Jan. 21, 1930. O. S. PAPAZIAN 1,744,571

MOLD

Filed Aug. 13, 1928 2 Sheets-Sheet 1

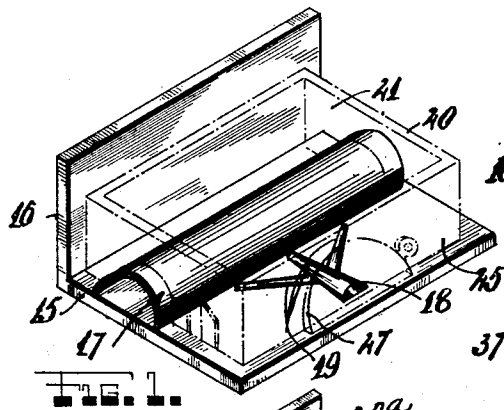


FIG. 1.

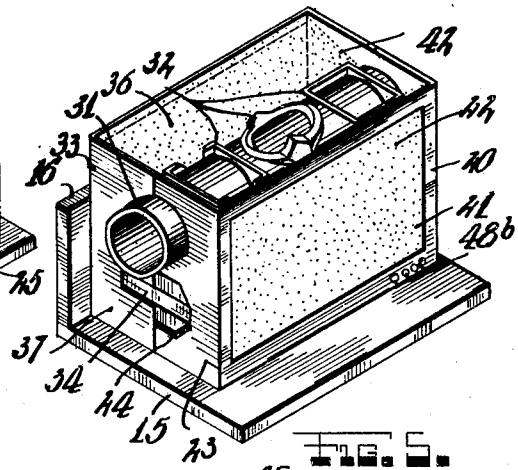


FIG. 5.

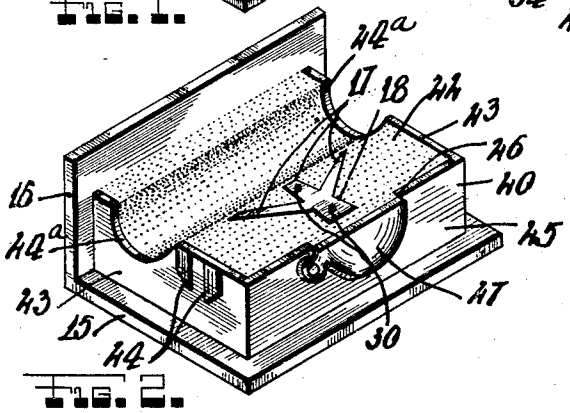


FIG. 2.

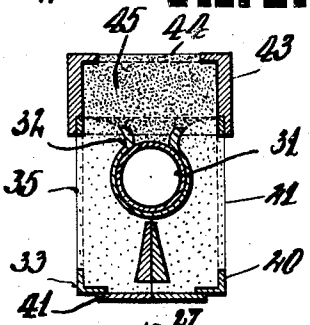


FIG. 6.

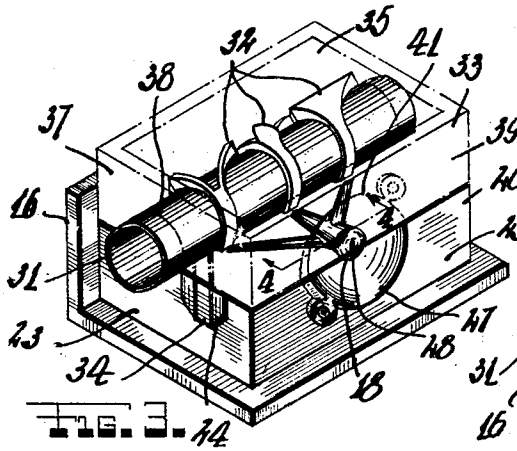


FIG. 3.

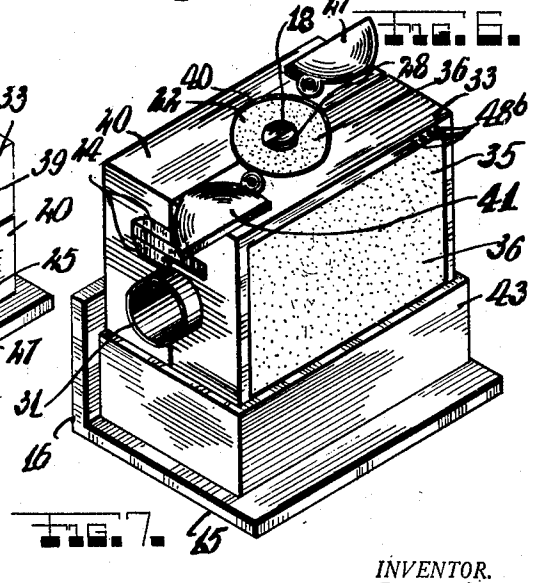


FIG. 7.

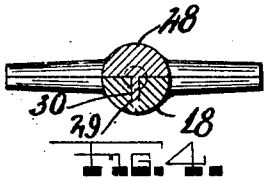


FIG. 4.

