

F. BALDT, JR.
APPARATUS FOR CASTING ANCHORS.
APPLICATION FILED MAY 18, 1918.

1,282,012.

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Fig. 1

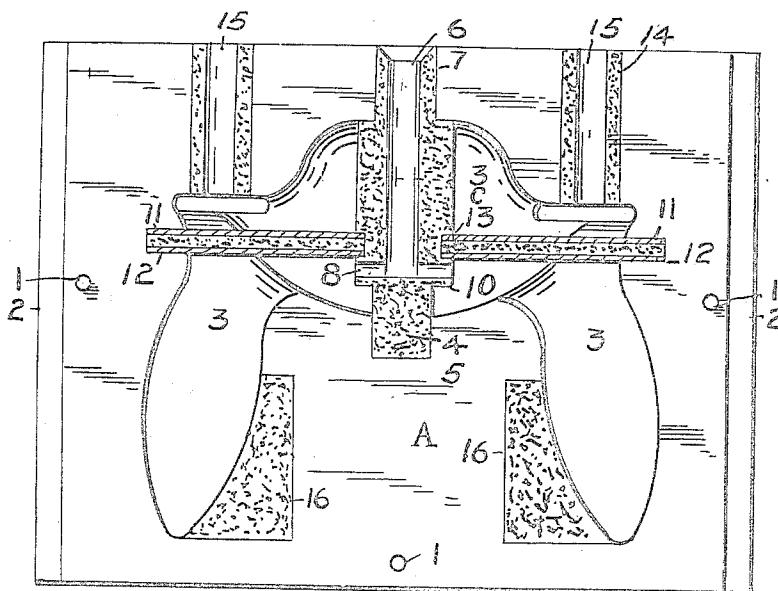
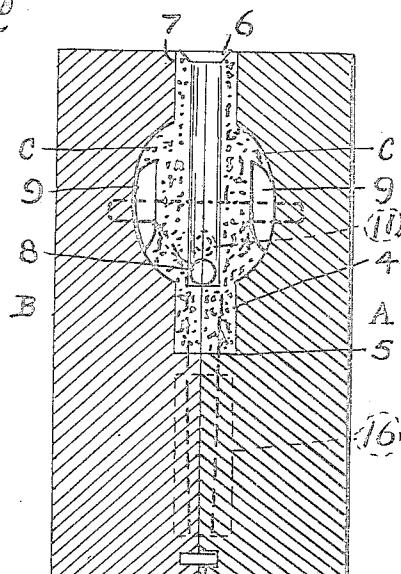


Fig. 2



WITNESS

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UNITED STATES PATENT OFFICE.

FREDERICK BALDT, JR., OF TARENTUM, PENNSYLVANIA.

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To all whom it may concern:

Be it known that I, FREDERICK BALDT, Jr., citizen of the United States, and residing in the borough of Tarentum, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Apparatus for Casting Anchors, of which the following is a specification.

10 My invention comprises a new and improved apparatus for casting the heads of stockless anchors.

In the accompanying drawings, which are merely intended to illustrate the principles 15 of my invention without limiting the scope of the same to the construction shown, Figure 1 is an inside face view of one of the permanent mold halves showing mounted therein one of the sand core halves for forming the central recess in the head, while Fig. 2 is a central vertical cross-section of the 20 assembled mold ready for the pouring.

The following is a detailed description 25 of the drawings.

A and B represent the two halves of the permanent mold, adapted to be properly positioned together, as by means of the dowels 1. The mold halves are preferably provided with side flanges 2 for convenience in 30 handling. Each of said mold halves is provided on its inner face with the necessary hollow or depression 3, so that when the mold halves are assembled and the metal poured, the head of the anchor and its integral flukes will be formed.

The type of anchor for which my invention is especially intended is the stockless anchor wherein the shank or stem is pivotally attached in a central recess in the 40 head.

This recess I form by means of a sand core made in two similar halves C, one of which is mounted in each of the permanent mold halves. The inner end of each of the 45 core halves is provided with a foot 4, which fits into a corresponding print 5 in the permanent mold half. Each of said core halves is provided with one half 6 of a pouring gate which extends up through a corresponding half 7 of a hole formed in each 50 permanent mold half, so that when the mold is assembled, a pouring gate is formed extending down from the top of the mold into the sand core. From the inner end of the 55 pouring gate, branches extend through the sand core to distribute the metal to either

end of the head, these branches being formed in two halves 8 in each of the said core halves, as shown in Fig. 1.

The sand core is provided with an opening 9 at either side for the flow of the metal to form the side walls of the central recess in the head, connecting the end portions of the head together.

The lower end of the core, at either side of the feet 4, is rounded off, as at 10, to form semi-circular or arc-shape internal shoulders in the recess upon which the cylindrical cross head of the shank is to bear and rotate.

