

(No Model.)

2 Sheets—Sheet 1.

A. CORDINGLY.
CHILL MOLD.

No. 461,412.

Patented Oct. 13, 1891.

Fig. 1.

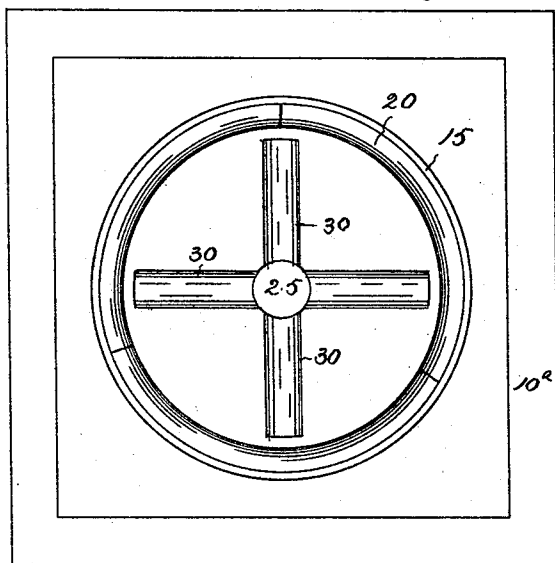
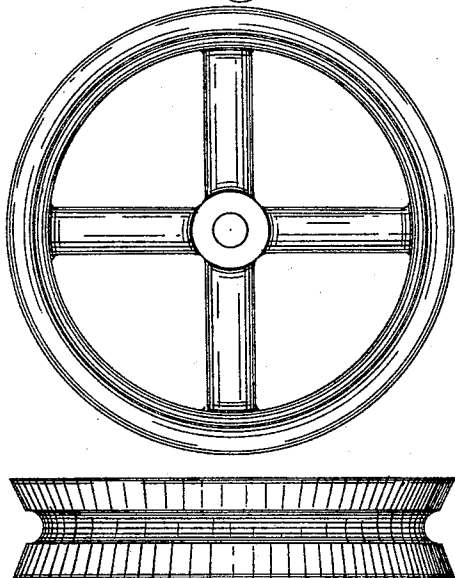


Fig. 5



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Fig. 6.

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2 Sheets—Sheet 2.

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Fig. 2.

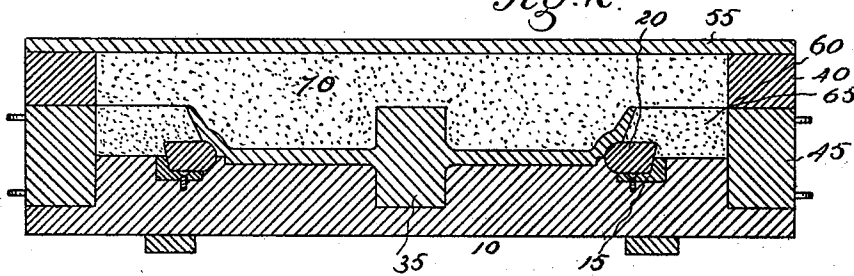


Fig. 3.

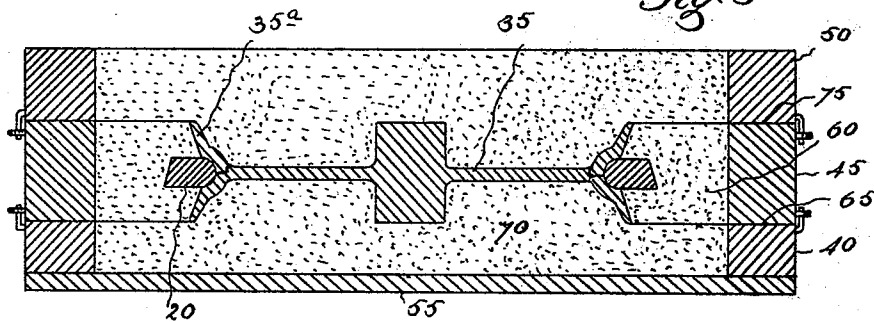
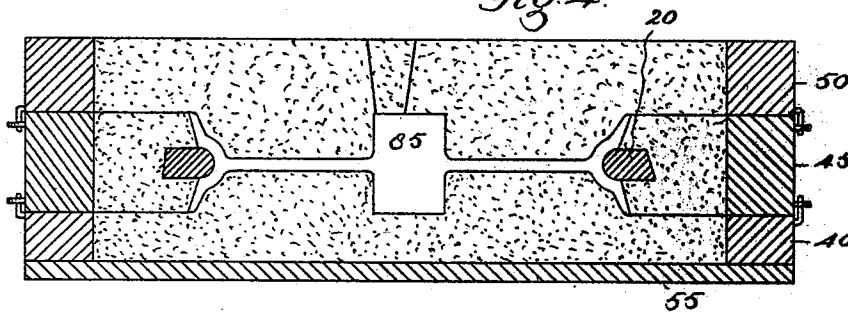


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALFRED CORDINGLY, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO
ABRAHAM GOODSTEIN, OF SAME PLACE.

