H. S. HANSTINE.

MOLDING APPARATUS.

APPLICATION FILED MAR. 6, 1920.

1,347,093.

Patented July 20, 1920.

Fig 1

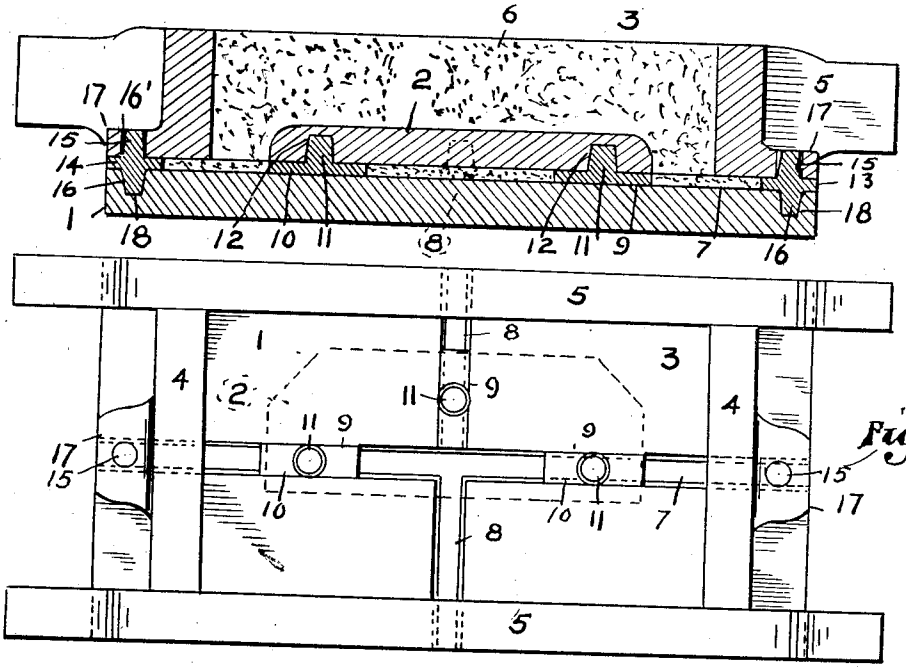


Fig. 2

Fig. 3

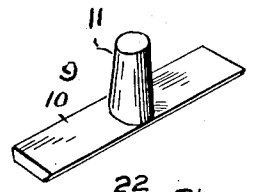
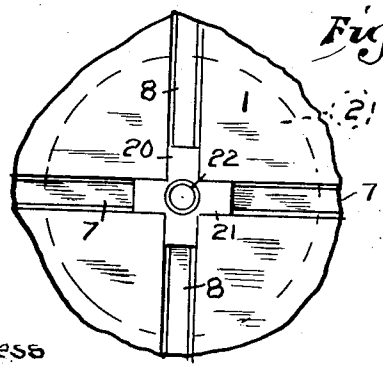


Fig 4



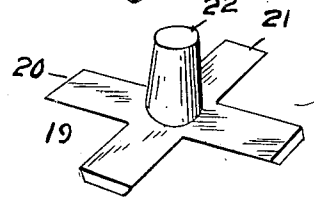


Fig 5

Witness

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MOLDING APPARATUS.

1,347,093. Specification of Letters Patent. Patented July 20, 1920.

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To all whom it may concern:

Be it known that I, HARRY S. HANSTINE, a citizen of the United States, residing at Ambridge, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Molding Apparatus, of which the following is a specification.

This invention relates to new and useful improvements in molding apparatus, more particularly to a device of such class for molding castings from split patterns, and the primary object of the invention is to provide a device of the type stated, in a manner as hereinafter set forth, which will greatly facilitate the alinement of the sections of the pattern upon the match board, so that the mold formed, respectively in the cope and drag of the flask by said sections of the split pattern, will register perfectly with respect to each other.

Further objects of the invention are to provide a device of the character described which is simple in its construction and arrangement, strong, durable and efficient in its use, and comparatively inexpensive to manufacture.

