

May 11, 1926.

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MOLDING DEVICE

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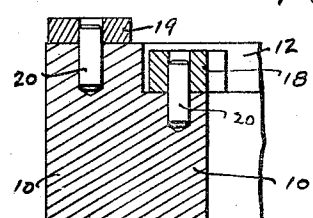
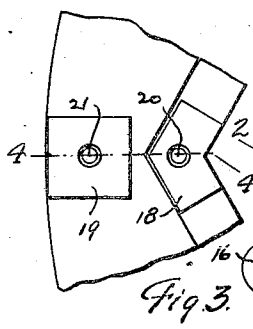
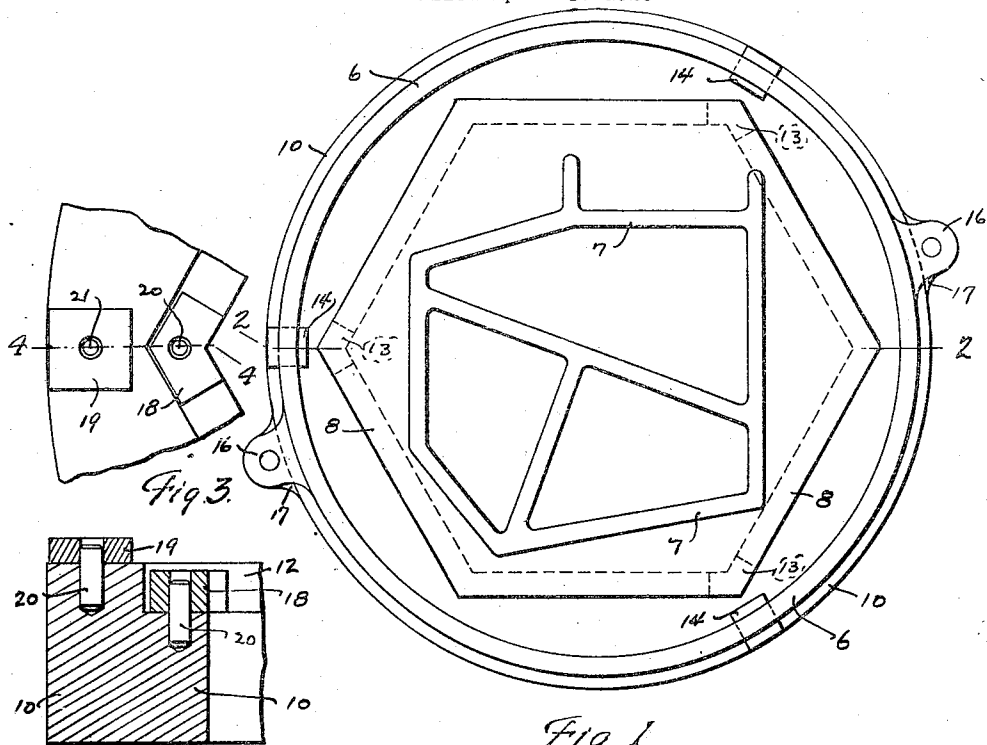


Fig. 4.

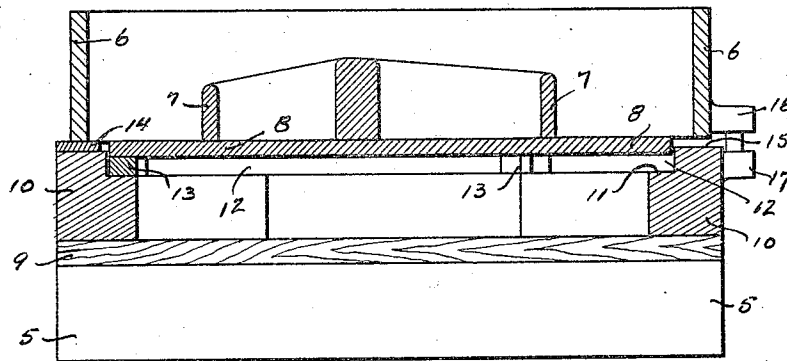


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## MOLDING DEVICE.

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My invention relates in general to molding devices, and more particularly to equalizing means for use in connection with molding machines of the jar ramming type.

5 It is well known by those skilled in the art that it is impossible to make large patterns, or molding flasks, lie perfectly even and flat upon a smooth, flat surface. For this reason, therefore, it has been found that  
10 when large patterns are molded on a jar ramming machine, the sand does not pack uniformly around the pattern, and portions thereof will either stick to the pattern or drop from the mold after the pattern has  
15 been removed. Such a condition would probably be obviated, if the pattern and the flask could have true surfaces, but this is not possible in present practice.

I have found, therefore, that some means  
20 must be provided for suitably supporting the pattern and the flask, whereby they will have a firm and proper support, no matter how irregular the bottom of the flask, the bottom of the pattern, or the bottom of the  
25 board supporting the same may be.

