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2,491,750

MOLDER'S FLASK

Filed May 31, 1946

2 Sheets-Sheet 1

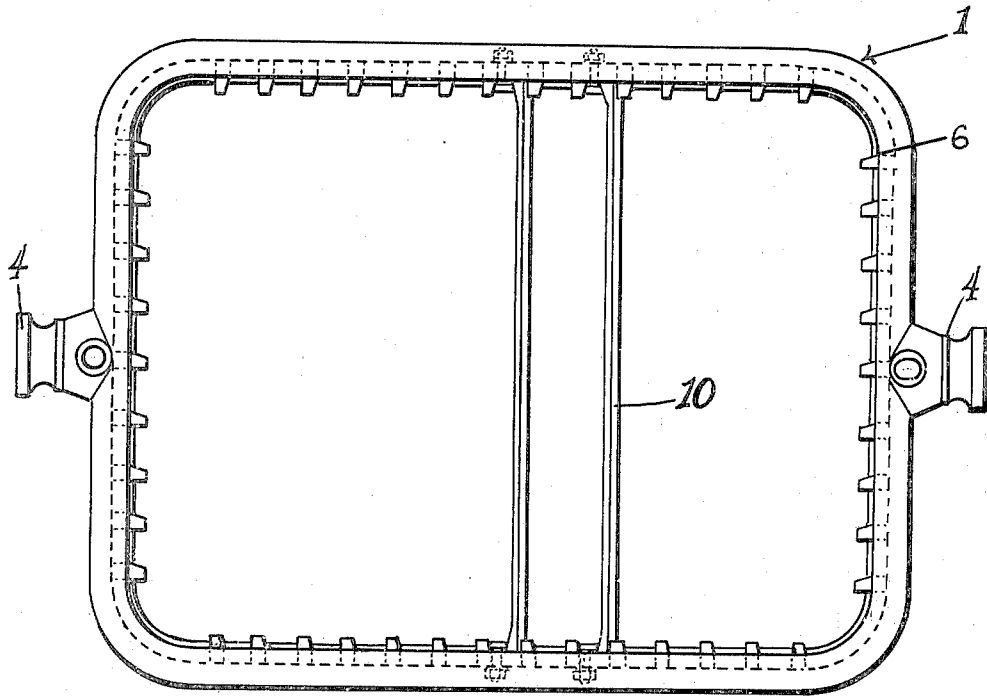


FIG. 1.

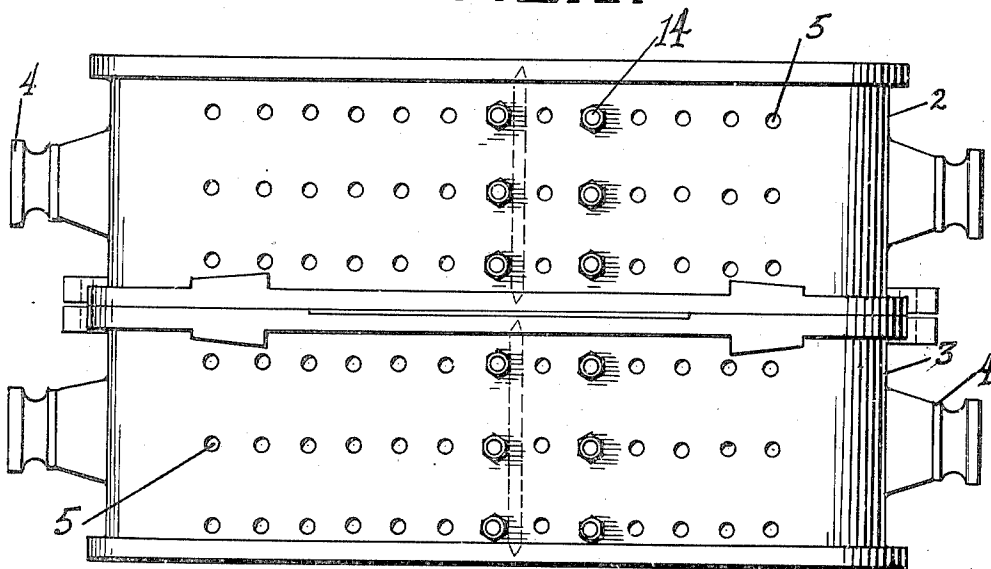


FIG. 2.

