

C. W. BLUE.
 FLASK FOR FORMING GATED MOLDS.
 APPLICATION FILED JUNE 9, 1909.

936,081.

Patented Oct. 5, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

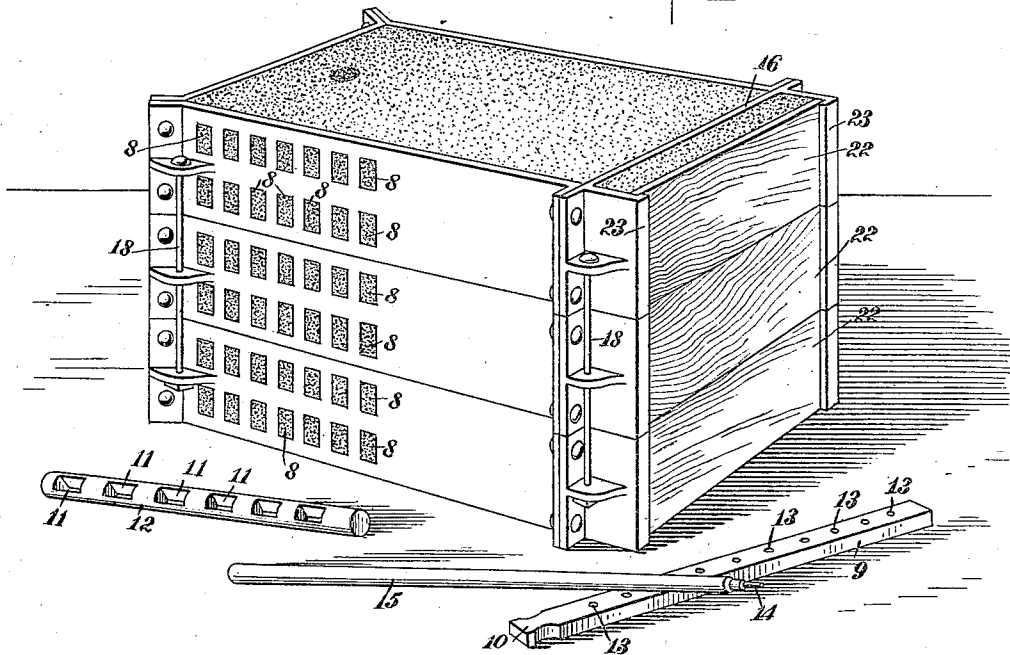


Fig. 2.

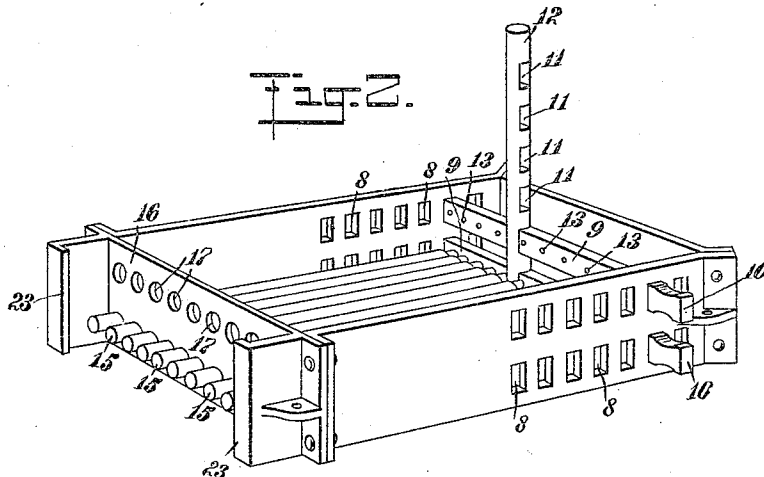
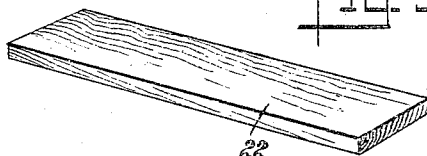


Fig. 3.