INVENTOR.
Ovanes S. Papazian
BY Carlton A. Polachek
ATTORNEY

Jan. 21, 1930. O. S. PAPAZIAN 1,744,571

MOLD

Filed Aug. 13, 1928 2 Sheets-Sheet 2

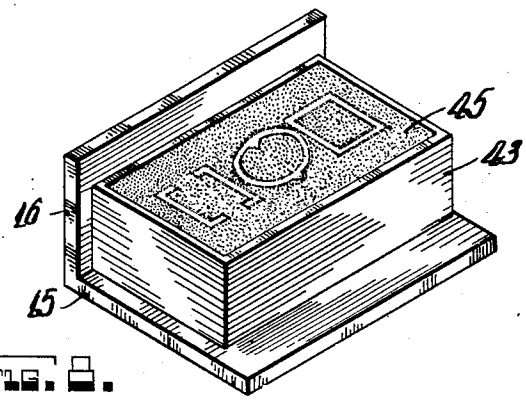


FIG. 8.

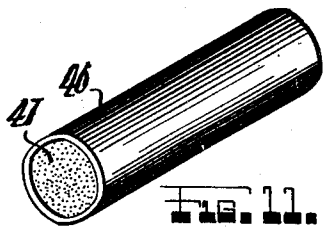


FIG. 11.

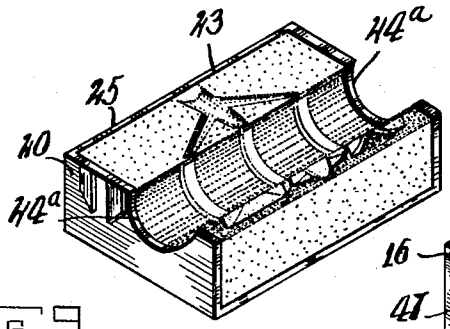


FIG. 9.

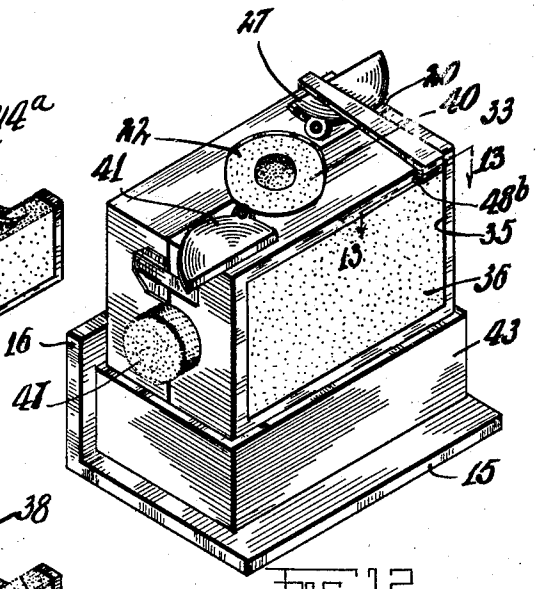


FIG. 12.

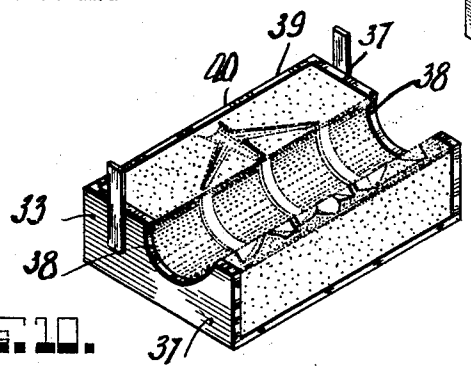


FIG. 10.

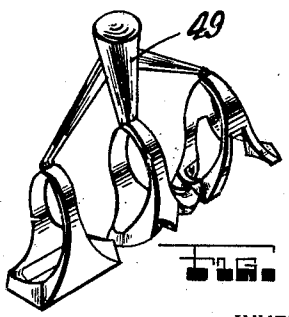


FIG. 14.

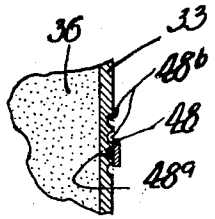


FIG. 13.

INVENTOR.
Ovanes S. Papazian
BY Zolton Holecky
ATTORNEY

Patented Jan. 21, 1930

1,744,571

UNITED STATES PATENT OFFICE

OVANES S. PAPAZIAN, OF NEW YORK, N. Y.

MOLD

Application filed August 13, 1928. Serial No. 299,175.

This invention relates generally to rings, and has more particular reference to a method for casting the same, and a mold for use in conjunction with the method.

The invention has for an object the provision of a method and device of the class mentioned, which is of simple construction, desirable and efficient in action, and which can be applied at a reasonable cost.

The invention proposes the use of a base, a pair of side frames, and an end frame, and in conjunction with these it is intended that a tubular member with rings thereon, branch sprue members and a tube for forming a core be used. The steps of the method including the filling and forming of sand within the frames and the removing of the tubular member with the rings, and the branch sprue members from the sand and placing a sand core instead within the formed sand.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings, forming a material part of this disclosure:—

Figs. 1 to 3 are perspective views showing the initial steps of the method, and certain parts of the mold.

