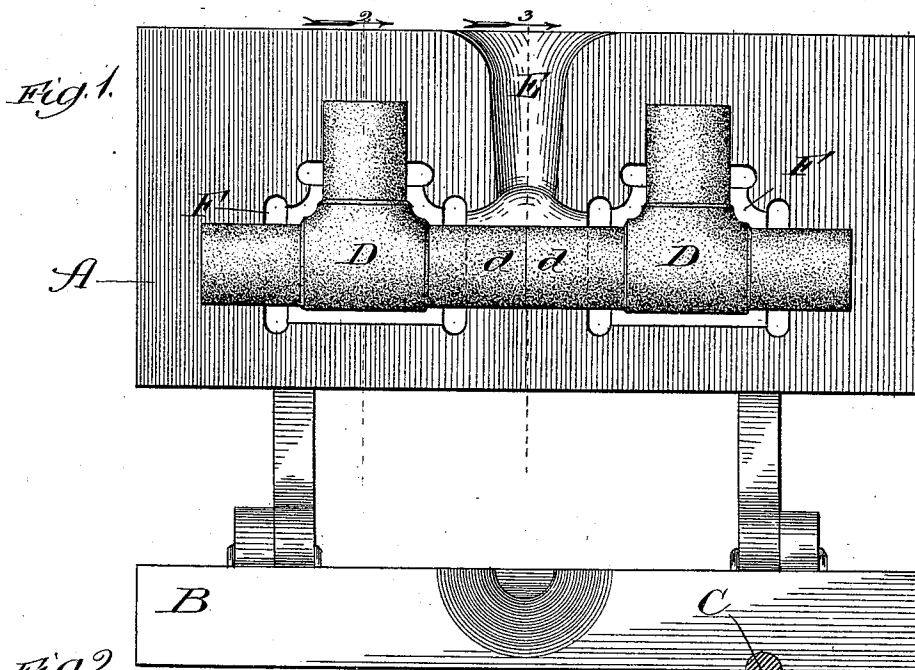


(No Model.)

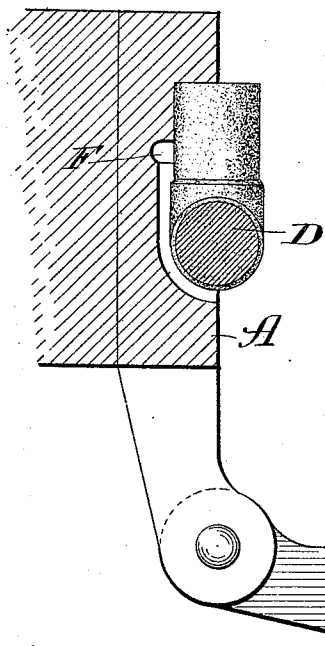
N. D. BAILEY.  
MOLD FOR MAKING CASTINGS.

No. 517,205.

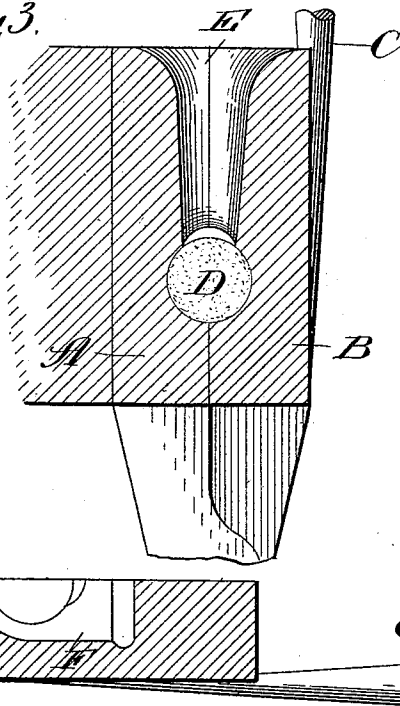
Patented Mar. 27, 1894.



*Fig. 2.*



*Fig. 3.*



Witnesses:  
*Wm. C. Taylor*  
*Ed. Shipley*

Inventor:  
*Norval D. Bailey*  
By *Banning & Banning*  
*Attys*

# UNITED STATES PATENT OFFICE.

NORVAL D. BAILEY, OF KEWANEE, ILLINOIS.

