

No. 889,723.

PATENTED JUNE 2, 1908

P. SCHWICKART.
CASTING DEVICE.

APPLICATION FILED MAY 14, 1907.

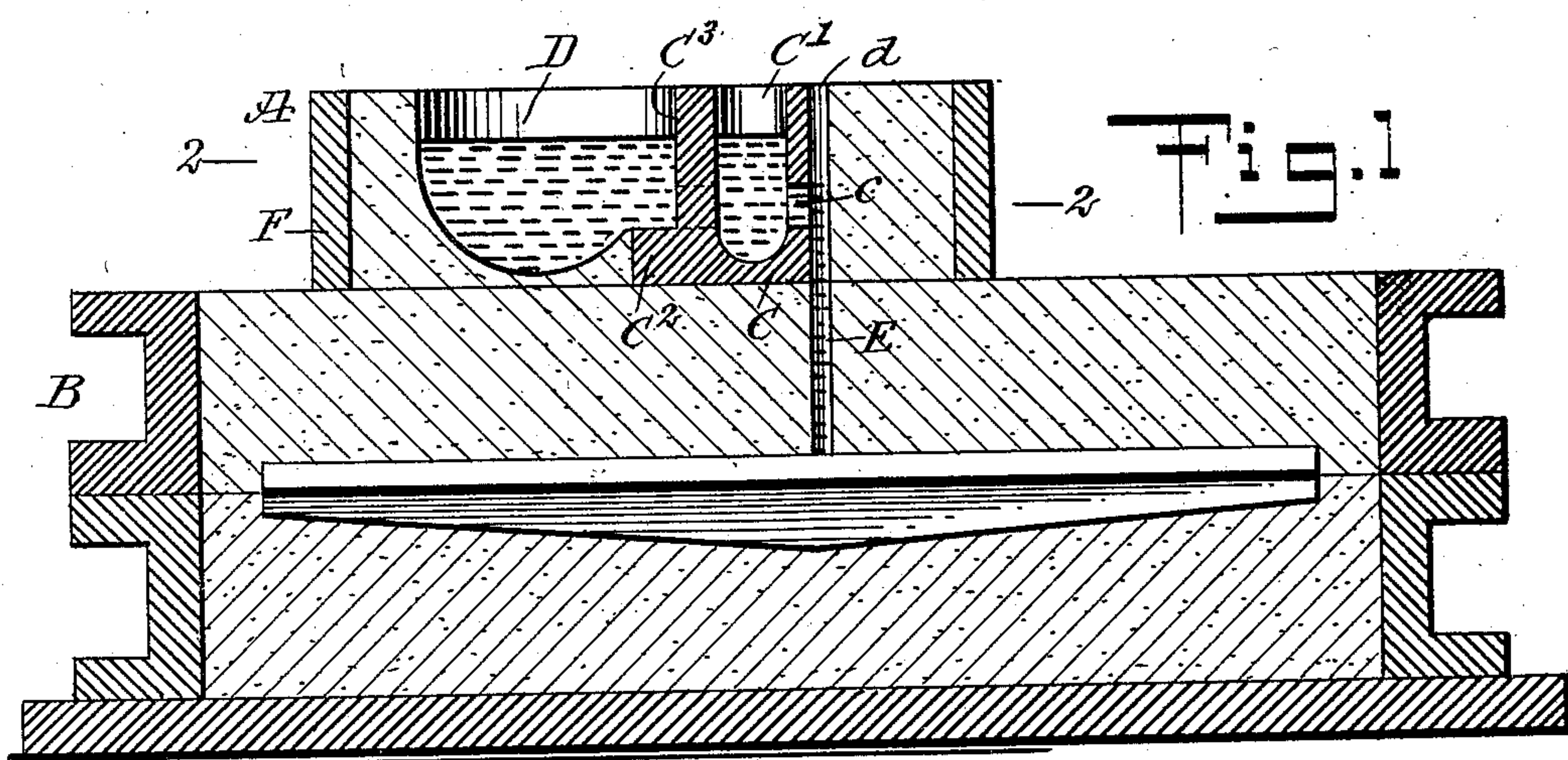


Fig. 2