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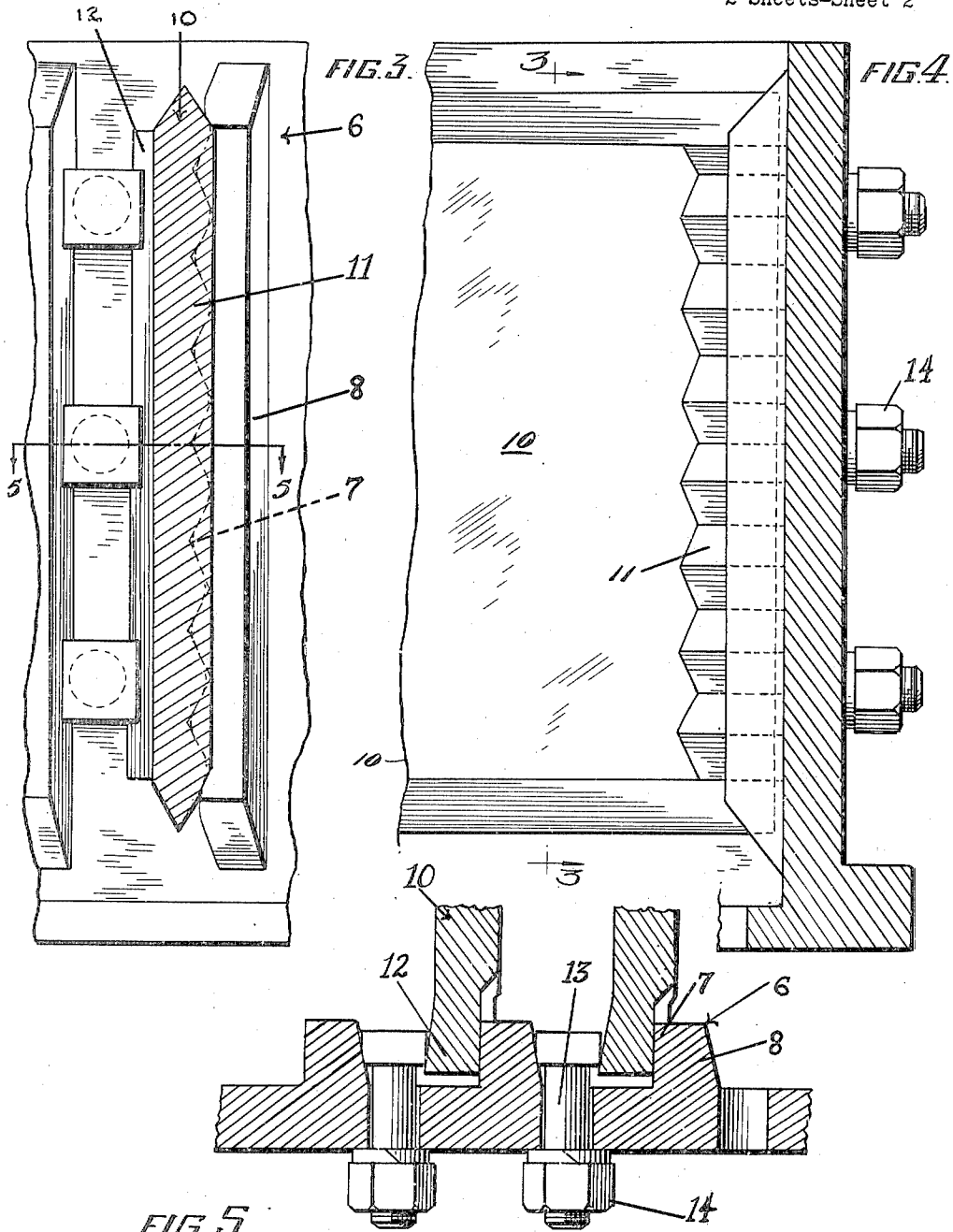
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2 Sheets-Sheet 2



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MOLDER'S FLASK

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Application May 31, 1946, Serial No. 673,407

2 Claims. (Cl. 22—100)

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The present invention relates to a molder's flask, and more particularly, to a flask for use in mechanical molding, having removable bars.

As is well known in the prior art, the primary purpose for employing removable bars in a molder's flask is to provide means to readily vary the flask width. Hitherto, the removable bars of flasks of this type have shown a tendency to shake loose, especially when the flasks have been used in mechanical molding in which jolt ram molding and an automatic vibrating shakeout is employed. Moreover, the means employed to secure the bars to the flask have usually required considerable space which may prevent the bars from being properly spaced for the contemplated pattern. The devices for securing the bars to the flask are also often cumbersome to employ.