WITNESSES

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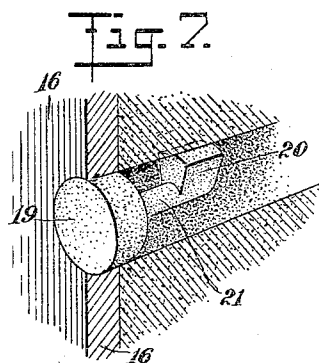
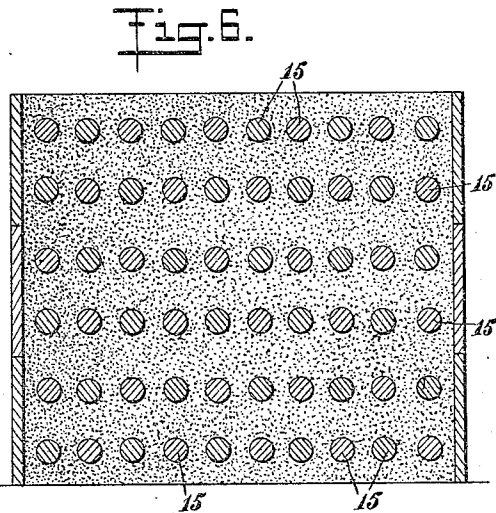
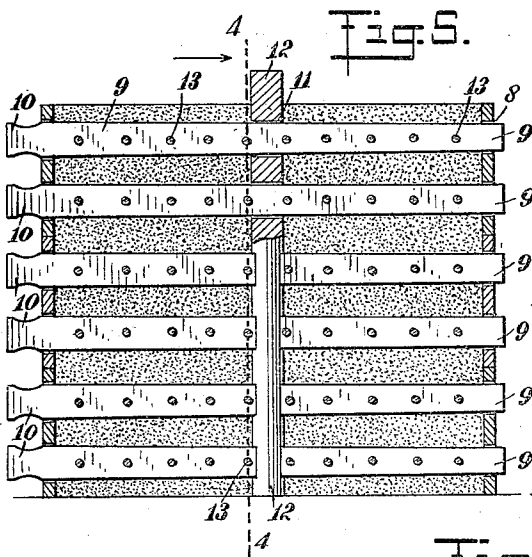
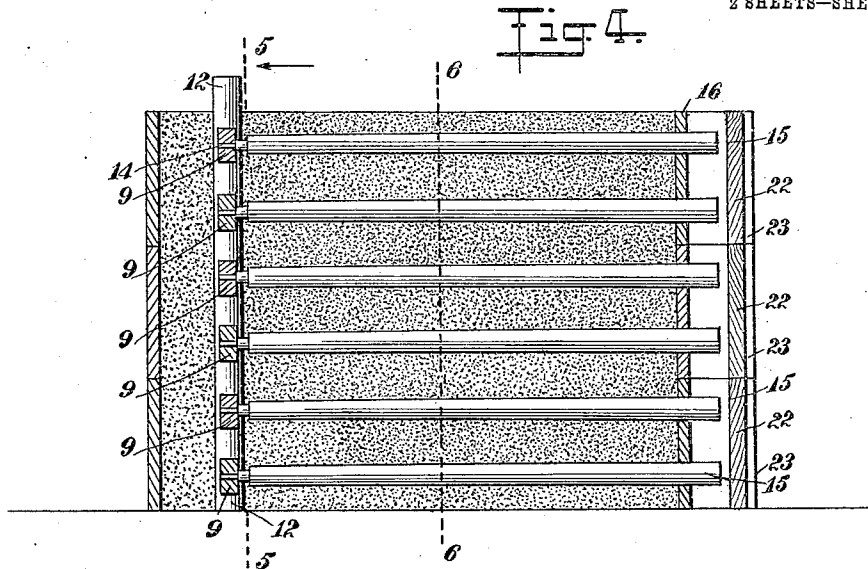
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UNITED STATES PATENT OFFICE.

CHILTON WITHERS BLUE, OF MONTGOMERY, ALABAMA, ASSIGNOR TO JANNEY & COMPANY, OF MONTGOMERY, ALABAMA.

FLASK FOR FORMING GATED MOLDS.

936,081.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed June 9, 1909. Serial No. 501,007.

