

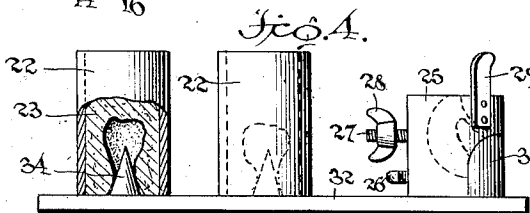
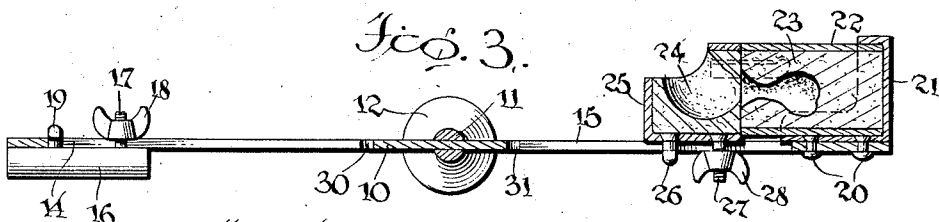
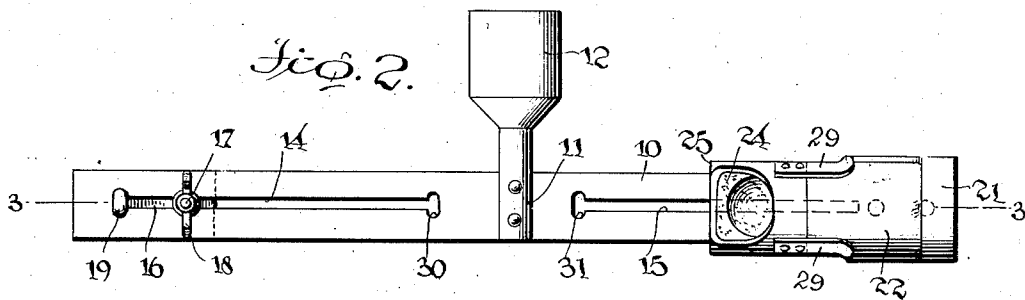
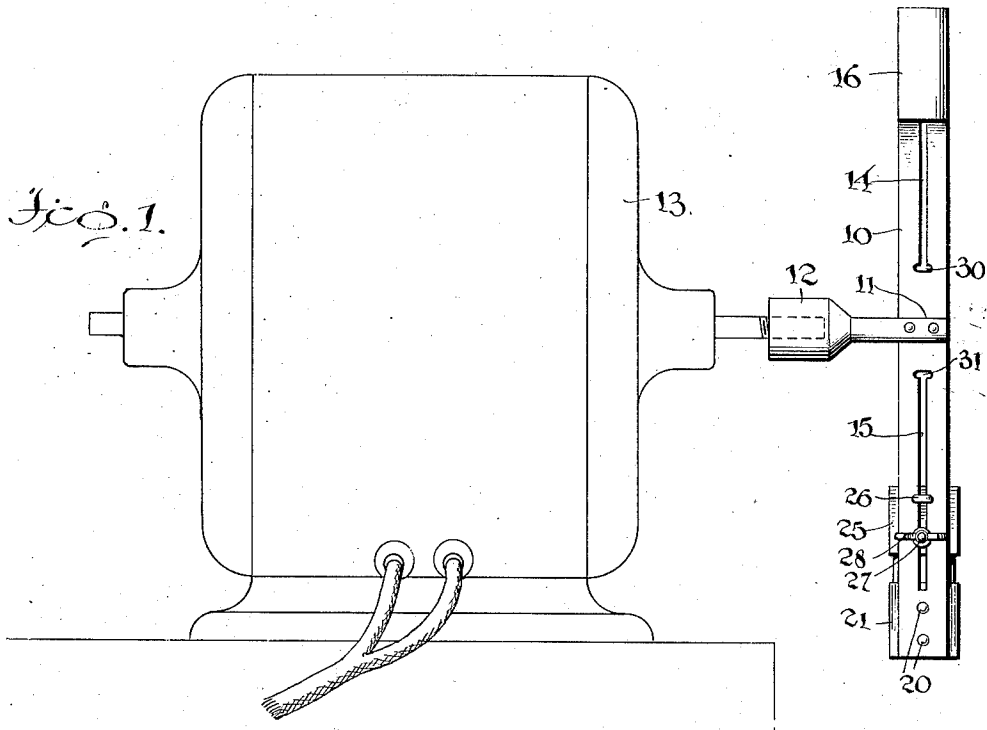
Nov. 24, 1925.

1,563,151

B. L. BOOTH

CENTRIFUGAL CASTING APPARATUS

Filed June 4, 1924



B. L. Booth, INVENTOR.

BY

Geot. Kimmel, ATTORNEY.

Patented Nov. 24, 1925.

1,563,151

UNITED STATES PATENT OFFICE.

BERNARD L. BOOTH, OF LEWISTOWN, MONTANA.

