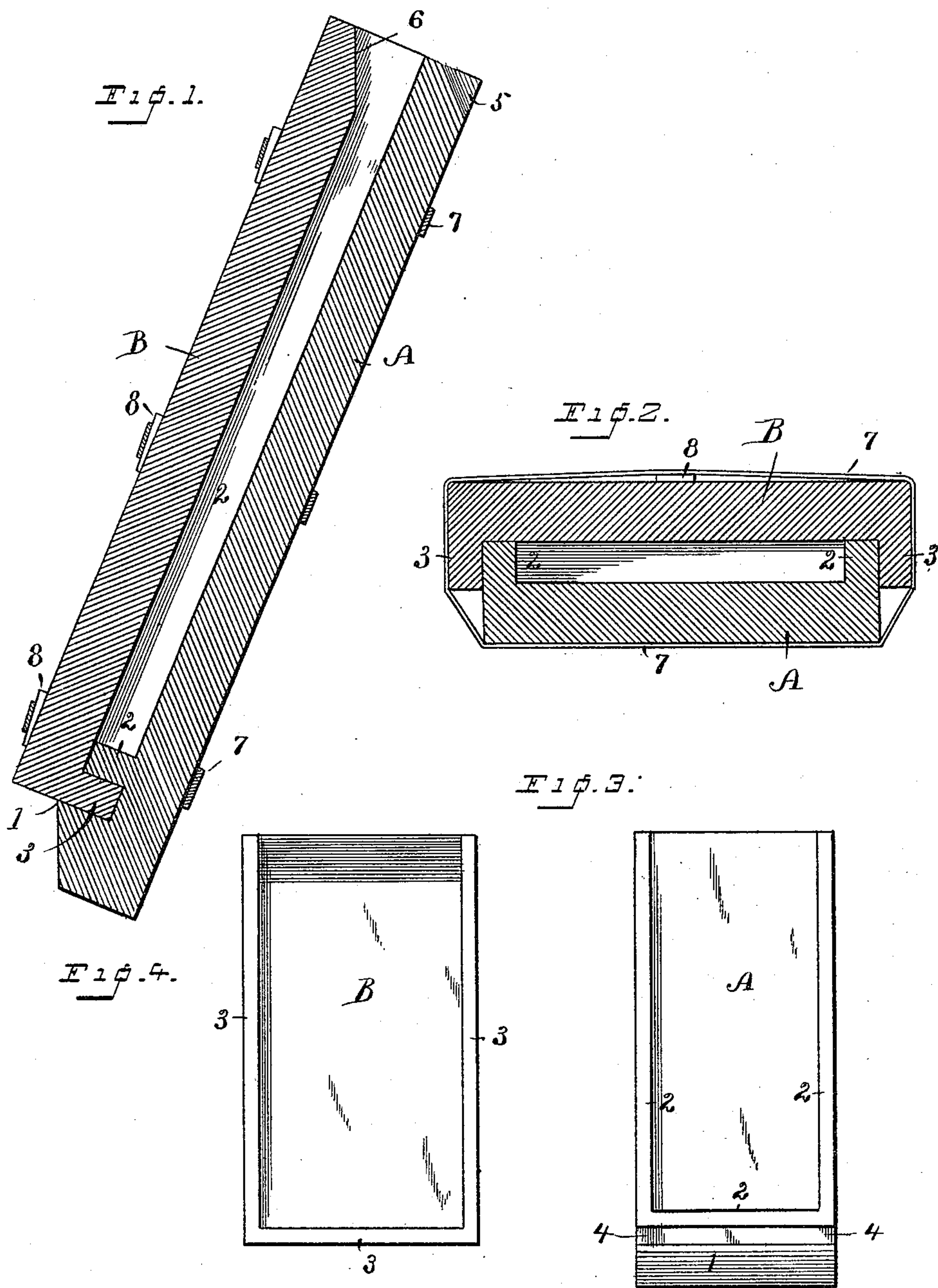


(No Model.)

W. ADAMS.  
MOLD FOR CASTING.

No. 440,801

Patented Nov. 18, 1890.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## MOLD FOR CASTING.

SPECIFICATION forming part of Letters Patent No. 440,801, dated November 18, 1890.