To all whom it may concern:

Be it known that I, CHILTON W. BLUE, a citizen of the United States, and a resident of Montgomery, in the county of Montgomery and State of Alabama, have invented a certain new and useful Improvement in Flasks for Forming Gated Molds, of which the following is a full, clear, and exact description.

10 The principal objects which the present invention has in view are: to provide a construction for flasks wherein the molds may be varied in size; to provide a flask wherein the gated molds may be formed in tiers, and the pattern members withdrawn therefrom; 15 to provide flasks wherein the cores may be inserted from the outside of the flask and held firmly in position; and to provide a flask adapted to be mounted in tiers and arranged to accommodate molds of various sizes. 20

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, wherein like characters of reference indicate corresponding parts in all the views. 25

Figure 1 is a perspective view of a tier of flasks constructed in accordance with my invention, rammed and ready for the pouring, this view showing the gate and mold patterns for casting sash weights; Fig. 2 is a perspective view of a flask, showing set in position the gate patterns, and the lower tier of mold patterns for casting sash weights; 30 Fig. 3 is a perspective view of the backing board used in conjunction with the present invention; Fig. 4 is a vertical longitudinal section taken on the line 4—4 in Fig. 5, of a tier of flasks having the gate and mold patterns in position before being withdrawn from the sand; Fig. 5 is a cross section, taken on the line 5—5, of the tier shown in Fig. 4; Fig. 6 is a cross section of the same, taken on the line 6—6 in Fig. 4; and Fig. 7 45 is a perspective view partly in section, showing the manner of inserting the end cores for forming the sash cord holes in sash weights.

While the present invention has a wider scope of adaptation than its employment alone for the casting of sash weights, I have shown in the drawings the adaptation of the invention for that purpose. 50

The flasks are rectilinear in form, and joined in the manner shown particularly in Fig. 2 of the drawings. In the sides, the 55

flasks are provided with oppositely disposed squared perforations 8, 8, which are equal in size, and are adapted to hold snugly, the cross gate patterns 9, 9, which are extended between and rest within the same, as shown 60 in Figs. 2 and 5 of the drawings. The cross gate patterns are provided with handles 10, 10, whereby they may be withdrawn from the mold after the sand has been rammed. A series of holes 11, 11, is also provided in a 65 central gate pattern 12, the latter being cylindrical in shape, and of sufficient length to extend through the tier formed by the series of joined flasks. The perforations 11, 11, are provided to pass and hold the patterns 9, 9, 70 and to be supported thereby. The patterns 9, 9, are further provided with a series of holes 13, 13, into which are extended pins 14, 14, provided in the end of the sash weight patterns 15, 15. The patterns 15, 15, are 75 adapted to be extended lengthwise and parallel within the flask as shown in Figs. 2, 4 and 6 of the drawings, and are supported in this position by a partition 16 formed in the flasks. 80

The partition 16 is provided with a series of holes 17, 17, through which the patterns 15, 15, are extended, as shown in Fig. 2 of the drawings, and rest within the holes 17, 17, and 13, 13, while the sand is being rammed 85 in each flask. When the sand has been thoroughly rammed in each of the flasks, and the flasks bolted together by the retaining bolts 18, 18, as shown in Fig. 1 of the drawings, the patterns 15, 15, are withdrawn 90 from the sand, and through the supporting holes 13, 13, and 17, 17. Through the partition 16 and within the molds formed by the patterns 15, 15, are now inserted cores 19. The cores 19 are provided with hook ends 20 95 and a neck 21 which produce the longitudinal and lateral perforation to insert and retain the sash cord in the completed sash weight. When the cores 19 have been placed in position as shown in Fig. 7 of the draw- 100 ings, tail boards 22, 22, are placed in position against flanges 23, 23, with which the flasks are provided. The assembled boards 22, 22, form a vertical channel at the rear of the partitions 16, 16, which is now packed with 105 sand and rammed. This ramming holds the cores 19, 19, firmly in position.