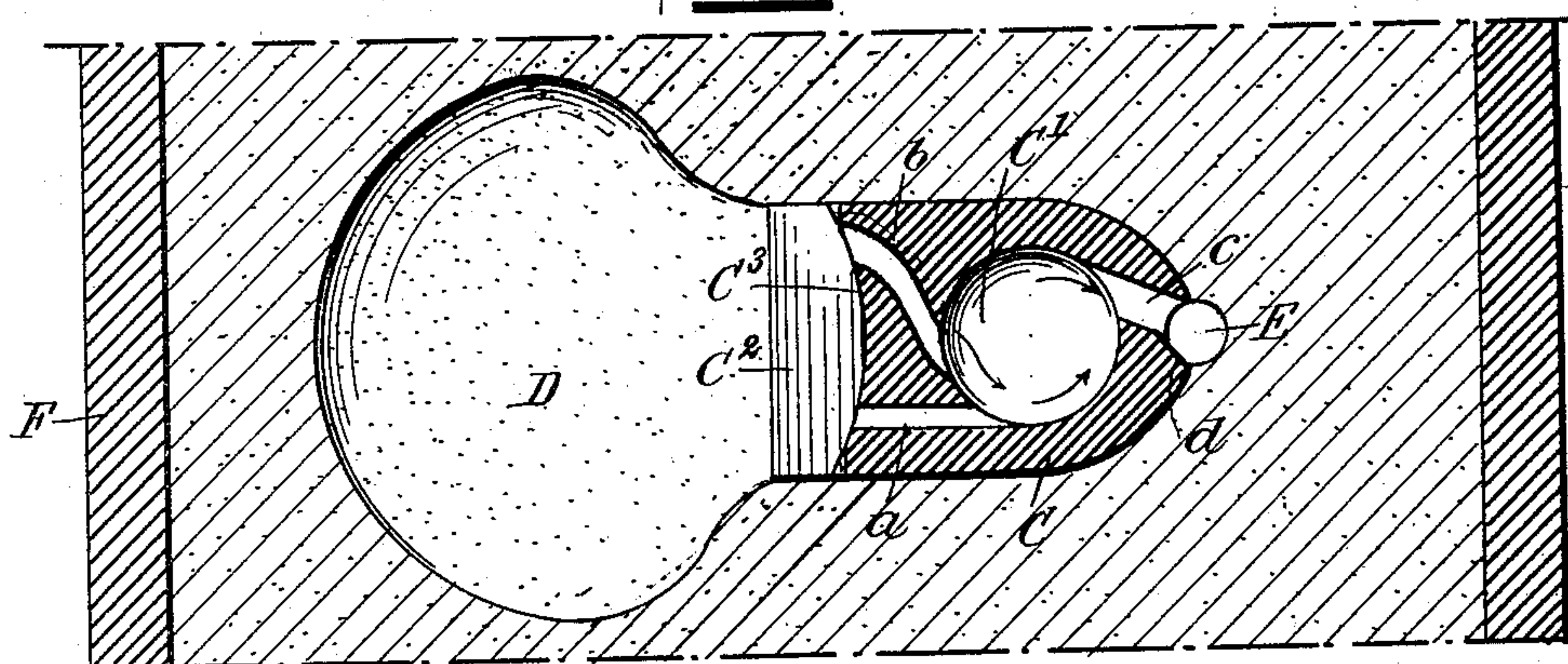


Fig. 4

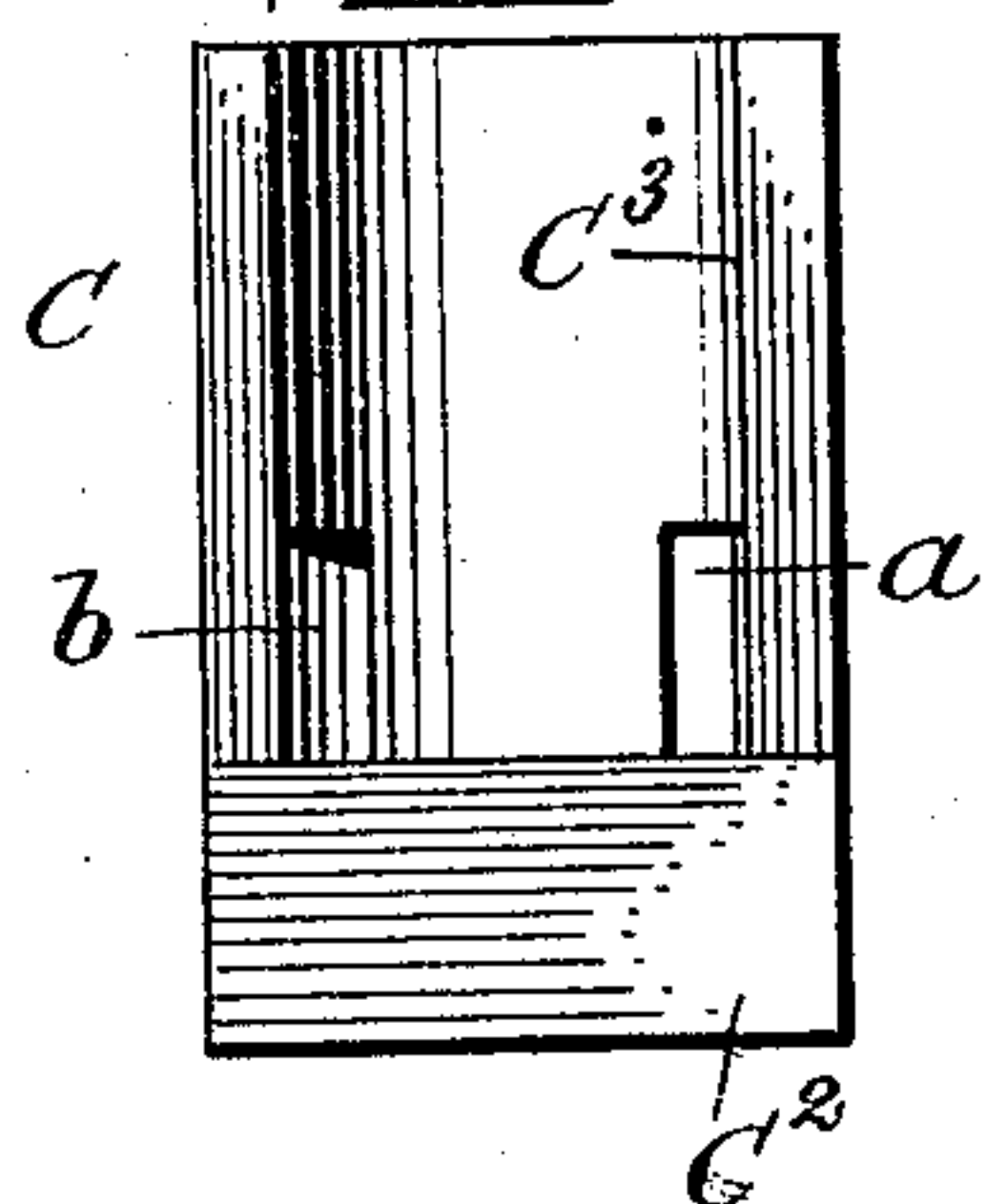


Fig. 5