Fig. 4 is a vertical sectional view of the branch sprue members.

Fig. 5 is a perspective view showing the next step of the method.

Fig. 6 is a vertical sectional view of the mold in a condition disclosing additional steps.

Fig. 7 is a perspective view of the mold in a condition disclosing further steps of the method.

Figs. 8, 9 and 10 are perspective views of the mold in a taken apart condition prior to casting.

Fig. 11 is a perspective view of a tubular member and a sand core.

Fig. 12 is a perspective view of the parts in final condition ready for receiving molten metal.

Fig. 13 is a fragmentary horizontal view, taken on the line 13—13 of Fig. 12.

Fig. 14 is a perspective view of a casing made in the mold according to this invention.

The reference numeral 15 indicates generally a base plate integral with a vertical plate 16. A semi-tube 17 and a semi-sprue member 18 with three branches 19 are placed upon the base plate 15. The term semi-tube as used in this specification means one of the portions obtained by cutting a tube in half along its axis, and semi-sprue one of the portions obtained by cutting a sprue in half. The dot dash lines 20 in Fig. 1 indicate a side frame rested upon the base plate and having one side touching the vertical plate 16. As seen in this view the frame has a top opening 21 thru which it may be packed with sand indicated by numeral 22 in Fig. 2.

In Fig. 2 the frame 20 is shown turned with its bottom side up relative to the indicated showing of this frame in Fig. 1, and the semi-tube 17 removed. The frame 20 comprises ends 23 with semi-circular recesses 24ª for accommodating the semi-tube 17, and with parallel lugs 24 for receiving guide bars projecting from a second side frame hereinafter described, and one closed side 25 with a semi-circular recess 26 normally closed by a pivoted cover 27.

A complimentary semi-sprue member 28 is next placed upon the semi-sprue member 18, and has projecting pins 29 engaging in apertures 30 in the member 18 for assuring correct positioning. A tubular member 31 with form rings 32 is next placed across the recesses 24 so that the branches 19 terminate in proximity of the rear of the rings 32. The dot dash lines 33 in Fig. 3 indicate the second side frame before mentioned, rested upon the first side frame 20 so that guide bars 34 projecting therefrom engage between the pairs of lugs 24. As seen in this view the frame has a top opening 35 thru which it may be packed with sand indicated by numeral 36 in Fig. 5. The frame 33 comprises ends 37 with semi-circular recesses 38 for accommodating the tubular member 31, and one closed side 39 with a semi-circular recess 40 nomally closed by a pivotal cover 41.

In Fig. 5, the said side frames are shown turned around so as to stand on the side with the covers 27 and 41, and the sand 22 and 36 is scraped away indicated by line 42, so that the tops of the rings 32 are exposed. An end frame 43 is next placed on the top of the side frames, relative to their positions shown in Fig. 5, and Fig. 6 indicates this new condition. The end frame 43 has a top opening 44 thru which sand 45 is entered and serves to hold said sand which is necessary in casting the finger rings.

Next the device in the condition shown in Fig. 6 is turned up-side-down to a position shown in Fig. 7. The doors 27, 41 are then opened and the sand beneath, scraped away until the top of the semi-sprue member 18, 28 are seen.

Then the side frames 20 and 33 are separated and removed from the end frame 43, and the semi-sprues 18, 28 together with the tubular member 31 and rings 32 are removed from the sands. A tube 46 having an inside diameter equal to the outside diameter of the tube 31 is next used for forming a sand core 47 which is engaged in the recesses 24, 38 and the side frame members with their formed sands are again placed in position on the end frame member 43. A clip 48 is next engaged on the side frames for holding them together. This clip is formed with inwardly directed bulges 48^a engageable in recesses 48^b formed in the frames 20 and 33. In applying the clip one end is first engaged in one of the recesses 48^b of one of the frames, then the other end of the clip is forced sideways so as to be at an inclined relation to the frames and then the bulge 48^a of this end is engaged in one of the recesses of the other frame. Molten metal is next poured into the opening in the sand at the top, as seen in Fig. 12. The frames are next separated and the sands broken for removing the metal casing 49 shown in Fig. 13. The rings of the casing are next cut off from the other portions thereof.

While I have shown and described the prefered embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

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

A multipart sand finger ring mold consisting of two main separable substantially complementary sections adapted to fit together, each complementary face of said sections having a semi-circular depression therein adapted to form a circular core receiving cavity, and a semi-runner depression in the upper portion, a bottom section adapted to coincide with the lower faces of the main sections, a sand core to fit into the circular cavity of said main sections and extending the entire length thereof, the sand portion surrounding said core having a plurality of ring depressions therein, each of said ring depressions comprising an annular portion and an ornament holder portion connected therewith, the ornament holder portion extending into the sand of the bottom section, and the complimentary faces of the main sections having semi-sprue depressions leading from the top of each ring depression to the semi-runner depressions.

In testimony whereof I have affixed my signature.

OVANES S. PAPAZIAN.