With flasks and patterns thus constructed, the operation of preparing molds for casting is as follows: The initial flask is placed upon 110

the molding floor. The pattern 12 is mounted in an upright position, and the lowermost of the patterns 9, 9, is extended through the holes 8, 8, in the opposite side of the flask and through the lowermost hole 11 in the pattern 12. It is according to the length desired for the weights that the holes 8, 8, are selected. If the weights are desired of short length, the first of the series of holes 8, 8, are employed to support the patterns 9, 9. If longer lengths are desired, the patterns 9, 9, are inserted in holes 8, 8, further removed from the partition 16. The second pattern 9 is then inserted through the holes 8, 8, and holes 11 of the pattern 12. With the introduction of the second pattern 9 the pattern 12 is held firmly in its upright position. The lower tier of patterns 15, 15, are now inserted through the holes 17, 17, in the partition 16, and the pins 14, 14, are placed within the holes 13, 13, in the lowermost pattern 9. The patterns 15, 15, are sufficiently long to reach the full length of the flask, therefore, if the adjustment of the patterns 9, 9, be through the holes 8, 8, nearer the partition 16, the unused portions of the patterns 15, 15, extend outward beyond the partition 16. When the row of patterns 15, 15, are thus seated, sand is sifted into the flask and rammed lightly until the patterns 15, 15, are covered. The second row of patterns 15, 15, are then inserted in the same manner as the first row. The sand is again sifted into the flask, and rammed, this action being continued until the flask is completely filled and hard rammed. The second flask is now adjusted upon the first, and the operation of inserting the patterns 9, 9, and the patterns 15, 15, is performed for the second flask, as described for the first. When this flask is completely filled with sand and rammed, the third of the series is placed in position. As many flasks are placed in tier form as desired, and as the length of the pattern 12 will permit. When the completed tier is formed, it will be found that the ends of the patterns 15, 15, are extended beyond the partition 16. These patterns are now withdrawn from the sand, and the cores 19 are inserted in the ends of the molds left by the withdrawal of the patterns 15, 15. Care is taken in introducing the cores 19, 19, that the hook end 20 shall rest against the side of the wall of the mold, as shown in Fig. 7 of the drawings. When the cores 19, 19, are introduced within the molds, the tail boards 22, 22, are inserted in position against the flanges 23, 23, at the outside of the partition 16. As each board is placed in position, sand is lightly rammed into the space between the said boards and said partition, to firmly hold and not dislodge the cores 19, 19. The patterns 9, 9, are now withdrawn from the flask and sand. With the withdrawal of the patterns 9, 9, the pattern 12 is free to be lifted

vertically from the sand, forming thereby the pouring gate. The holes 8, 8, from which the patterns 9, 9, have been drawn, are suitably stopped or plugged with molders' clay, and the molds are in position to receive the pour.

Should it be necessary, when filling the mold, to close the holes 8, 8, not being used, this may be accomplished by any at hand expedient; such, for instance, as thin piece of board, or molders' clay, passed over the opening. As a rule, this is not required, as the sand has consistency enough to close the non-used openings.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. Flasks for forming gated molds, comprising side members having a plurality of oppositely-disposed perforations adapted to receive and hold cross gate patterns, a pouring gate pattern having perforations extended transversely therethrough to receive said cross gate patterns, said pouring gate pattern being adapted to extend throughout the tier of flasks, a stationary partition extended between the side members of the flask and adapted to support and pass the casting patterns, extensions set out from the said side members beyond the said partitions, and end members adapted to be supported and guided by said extensions to form a channel at the outside of the said partition.

2. Flasks for forming gated molds, comprising side members having a plurality of oppositely-disposed perforations adapted to receive and hold cross gate patterns, a pouring gate pattern having perforations extended transversely therethrough to receive said cross gate patterns, cross gate patterns adapted to extend through said perforations in said side members and gate pouring patterns and having a series of perforations to hold the end of the casting patterns, a stationary partition extended between the side members of the flask and having perforations adapted to support and pass the casting patterns, a plurality of casting patterns shaped to extend through the perforations in said partition and having engaging members adapted to rest in the perforations in said cross gate patterns, flanged extensions set out from the ends of said side members, beyond the said partitions, and end members adapted to be supported and guided by said extensions to form a channel to the outside of the said partitions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHILTON WITHERS BLUE.

Witnesses:

J. G. JONES,
G. S. WILSON.