. 3. The other frame will be treated exactly the same way with exactly the same result. The core 12 corresponding to the size of the pattern just employed will then be laid in place as shown in Fig. 2 with the cylinder 14 coinciding with the form produced by the stem 14^a,

and the finger 17 lying in the transverse groove formed by the pattern pin 17^a. The apex of the cone 13 will then be directed toward the center of the flask, and when the two frames are assembled, the core, together with the two forms produced by the sand embracing the stem, will produce a perfectly symmetrical cavity which will be filled by the molten metal and form the ring R shown in Fig. 2 to which will be connected, in the rough, the plug 26 formed by the filler grooves in the sand. Said plug has but to be sheared off the ring to leave the ring complete ready for dressing and polishing. The crown *r* of the ring will be understood to be formed in the space surrounding the cone 13, and the prongs *r'* will be formed by the spaces between the prongs 16 of the core. The core is provided with minute air vents 14' to allow the air to escape from the prong spaces, and the two grooves formed by the vent finger 22 of the pattern will provide air escapes for the main body of the ring. These several vents are so minute in caliber that the molten metal does not enter them in practice.

Under certain conditions it may be desired to heat the core or cores as, for instance, when the weather is cold or in accordance with the temperature of the gold, and to accomplish this in a convenient manner I tap into the stem 15 of each core a socket 15' into which may be screwed a pin 27 against which a flame F may be directed when the flask is ready for the cast, as shown in Fig. 5. The stem 15 of the several cores may be of the same size, and, hence, a single pin 27 will suffice for successive operations. The heating of the core in this way, not only insures that the metal will not be chilled too suddenly, but will drive out by rarefaction a considerable portion of the air within the spaces to be filled by the crown prongs.

The mechanism above described including a flask 18 for single ring operations is particularly adapted for jewelers whose operations are not very extensive, although the means set forth are susceptible of such rapid manipulation that rings may be produced singly in rapid succession, if necessary. If, however, the facilities for more rapid production of rings be demanded, the plates 10 will be provided in pairs, rights and lefts, and by the use of a pair of frames long enough to cover any number of adjacent patterns 11, the operation above described with reference to the single ring flask may

be carried out in the production of a large number of rings with practically the same facility as the production of a single ring.

The several parts of this apparatus may be constructed of any suitable materials, and the relative sizes and proportions thereof may be varied in the numerous minor particulars without departing from the spirit of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In casting apparatus, the combination of a plate having formed integrally thereon a series of different selective patterns, a core corresponding to the selected pattern, and a flask comprising a pair of frames adapted to be applied to said plate over the selected pattern in succession to be filled with a molding medium, said selected pattern having parts to form a seat for said core, the remaining portion of the pattern, with the core seated within the filled frames, providing a space for the article to be cast, substantially as set forth.

2. In means for casting a small article, the combination of a plate having fixed thereon a pattern, one portion of which simulates one-half of the article, a core, a flask comprising a pair of frames adapted to be applied in succession to the plate over said pattern to be filled with sand, the other portion of the pattern simulating one-half of said core and forming a seat therefor when applied to the flask after being filled as aforesaid, and means to heat the core when seated, substantially as set forth.

3. In means for casting small articles of different sizes, the combination of a plate having fixed thereon a series of patterns of sizes corresponding to the articles demanded, a series of cores of sizes corresponding to the respective patterns, a flask comprising a pair of frames adapted to be applied successively to the plate over any selected pattern to be filled with sand, said selected pattern forming in the sand a seat for the corresponding core and a space for the article to be cast, and a pin removably connected to any selected core, substantially as set forth.

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

FRED H. CURL.

Witnesses:

GEO. L. BEELER,
JOHN P. DAVIS.