To the accomplishment of these and such other objects as may hereinafter appear the invention consists of the novel construction, combination and arrangement of parts herein specifically described and illustrated in the accompanying drawing wherein is shown an embodiment of the invention, but it is to be understood that changes, variations, and modifications may be resorted to which come within the scope of the claim hereunto appended.

In the drawing forming a portion of this specification and wherein like numerals of reference designate corresponding parts throughout the several views:

Figure 1 is a longitudinal sectional view of the match board and part of the flask, the former showing a section of a split pattern mounted thereon and embedded in loam.

Fig. 2 is a top plan view of the molding device.

Fig. 3 is a perspective view of one of the alining members.

Fig. 4 is a fragmentary top plan view of the match board having mounted thereon an alining member adapted for alining patterns which are circular in contour.

Fig. 5 is a perspective view of the alining member used in connection with the alinement of circular patterns.

Referring in detail to the drawing 1 indicates the flat rectangular match board, upon which is mounted a section 2 of a split pattern. A flask 3 is detachably mounted on the match board 1 and consists of the end members 4 and the side members 5, respectively. The section 2, of the pattern is embedded in the molding loam 6 with which the flask 3 is completely filled.

The match board 1, in the top thereof, is formed with a centrally disposed longitudinally extending shallow groove 7 which extends along its entire length, and with the transverse centrally disposed shallow groove 8 which extends along the entire width of the match board and which crosses the longitudinally extending groove 7 at a point approximately central of the match board 1.

The grooves 7 and 8 form the seats for the alining members 9 which comprise a flat elongated body portion 10 integrally formed with a vertically extending pin 11. The body portion 10 of the alining members is adapted to seat in said grooves 7 and 8 and may be shifted longitudinally therein to the position required.

When constructing the split patterns for which my improved molding apparatus is designed, the pattern-maker will provide registering apertures 12 in each of the sections of the pattern opening into the split of the pattern. When three such apertures 12 are provided and arranged as shown in Fig. 2, of the drawing, the section of the pattern is alined upon the match board by positioning two alining members 9 in the long groove 7, one on either side of the transverse groove 8, and one alining member 9 in the transverse groove 8. By shifting the alining members 9 in respective grooves until the pins 11 of the former engage in respective apertures 12, the section of the pattern will be fixedly set upon the match board and cannot move in either direction. When the mold from one section of the pattern is completed, the other section is alined on the match board in identically the same manner as the first section with the exception that the alining member 9 in the transverse groove 8 is shifted to the other side of the long groove 7 to permit the engagement of the pin 11 thereof with the aperture 12 which

is in reverse position with respect to the first section of the pattern, on the match board.

To assure the registration of the mold in one flask with that in the other, the flasks containing each are positioned upon the match board in the same position while forming the molds. For this purpose a pair of detachable securing members 13 is provided. One of these securing members 13 is mounted at each end of the long groove 7 on the match board 1. The securing members 13 comprise a flat body portion 14, a vertical pin 15 and a depending pin 16. The vertical pin 15 is adapted to engage in the aperture 16′ in the lug 17 formed on the outer face of each of the end members 4 while the depending pin 16 engages in the aperture 18 formed in each end of the long groove 7 in the match board 1.

The alining member 19 consists of a pair of right angularly disposed cross arms 20 and 21 having a centrally positioned vertical pin 22. This form of alining member is employed when castings are made from circular split patterns and no other alinement, except at the point of juncture, is required. The alining member 19 is positioned upon the match board by placing one of the cross arms in the long groove 7 and the other of the cross arms in the transverse groove 8 at the point of intersection of the two grooves 7 and 8. The pin 22 is adapted to engage in an aperture centrally disposed in each section of the circular pattern.

It will be apparent that a molding apparatus of my improved construction will greatly facilitate the alinment of the sections of a split pattern upon the match board with respect to each other and provide for the economical manufacture of castings from such patterns.

What I claim is:

In a molding apparatus a match board provided with intermeshing grooves, and a plurality of alining and retaining elements removably mounted in said grooves and each comprising a body portion and a pin.

In testimony whereof I affix my signature.

HARRY S. HANSTINE.