

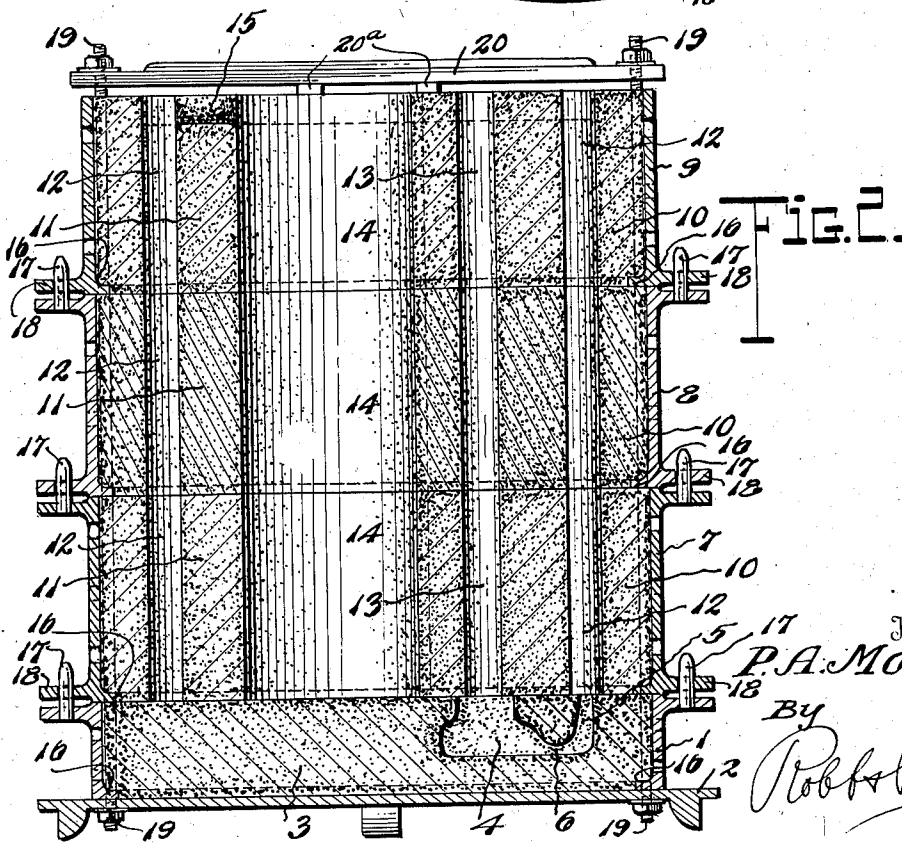
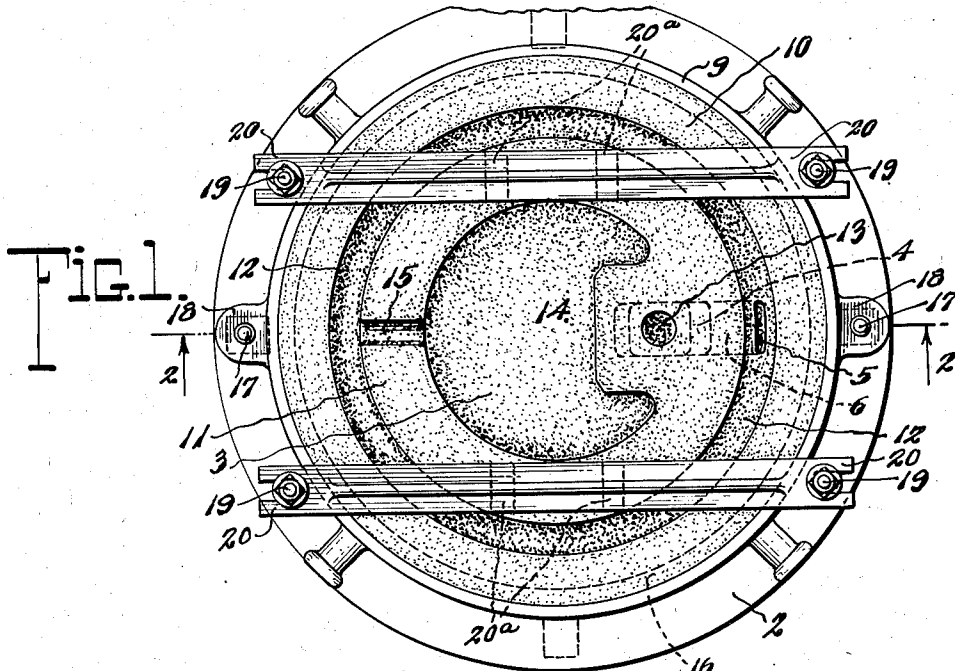
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SECTIONAL MOLD