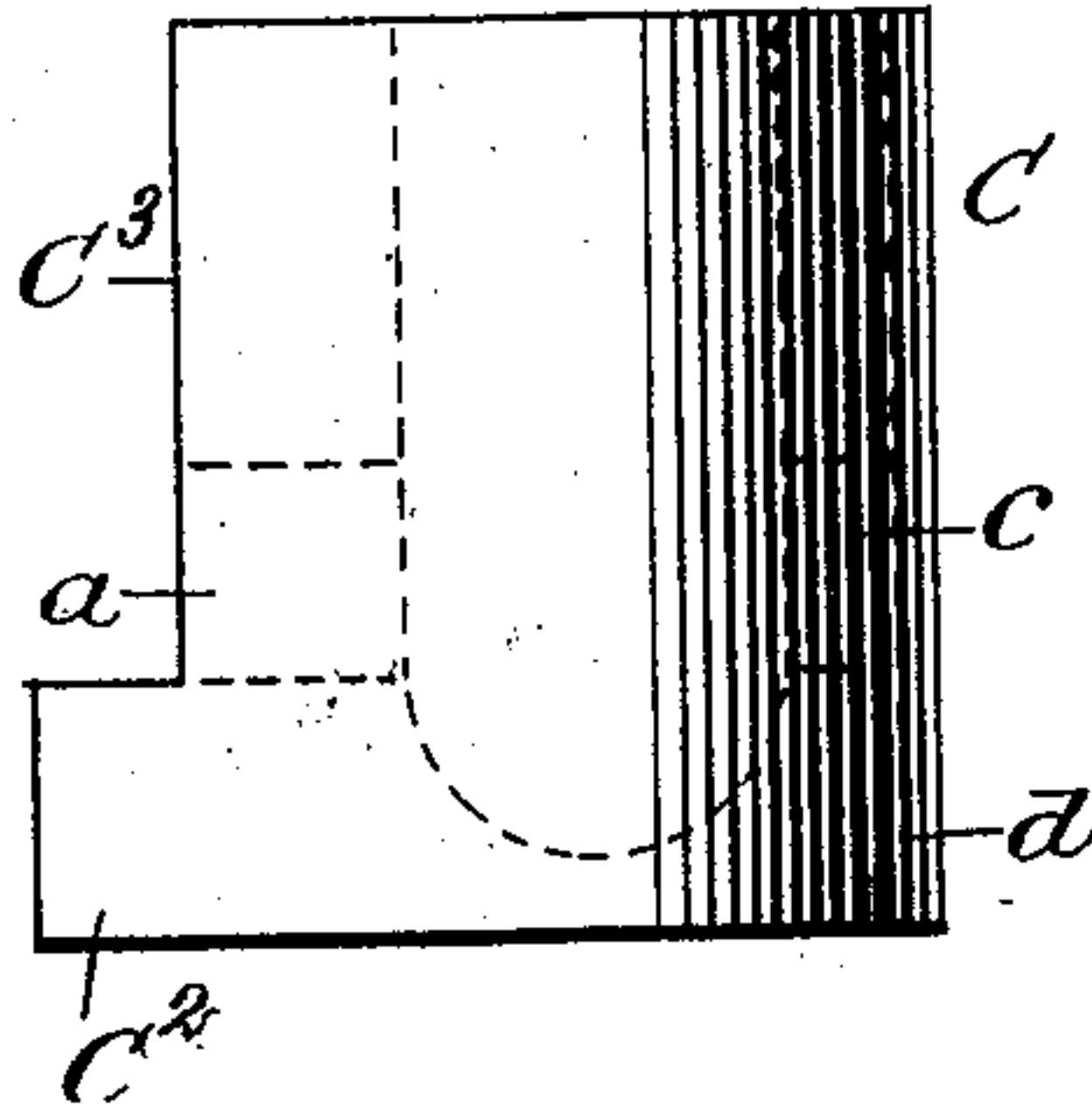
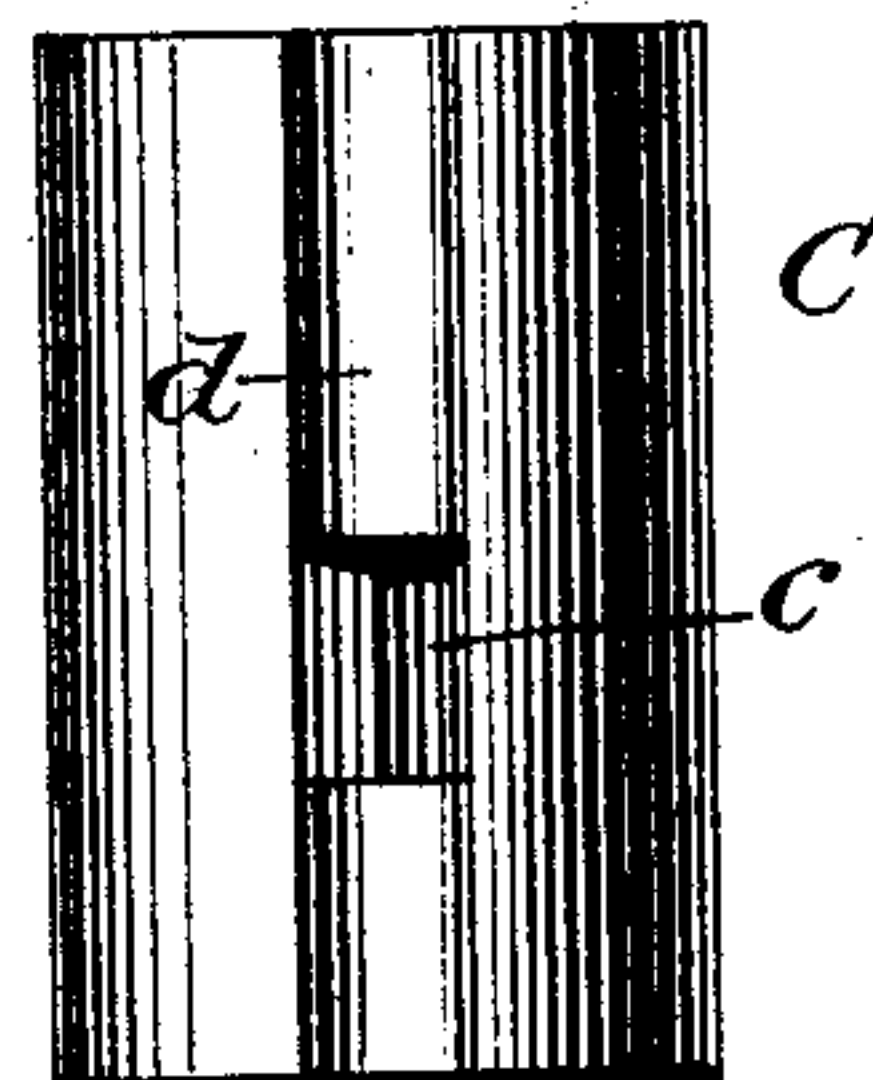