CENTRIFUGAL CASTING APPARATUS.

Application filed June 4, 1924. Serial No. 717,803.

To all whom it may concern:

Be it known that I, BERNARD L. BOOTH, a citizen of the United States, residing at Lewistown, in the county of Fergus and State of Montana, have invented certain new and useful Improvements in Centrifugal Casting Apparatus, of which the following is a specification.

This invention relates to improvements in centrifugal pressure casting apparatus, and it has for one of its objects to provide improvements of the nature stated, particularly adapted for casting dental inlays, bridges, saddles, and other elements, as well as jewelry structures and other fine forms and elements in which accuracy of conformation and even distribution of the structural mass is highly important.

Another object of the invention is to provide a device of this character which may be simply and inexpensively constructed, of few parts, and adapted to be coupled without material structural change to the small motors used by dentists, jewelry manufacturers and the like.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention—

Figure 1 is an elevation of the improved device together with a conventional operating motor.

Figure 2 is a plan view enlarged of the improved device.

Figure 3 is a longitudinal sectional view, on the line 3—3 of Figure 2.

Figure 4 is a detail of the holder for duplicate molds and casting cup or crucibles.

The improved device comprises a supporting bar 10 connected intermediate the ends at 11 to a chuck or coupling device indicated conventionally at 12, the latter adapted to be in turn coupled to a motor device, preferably an electric motor indicated at 13.

The supporting bar 10 is longitudinally slotted as shown at 14 and 15, the slot 14 providing means for the adjustable coupling of a counter weight 16 to the bar through the medium of a threaded pin 17, wing nut 18, and guide pin 19.

Attached as by rivets 20 the opposite end of the bar 10 from the counter weight 16, is a housing or socket member 21 to receive

the flask or casing 22 in which the mold is received, the latter indicated at 23.

The crucible element in which the metal is melted is indicated at 24, and is enclosed in a metal box or casing 25.

The casing 25 is provided with a stop pin 26 and threaded pin 27 extending through the slot 15, the pin 27 having a wing nut 28. By this means the member 25 and its crucible 24 may be adjustably coupled to the bar 10.

Attached to the member 25 are resilient fingers or clips 29 to bear over the flask or shell 22, to assist in holding the member 25 in position.

The slots 14 and 15 are each enlarged at one end, as shown at 30 and 31 and the pins 19 and 26 are each laterally enlarged at the outer end, the enlarged ends to pass through the enlargements and the body portions of the pins to slidably engage the slots. By this means the members 16 and 25 can be detached from the bar 10 only when the enlarged heads of the pins are opposite the enlargements of the slots, a position they will not assume when in use. Thus all danger of the accidental displacement of the movable parts is avoided.

The improved apparatus is designed more particularly for use in dental operations for accurately molding inlays, bridges, saddles, and the like, but may be employed for casting any article requiring accuracy of conformation and even distribution of the molten material.

The counter weight 16 insures an effective balance between the opposite ends of the bar, and which may be adjusted, as required.

In using the improved apparatus, the material for the article to be cast is first fused in the crucible 24 and the latter disposed in position as shown in Figures 2 and 3, the weight 16 being adjusted to accurately balance the weight of the crucible and flask and its mold.

Motion is then imparted to the member 10 through the action of the motor 13, the centrifugal force thus generated forcing the molten material into every angle and recess of the mold and accurately and completely filling the mold and producing a casting of the exact dimensions and of perfect conformation to the mold.

The improved device is simple in construction, can be inexpensively manufac-

2
tured and of any size or capacity, and of any suitable material.

A rack or holder for surplus or duplicate molds and casting cups or crucibles will be provided, and represented in Figure 4, each consisting of a base or support 32 having a standard 33 to support the crucible, and studs 34 to support the duplicate molds.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention, what is claimed as new is:—

1. A device of the class described comprising a supporting bar mounted for rotation intermediate the ends and having longitudinally directed guide slots, a socket member attached to the bar at one end, a counter weight having a threaded pin extending through one of said slots, a clamp nut engaging said pin and operative to adjustably couple the counter weight to the bar, a flask device engageable in said socket member, and a crucible device having a threaded pin ex-

tending through the other slot and provided with a clamp nut to adjustably couple said crucible device.

2. A device of the class described comprising a bar supported for rotation, and having longitudinally directed slots with lateral extensions at the ends, a socket member attached to the bar at one end, a counter weight having a depending threaded pin and a depending pin having laterally directed lugs, the lugs adapted to pass through the extensions of one of said slots when the weight is in one position and engage the lower face of the bar when the weight is in another position and the threaded pin provided with a clampnut operative to lock the weight in position on the bar, and a crucible support having a depending pin with laterally directed lugs to pass through the lateral extensions of the other slot and engage the lower face of the bar, and a threaded pin extending through the last mentioned slot and provided with a clamp nut operative to hold the crucible in adjusted position relative to the bar and the flask.

In testimony whereof, I affix my signature hereto.

BERNARD L. BOOTH.