CHILL-MOLD.

SPECIFICATION forming part of Letters Patent No. 461,412, dated October 13, 1891.

Application filed April 20, 1891. Serial No. 389,698. (No model.)

To all whom it may concern:

Be it known that I, ALFRED CORDINGLY, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Chill-Mold Apparatus; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in chill-molds for castings.

My improved apparatus, as shown in the drawings and hereinafter described, has special reference to or is specially designed for casting cable pulleys or those having a circumferential groove in their peripheries, which groove is engaged by the cable, though it will be found advantageous in forming chill-molds generally. In molding sheaves of this description the chill is so constructed and occupies such a position in the mold that it forms the groove or depression in the periphery of the pulley, since increased hardness is required in this part of the pulley. In this class of chill-molding as heretofore generally practiced great difficulty has been experienced in the proper and accurate location of the chill so as to form true castings. The result is that this part of the work has demanded the attention of mechanics of superior skill.

My improved apparatus is designed to overcome this difficulty; and it consists in constructing a follow-board provided with a stationary bearing or seat for the chill, said bearing consisting of an annular depression in the board, said depression or bearing being preferably formed by setting into the board a metal ring of such shape as to receive the chill which is embedded therein to the parting line between the cope and drag. Hence, by my improved apparatus, it is only necessary to have the follow-board perfectly constructed, after which there can be no difficulty in properly locating the chill. It will

be observed that the same follow-board can be successively used in casting all pulleys of the same construction.

My invention will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment of my improved apparatus.

In the drawings, Figure 1 is a plan view of my improved follow-board with the chill in place. Fig. 2 is a vertical section of the same, with a portion of the pattern in place. The drag and cheek with the sand packed therein are also shown in this view, together with the bottom board, which is in place preparatory to turning. Fig. 3 is a vertical section taken through the complete flask. In this view the apparatus rests upon the bottom board, the follow-board has been removed, the pattern completed, and the cope placed in position and packed with sand to complete the mold. Fig. 4 is a vertical section taken through the mold. Figs. 5 and 6 are top and edge views, respectively, of the pulley formed in said mold.

In the views, wherein similar reference characters indicate corresponding parts of the mechanism, let the numeral 10 designate the follow-board generally, which is provided with the bearing 15 for the chill 20.

25 designates a depression for the reception of the hub of the pattern, while 30 30, &c., indicates the spoke-depressions. The pattern, as shown in Figs. 2 and 3, is formed in two parts 35 and 35^a, this construction being used in order to permit the removal of the same from the flask.

In the use of my improved follow-board I employ a three-part flask consisting of the drag 40, the cheek 45, and the cope 50. The drag is provided with the bottom board 55. The chill, which is suitably shaped, is first placed within bearing 15 of the follow-board, after which part 35 of the pattern is placed in depressions 25 and 30. The cheek is then placed in position upon a shoulder 10^a of the follow-board, and the sand 60 tamped therein.

65 indicates the parting line between the cheek and drag. The surface of the sand 60 is covered with dry sand on this line in the usual manner.

70 designates the sand tamped on the pattern above the parting line, or the portion which is held by the drag and covered by the bottom board. After tamping in sand 70 and placing the bottom board in position, the apparatus is inverted to the position shown in Fig. 3, and resting upon the bottom board. The follow-board is then removed, the pattern part 35^a placed in position, the cope located, the sand tamped in around the cheek, completing the portion heretofore designated as 60.

Let 75 designate the parting line between the cope and cheek. The cope is then tamped full of sand 80. The pattern is now removed and the cope and drag again placed in position, forming the complete mold 85, (shown in

Fig. 4,) with the chill properly located to secure accuracy in casting the pulley.

Having thus described my invention, what I claim is—

In an apparatus for forming chill-molds, the combination, with the chill, of a follow-board provided with an annular depression adapted to receive the chill to its circumferential center and support the same in place while half the flask is being filled, substantially as described.

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

ALFRED CORDINGLY.

Witnesses:

WM. MCCONNELL,
G. J. ROLLANDET.