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SECTIONAL MOLD

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5 Claims. (Cl. 22—200)

The present invention relates to improvements in dry sand molds and to a new method of preparing such molds for casting cylinders and like objects.

5 One of the primary objects of my invention is the provision of a sectional mold so constructed and arranged as to enable the use of relatively short cylinder patterns of the proper diameter for producing any desired length of cylinder casting, thus eliminating the necessity of providing a separate pattern for each length cylinder casting that may be required.

15 A further object in view is to provide means in the molds of this type for entrapping any loose sand or slag preliminary to the flowing of the molten metal into the mold cavity proper to prevent formations of imperfections in the casting.

20 A still further objective resides in the provision of means in a multi-section mold for regulating the length of the casting, whereby the simple process of merely adding a particular section—one having an overflow gate—effectively controls the overall length of the casting.

25 Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing:

30 Fig. 1 is a top plan view of a mold constructed in accordance with my invention; and

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1.

35 Like reference characters designate corresponding parts in the several figures of the drawing.

40 Referring to the drawing, 1 designates the drag or base section which is mounted upon the base plate 2. In this base section the sand 3 is compacted in the usual manner and so as to form a pocket or enlarged cavity 4 and a vertical passage 5 disposed to communicate with the mold cavity proper as hereinafter set forth. The passage 5 is formed with a constricted neck 6 which functions in an important manner in the method of pouring, as will be later explained.

45 Upon the base section is positioned any desired number of corresponding cheek sections 7 and 8 together with the cope section 9. Each of these sections is composed of a conventional flask in which the outer mold wall 10 of sand is contained and, in proper spaced relation, the core 11 forming the inner sand wall, thus providing the mold cavity proper 12.

55 The core of each section is also formed with a

pouring sprue 13 which is aligned with the mouth of the cavity or pocket 4. Similarly each core section is also provided with a relatively large chamber 14 bottomed by the sand 3 of the base section when the mold is assembled to thereby form which I call an overflow or surplus chamber within the confines of the core.

5 Each of sections 7, 8 and 9 is thus correspondingly constructed except as regards the top section which has, in addition, a transverse gate 15 in the core constituting an overflow or gauging passage, establishing communication between the mold cavity proper and the surplus chamber before mentioned.

10 It is obvious from the foregoing that the position of the section with the overflow 15 controls the length of the cylinder in any arrangement of the superposed sections and hence it should be placed preferably at the top sections of any mold combination.

20 It should be added that each flask section is provided with an internal, annular flange 16 which helps support the outer sand wall 10 and with the usual aligning pins 17 to engage cooperative aperture ears 18. In the assembly of the mold apparatus, each flask section with its mold sand is disposed in its proper position, one upon the other. The core sections 11 are properly disposed in spaced relation to the outer wall sections 10 and held in such position by means of the long clamping bolts 19 and the cross bars 20, pressure blocks 20a being positioned between said bars 20 and the top core section 11.

25 In following my method of casting, the molten metal is poured into the sprue 13 aligned with the pocket 4 into which it passes. Any loose sand or slag, being lighter than the metal, will be trapped in this pocket while the metal will pass through the choked neck 6 and into the mold cavity proper 12. The pouring of the metal is continued until it flows over into the chamber 14, through gate 15, the overflow carrying with it the froth, dross, and other impurities which pass the entrance cavity.

30 A casting of high quality and proper length will thus result and since each of the mold sections may be formed by a relatively short pattern of proper diameter and such sections superimposed in sufficient numbers to form the whole, a very economical method of casting different cylinder lengths is thus devised.

35 While the specific details of construction have been herein shown and described, the invention is not confined thereto as alterations may be 55