I prefer to provide additional means for pivotally attaching the shank or stem to the head, consisting of a pivot pin or shaft extending through a longitudinal hole in the head and an alined hole in the shank, such latter hole being concentric with the cylindrical cross head of the shank or stem. The longitudinal hole in the head I form in casting by means of two lengths of iron pipe 11, tamped full of sand, having their outer ends 80 stepped in prints 12 in the permanent mold halves and their inner ends stepped in similar prints 13 in the sand core. In Fig. 1, I show these pipes sectioned longitudinally for the sake of clearness but it will be 85 understood that the pipes are each complete in one piece. Of course, if desired, the cylindrical sand cores may be substituted for the pipe, but I prefer the latter for the sake of convenience and time saving.

Each permanent mold half is provided with one half 14 of a feed hole at either side of the pouring hole, so that when the mold is assembled, an opening is formed at either end extending up from either end of the 95 main cavity 3. These holes are preferably provided with a lining consisting of sand core halves 15 to save the permanent mold.

To permit shrinkage and the escape of gas, along the inner edges of the portions of the cavity 3, wherein the flukes are cast, I prefer to provide recesses 16 in the mold halves, which recesses are tamped full of sand to form the inner edge wall of the fluke molds when the permanent mold is assembled.

In practice, the core halves C are mounted in the permanent mold halves, the pipes 11 are placed in position in one of the sand core halves, the recesses 16 are tamped full 110 of sand and the linings 15 are placed in the openings or grooves 14. The mold halves

are then assembled and the metal poured through the gate 6 until the flow of metal up through the holes 14 shows that the mold is full. The pouring then ceases and the 5 casting is allowed to harden. The permanent mold is then taken apart and the casting removed. The sand core is then tapped out of the central opening in the head and the neck of metal, solidified in the 10 gate 6 and the branches 8, is removed and the neck of metal in the test holes broken off. The pipes 11 may be removed or the sand tapped out of the same. The casting may then be finished and annealed.

15 I prefer to leave the pipe 11 in place and tap the sand out of the same, so that the pipes form the lining of the pivot pin hole, but if desired the pipes may be removed bodily from the casting.

20 The advantages of my improved apparatus are manifold. Among them may be mentioned the saving in time and expense of preparing a fresh sand mold for each anchor. Also the product is more uniform 25 and accurate in dimensions and parts, and the permanent mold may be used over and over again with no impairment of product.

What I desire to claim is:—

1. Apparatus for casting the heads of 30 stockless anchors consisting of a two part permanent outer mold having an internal cavity for forming the head and flukes, and a sand core for forming the central recess in the head, said sand core being in two 35 parts, one part of the same being mounted in each of said permanent mold halves, substantially as described.

2. Apparatus for casting the heads of stockless anchors consisting of a two part 40 permanent outer mold having an internal cavity for forming the head and flukes, and a sand core mounted within said permanent mold for forming the central recess in the head, said sand core being in two parts, one 45 part of the same being mounted in each of said permanent mold halves, and the core being provided with a pouring gate extending downwardly from the top of the mold for the admission of the metal to the mold, 50 substantially as described.

3. Apparatus for casting the heads of stockless anchors consisting of a two part permanent outer mold having an internal cavity for forming the head and flukes, and a sand core mounted within said permanent 55 mold for forming the central recess in the head, said sand core being in two parts, one part of the same being mounted in each of said permanent mold halves, and the core being provided with a central pouring gate 60 extending downwardly from the top of the mold, and lateral branches at the bottom of said gate for the distribution of the metal to the permanent mold, substantially as described.

4. Apparatus for casting the heads of stockless anchors consisting of a two part permanent outer mold having an internal cavity for forming the head and flukes, and a sand core mounted within said permanent 70 mold for forming the central recess in the head, said sand core being in two parts, one part of the same being mounted in each of said permanent mold halves, and the core being provided with a gate extending downwardly from the top of the mold for the admission of the metal into the permanent mold and the permanent mold being provided at its ends with feed holes at either side of the gate, substantially as described. 80

5. Apparatus for casting the heads of stockless anchors consisting of a two part permanent outer mold having an internal cavity for forming the head and flukes and said cavity being provided with recesses 85 along the inner edges of the flukes to be packed with sand, and a sand core mounted within said permanent mold for forming the central recess in the head, said sand core being in two parts, one part of the same 90 being mounted in each of said permanent mold halves, and the core being provided with a gate extending downwardly from the top of the mold for the admission of the metal into the interior of the permanent mold, substantially as described.

Signed at Pittsburgh, Pa., this 11th day of May, 1918.

FREDERICK BALDT, JR.