Fig. 6



WITNESSES

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CASTING DEVICE.

No. 889,723.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed May 14, 1907. Serial No. 373,644.

To all whom it may concern:

Be it known that I, PHILIP SCHWICKART, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Casting Device, of which the following is a full, clear, and exact description.

The invention relates to metal founding, and its object is to provide a new and improved casting device for use on the flask or mold, and arranged to insure proper filling of the mold with the molten metal, and without danger of slag, scum or like impurities passing with the molten metal into the mold, thus insuring the formation of very fine homogeneous castings.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement as applied; Fig. 2 is an enlarged sectional plan view of the improvement on the line 2—2 of Fig. 1; Fig. 3 is a side elevation of the purifying receptacle, and Figs. 4 and 5 are elevations of the opposite ends of the purifying receptacle.

The casting device A is preferably set on top of the mold or flask B, as plainly shown in Fig. 1, and the said casting device A consists essentially of a purifying receptacle C and a reservoir D, into which the molten metal is poured, to flow from the reservoir D into the purifying receptacle and from the latter into the pouring hole E leading to the interior of the mold B, to fill the same for forming the desired casting.

The purifying receptacle C is solid and, preferably, made of the usual core material, while the reservoir D is formed of ordinary molding sand contained in a frame F set or resting on top of the mold B, the said molding sand surrounding the purifying receptacle C, as plainly illustrated in the drawings.

The purifying receptacle C is provided with a well C', preferably of circular shape, as plainly shown in Fig. 2, and channels *a* and *b* formed in the walls of the well C' connect the interior of the reservoir D with the well C'. An outlet channel *c* leads from the well C' to connect with a recess *d* formed on the outside of the purifying receptacle C and leading to the pouring hole E, as shown in Figs. 1 and 2. The channels *a*, *b* and *c* are arranged approximately in the same horizontal plane,

a distance above the bottom of the well C', and the inlet channel *a* passes tangentially into the well C' while the other inlet channel *b* extends at an angle to the channel *a* and opens into the well C', a distance from the inner end of the channel *a*, as shown in Fig. 2. The outlet channel *c* leads tangentially from the well C' at a point opposite the channel *a*, and this outlet channel *c* is approximately of a less size than the aggregate size of the inlet channels *a* and *b*.

The purifying receptacle C has the portion C² of its base extending into and forming part of the bottom of the reservoir D, and the side C³ adjacent to the said projecting base portion C² forms part of the circular wall of the reservoir D. The top of the projecting base portion C² is flush with the bottoms of the inlet channels *a* and *b*, so that the molten metal readily flows from the reservoir D over the said projecting base portion C² into the channels *a* and *b*, and by having the latter arranged as described, it is evident that a whirling motion is given to the molten metal in the well C', to cause the slag, scum or other like impurities to quickly rise to the top of the molten metal in the well C', and which top is level with the level of the molten metal in the reservoir D. The purified molten metal flows from the well C' through the outlet channel *c* into the pouring hole E and to the interior of the mold B, to fill the same for forming the casting.