Application filed August 14, 1890. Serial No. 361,954. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM ADAMS, a citizen of the United States, residing at Ansonia, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Molds for Casting; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce a mold for casting brass and other alloys and metals which will enable me to produce a large-sized ingot or plate of metal with but slight waste of metal in the sprue, the parts of the mold being so constructed that they may be produced at a minimum expense, and the durability, especially of the backs of the molds, shall be greatly increased. It is a very serious objection to the various styles of molds for casting brass now in use and a source of great expense to manufacturers that the backs of the molds burn out, warp, and break, it being a quite common occurrence with the molds now in use for the backs to break out entirely during the first five heats. In order to overcome this objection and to produce a mold in which the backs will stand as long as the fronts, I have devised the novel construction which I will now describe, referring by numerals to the accompanying drawings forming part of this specification, in which—

Figure 1 is a vertical section of the parts of a mold secured together by metallic straps as in use; Fig. 2, a section at right angles to Fig. 1; Fig. 3, an elevation of the inner face of the back of the mold, and Fig. 4 is an elevation of the inner face of the front of the mold.

A and B denote, respectively, the back and front of the mold. The back is provided on its inner face on three sides with a flange 2, thus forming with the front the walls of the cavity into which the molten metal is poured, four out of the five walls being furnished by the single casting constituting the back. Below the transverse portion of flange 2 is a groove 4, adapted to receive a corresponding flange on the front, and below the groove is a transverse shoulder 1, which is higher than flange 2—that is to say, the shoul-

der projects outward farther from the inner face of the back than the flange does—the purpose of which will presently be explained. The front is provided with a flange 3, which is adapted to fit closely over flange 2 on the back, thus making of the mold a box perfectly closed on five sides when the parts are placed together, the vertical portions of flange 3 lying outside of the vertical portions of flange 2, and the transverse portion of flange 3 lying in groove 4 in the back—that is, between the transverse portion of flange 2 and the shoulder.

5 denotes a recess in the outer edge of the top of the back to receive the pot of molten metal in pouring, the object being simply to prevent the pot from slipping out of place. I preferably bevel the inner face of the front, as at 6, to facilitate the pouring of the metal.

In use the back is placed in an inclined position, substantially as shown in Fig. 1, and supported there in any suitable manner. The front is then laid against it, the upper portion of flanges 3 on the front lying outside of flanges 2 on the back, and then the front is allowed to slide down until stopped by shoulder 1. This permits the transverse portion of flange 3 on the front to drop into groove 4 in the back. In practice the under side of the shoulder is ordinarily beveled off, as shown in Fig. 1, to lighten the casting, although this is wholly immaterial so far as my invention is concerned. After the parts of the mold have been placed together, as shown in Figs. 1 and 2, they are ordinarily secured together by metallic straps 7, tightened by wedges 8 or in any ordinary or preferred manner.

It is of course well understood that when the metal shrinks in cooling it will drop away from the front and will rest against the back. The great amount of breakage of the backs of molds has, however, not been caused so much by the intense heat of the molten metal as by the fact that as the backs were constructed portions of the casting did not come in contact with the molten metal, which necessarily subjected the casting to the strain of unequal expansion and contraction. This resulted in the backs breaking away at the center and quickly becoming ruined.

My present mold is so constructed that all portions thereof with which the metal lies in



contact while cooling are cast in a single piece. This insures perfectly uniform heating of all portions of the casting constituting the back and in practice causes the backs to  
5 last, so far as I am able to determine, equally well with the fronts. I have at the end of one hundred and thirty heats found backs constructed in accordance with my present invention practically as good as new.

10 Having thus described my invention, I claim—

1. A mold for casting, consisting of a back having on its inner face on three sides thereof  
15 a flange, below the transverse portion of the flange a groove, and below the groove a shoulder, and a front having a flange on its inner face adapted to fit closely outside of the flange on the back, the transverse portion of said flange lying in the groove on the back.

20 2. A mold for casting, consisting of a back having on its inner face on three sides thereof a flange, below the flange a groove, and below the groove a shoulder of greater height than the flange, and a front having a flange

on its inner face on three sides adapted to  
25 fit outside of the flange on the back, so that when the front is placed over the back and slid down to place the transverse portion of the flange on the front will engage the shoulder on the back and drop into the groove,  
30 substantially as described and shown.

3. A mold for casting, consisting of a back having on its inner face on three sides thereof a flange, below the flange a groove, and below the groove a shoulder of greater height  
35 than the flange, in the outer edge of the top a recess 5, a front having a flange on its inner face on three sides adapted to fit closely outside of the flange on the back, and on its inner face at the top a bevel 6, as and for the purpose set forth. 40

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM ADAMS.

Witnesses:

A. M. WOOSTER,  
C. M. NEWMAN.