## MOLD FOR MAKING CASTINGS.

SPECIFICATION forming part of Letters Patent No. 517,205, dated March 27, 1894.

Application filed May 1, 1893. Serial No. 472,563. (No model.)

*To all whom it may concern:*

Be it known that I, NORVAL D. BAILEY, a citizen of the United States, residing at Kewanee, Illinois, have invented certain new and useful Improvements in Molds for Making Castings, of which the following is a specification.

The object of my invention is to make a mold of metal in which brass, iron, steel, and other hard metal castings may be cast successively, without injuring or destroying the mold; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of the mold in its open condition, with a sand core in place; Fig. 2 a transverse section of the mold open, taken on the line 2 of Fig. 1; and Fig. 3 a transverse section through the gate of the mold when closed, taken on the line 3 of Fig. 1.

The use of molds by which hard metallic castings may be reproduced successfully has been long sought for, but never attained, so far as I know, owing to the fact that the molten metal coming in contact with any material which might form such a mold would blow cold-shut or stick to the same, and make the castings blister, thereby destroying their utility as an article of commerce. To obviate these objections, and to produce a metal mold in which castings may be reproduced successively, and without injuring or destroying the mold which I employ, is the object of my invention.

In making my improved metallic mold for carrying out or applying my process or method of making castings of brass, iron, steel, or other hard metals, I use two plates A and B,—which, simply as a matter of convenience and not of necessity, I have shown hinged together,—preferably formed of metal, so that when they are closed their faces will be in close contact. I provide the faces of these plates, part in one and part in the other, with recesses which form the counterparts of the particular form or shape which I desire the casting to have. As illustrated in the drawings, my improved mold is adapted for use in connection with castings in which cores

are used, although it may be employed in connection with other kinds of castings, if desired. To facilitate opening and closing the mold, and simply as a matter of convenience and not of necessity, I provide one of the plates with a handle C, to enable it to be readily moved in or out of position.

It will be understood of course that the plates may be clamped or otherwise held securely together in position to contain the molten metal which is to form the casting.

In carrying out my invention, I preferably insert in the recesses in the plates which form the mold, and which are adapted to hold them, sand cores D, in such position that when the molten metal is poured in through the gate, E, of the mold, which gate is preferably made bell-shaped, it first contacts with the sand core, and, flowing along the same, enters and fills the recesses, F, to form the desired casting. The interior of the recesses, if desired, may be smoked or coated with lampblack, or similar means, to facilitate the flowing of the metal into them, and, in such cases, the sand core may, if desired, be dispensed with. The molten metal, as stated, flows along the sand core—where one is used—which it contacts all the time, and fills the spaces intended for the castings before it has an opportunity to blow, stick or blister.

In carrying out my improvement in connection with small castings that have no cores, I provide the bottom of the gate, each time the casting is reproduced, with a sand insert G, so that the molten metal will first strike this and be deflected to the chambers or recesses which form the casting. By this process, therefore, the molten metal, which would otherwise strike against the chilled iron casting, is prevented from cooling or sticking until it has entered the casting chambers.

The advantages to be derived by the use of my improvement are, that castings of any desired form may be produced and reproduced in desired quantities from a metallic mold, without destroying the mold in any way, other than the ordinary wear incidental to usage, and the same may be stored away for future use. The molten metal when poured in through the gate first contacts the

sand core or insert, where one is used, or the plumbago, lampblack or similar material, where that is used, and, before it has a chance to cool, is deflected or flows into the casting  
5 chamber, where it is allowed to set; when the mold is opened, the casting removed and the molten metal again poured in, and the operation repeated any number of times.

What I regard as new, and desire to secure  
10 by Letters Patent, is—

In metal molds for metallic castings, the combination of plates provided with several recesses in their face and forming casting

chambers when closed together, said chambers being connected with each other and 15 having their connecting chambers provided with a gate for introducing molten metal, the recesses being adapted to receive a sand core, and a sand core in such recesses for deflecting the molten metal as it enters the gate into 20 the several casting chambers, substantially as described.

NORVAL D. BAILEY.

Witnesses:

WM. LAWSON,  
JAS. K. BLISH.