It is understood that by making the outlet channel *c* less than the aggregate size of the inlet channels *a* and *b*, the metal rises in the well C' to the same level as the molten metal contained in the reservoir D, and hence only purified metal passes into the mold B.

By having the solid base portion C² extending into the reservoir D, it is evident that the molten metal contained therein readily flows over the said solid base portion C² to the inlet channels *a* and *b*, without danger of clogging up the channels by sand or other impurities.

By making the bottoms of both the reservoir D and the well C' lower than the channels *a*, *b* and *c*, it is evident that any heavy foreign material in the molten metal may settle in the said bottoms without danger of passing to the interior of the mold B.

It is understood that a new purifying receptacle and reservoir D is used for each mold when making a casting. As the said purifying receptacle C as well as the reser-

voir D can be cheaply constructed, it is evident that the expense in making the casting is but trifling in comparison with the fine homogeneous castings produced by the casting device employed.

From the foregoing it will be seen that the device is used exteriorly on the flask and automatically purifies or skims the molten metal to insure the formation of fine homogeneous castings.

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

1. A casting device comprising a reservoir for receiving the molten metal, a purifying receptacle having a well provided with an inlet and an outlet, the inlet being connected with the said reservoir for the molten metal to flow from the reservoir into the well, the said inlet being above the level of the bottom of the reservoir and well arranged to cause a whirl of the molten metal in the well.

2. A casting device comprising a reservoir for receiving the molten metal, a purifying receptacle having a well provided with an inlet and an outlet, the inlet being connected with the reservoir to permit the molten metal to flow from the reservoir into the well, the outlet leading to the pouring hole of the mold, the bottom of the said inlet being above the bottom of the reservoir and the bottoms of both the inlet and the outlet being above the bottom of the well.

3. A casting device provided with a purifying receptacle having a circular well provided with spaced inlet channels for connection with a molten metal supply, the inlet channels being at angles one to the other, and one of the inlet channels being arranged tangentially, the said well having an outlet channel leading tangentially from the well approximately at a point directly opposite the tangential inlet channel.

4. A casting device provided with a purifying receptacle having a circular well provided with spaced inlet channels for connection with a molten metal supply, the inlet channels being at angles one to the other, the base of the purifying receptacle projecting beyond the entrance ends of the said inlet channels.

5. A casting device provided with a purifying receptacle having a circular well provided with spaced inlet channels for connection with a molten metal supply, the inlet

channels being at angles one to the other, the base of the purifying receptacle projecting beyond the entrance ends of the said inlet channels, and the top of the base projection being flush with the bottoms of the said inlet channels.

6. A casting device provided with a purifying receptacle having a circular well provided with spaced inlet channels for connection with a molten metal supply, the inlet channels being at angles one to the other, and one of the inlet channels being arranged tangentially, the said well having an outlet channel leading tangentially from the well approximately at a point directly opposite the tangential inlet channel, the said inlet and outlet channels being arranged approximately in the same horizontal plane.

7. A casting device provided with a purifying receptacle having a circular well provided with spaced inlet channels for connection with a molten metal supply, the inlet channels being at angles one to the other, and one of the inlet channels being arranged tangentially, the said well having an outlet channel leading tangentially from the well approximately at a point directly opposite the tangential inlet channel, the said inlet and outlet channels being arranged approximately in the same horizontal plane a distance above the bottom of the well.

8. A casting device provided with a purifying receptacle having a circular well provided with spaced inlet channels for connection with a molten metal supply, the inlet channels being at angles one to the other, the base of the purifying receptacle projecting beyond the entrance ends of the said inlet channels, and the top of the base projection being flush with the bottom of the said inlet channels, and a reservoir for connecting the molten material and from which lead the said inlet channels, one side of the purifying receptacle forming a portion of the interior wall of the reservoir and the top of the base projection forming a portion of the bottom of the reservoir.

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

PHILIP SCHWICKART.

Witnesses:

THEO. G. HOSTER,
EVERARD B. MARSHALL.