In overcoming the disadvantages pointed out in connection with the present method of molding with jar ramming machines, I have provided a device which is very simple  
30 in its design and easily attached to the table of the jar ramming machine without any alterations thereof.

These objects and advantages have been accomplished by the devices shown in the  
35 accompanying drawings, of which:

Fig. 1 is a plan view showing the pattern and flask in position before the sand is placed on the mold or rammed in position.

40 Fig. 2 is a side, sectional elevation, taken on line 2—2 of Fig. 1.

Fig. 3 is an enlarged, fragmentary plan view, showing a slightly modified form.

45 Fig. 4 is a sectional elevation of the form, shown in Fig. 3, and is taken on line 4—4 thereof.

In the drawings, 5 represents the top, or table, of a jar ramming machine, and 6 is either the cope or drag of a molding flask. At 7, I have represented a conventional pattern which is shown secured to a molding  
50 board 8. If the pattern is round or of a regular polygonal shape, it is, of course, not necessary that the molding board be used. On top of the table of the molding machine  
55 is preferably placed a wooden absorption pad 9. On top of the pad is placed a me-

tallic distributing ring 10. The interior contour of this ring is preferably of the same contour as the exterior boundary of the pattern, or that of the molding board, and is  
60 smaller in dimensions than the molding board, whereby the pattern or board will have a surface upon which to rest. This surface 11 is formed at the bottom of a rabbet, or recess, 12 in the ring. Disposed in the  
65 recess 12 and bearing on the surface 11 are three equalizer pads 13. These pads are preferably placed equidistantly around the recess 12, and thus form a three-point support for the pattern or molding board. In  
70 like manner, three equalizer pads 14 are arranged on the top surface 15 of the ring, and these pads contact with the lower surface of the molding flask 6, whereby it also  
75 will be supported by three points substantially equidistantly arranged. The molding flask part 6 may be held in registering position with the distributing ring 10 by means of the engagement of the pins 16 with the  
80 apertures provided in the lugs 17 formed on the ring.

In Figs. 3 and 4, I have shown a slight modification in which the pads 18 and 19 are each provided with apertures which engage respectively with pins 20 and 21, carried by the distributing ring 10. By this  
85 means, the pads will be prevented from shifting out of place.

While I have used in this description the term pattern and molding board, I have, for  
90 clearness, used the term pattern in the appended claims as inclusive of both the pattern and the molding board.

When my device is used in connection with the molding of patterns, it will be seen that  
95 the pattern or board holding the same, and the molding flask will be quickly seated on the three points of support and will thereby be firmly supported, whereby the force of the sand as it is being packed upon the pattern will be evenly distributed around the  
100 same.

If desired the absorption pad 9 may be omitted or made in the form of a ring like the ring 10, and the ring 10 may be made of  
105 any thickness and shape suitable for the pattern being molded. These and other modifications of the details herein shown and described, may be made without departing from the spirit of my invention or the scope  
110 of the appended claims, and I do not, therefore, wish to be limited to the exact em-

bodiment herein shown and described; the form described being a preferred embodiment thereof.

Having thus described my invention, what I claim is:

1. A molding device comprising a three-point support for the pattern, and a three-point support for the molding flask.
2. A molding device comprising an absorption pad, and a three-point support for the pattern, carried by the pad.
3. A molding device comprising three equalizer pads for the pattern.
4. In a molding device, the combination with a pattern, of a distributing ring, and a three-point support carried by the ring and engageable with the pattern.
5. In a molding device, the combination with a pattern, of a distributing ring, and equalizer pads, carried by the ring and engageable with the pattern.
6. In a molding device, the combination with the table of a jar ramming machine and a pattern, of a distributing ring carried by the table, and equalizer pads carried by the ring and engageable with the pattern.
7. In a molding device, the combination with a pattern, of a distributing ring, an absorption pad arranged below the ring, and equalizer pads carried by the ring and engageable with the pattern.
8. In a molding device, the combination with a pattern and a molding flask, of a

distributing ring, equalizer pads carried by the ring and engageable with the pattern, and equalizer pads carried by the ring and engageable with the flask.

9. In a molding device, the combination with a pattern, of a distributing ring, and three equalizer pads substantially equidistantly arranged on the ring and engageable with the pattern.

10. In a molding device, the combination with a pattern, of a distributing ring having an inner contour substantially the same shape as, but smaller than, the outer perimeter of the pattern, and equalizer pads carried by the ring and engageable with the pattern.

11. In a molding device, the combination with a pattern, of a distributing ring formed with a recess having a contour substantially the same as the outer perimeter of the pattern, and equalizer pads carried by the ring and engageable with the pattern.

12. In a molding device, the combination with a pattern, of a distributing ring having an inner contour substantially the same shape as, but smaller than, the outer perimeter of the pattern, an absorption pad arranged below the distributing ring, and equalizer pads carried by the ring and engageable with the pattern.

In testimony whereof, I have hereunto signed my name.

ELMER B. NORRIS.