One of the objects of the present invention is to avoid the above mentioned disadvantages of the prior art.

Another object of the present invention is to provide a molder's flask, the bars of which may be readily removed or secured either crosswise or lengthwise of the flask.

Still another object of the present invention is to provide a molder's flask of the character described, in which the close center to center spacing of the bar holding ribs enable the bars to be removably secured in the exact position required for the contemplated operation with not more than a slight offset required at each end of the bar or bars.

A further object of the present invention is to provide a flask of the character described in which only a set of bolts need be tightened to secure the bar in position in such a manner that it is, for practical purposes, as rigid as if it were an integral part of the flask.

With these and other objects in view, which may be incident to my improvements, the invention consists in the procedural steps and the parts and combinations hereinafter set forth and claimed with the understanding that the necessary elements comprising the invention and the procedural steps and their operation may be varied by those skilled in the art without departing from the spirit of the invention or the scope of the appended claims.

Broadly, the invention embraces the concept of providing a molder's flask having removable bars which only require the use of a set of standard bolts to secure each bar to the flask in such a manner that it is, for all practical purposes, as rigid as if it was an integral part of the flask.

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This simplified construction enables the centers of the ribs which assist the bolts in holding the bars, to have a close center to center spacing. In this manner, the bars, with at most, a slight offset required at each end of the bar or bars, may be secured in the exact position required for the contemplated operation.

It will be readily appreciated that this construction is highly advantageous, because it not only enables the flask to withstand the stresses of mechanical molding without being shaken apart but also enables the bars to be quickly and easily rearranged or removed for storage.

In the drawings:

Figure 1 is a plan view of the flask embodying the present invention showing the ends of a pair of bars secured between the rib structure and the removable bolts.

Figure 2 discloses a side elevational view of the flask shown in Figure 1.

Figure 3 is a view taken along the lines 3—3 of Figure 4.

Figure 4 is a fragmentary plane view of a corner of the flask.

Figure 5 is a view taken along the lines 5—5 of Figure 3.

Referring more particularly to the drawings, there is shown in Figure 2 a molder's flask, generally indicated by the numeral 1, which comprises a cope section 2 and a drag section 3. These separable portions may be held together with lugs of any suitable type. They are made of any suitable material, such as cast iron or steel or are fabricated from steel plate, either by welding or from a combination of pressed steel sections welded together. Each of the sections 2 and 3 are provided with trunnions 4, for use for raising or lowering the flask.

The flask sides of each section are provided with a plurality of spaced rows of apertures 5, which extend vertically down the depth of the flask. The diameters of these apertures are sufficient to accommodate a standard bolt. A series of equally spaced vertically extending ribs 6 are also secured to, or formed integrally with, the interior surface of the sides of the flask.

As best shown in Figures 3, 4 and 5, the vertically extending ribs 6 project from the interior surface of the flask between adjoining rows of apertures 5 and each rib is provided with a serrated side portion 7 spaced from one of the rows of apertures and a flat side portion 8 in juxtaposed relation to the remaining row of apertures and tapering therefrom.

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As best shown in Figures 1 and 5, the flask bars 10 extend either lengthwise or crosswise of the flask and are removably secured to a selected pair of ribs 6 positioned on the opposite sides of the flask. These flask bars may be made of any suitable material, such as cast iron, steel, or may be fabricated from steel plate.

One side of each bar is provided with vertically extending serrations 11 at each end of the bar, which are designed to fit the serrations 7 of the selected ribs. The opposite side 12 of the bar flares outwardly at each end to fill the space between the rib 6 and the adjacent row of apertures 5 which border the space. One or more bolts 13, depending upon the width of the bar, are provided to secure each end of the bar to the flask. The heads of these bolts are drawn down against the flared side of the bar by tightening the nut and washer assembly 14, to force the bar serrations 11 to interlock with the rib serrations 7.

In practice, the space required for a contemplated operation is determined and a bar or bars of the proper configuration are secured to the ribs selected to give the proper pattern dimensions. It will be appreciated that the relatively narrow width of the ribs permit close centering of the bars and, therefore, straight bars have been located within $1\frac{5}{32}$ inches of the desired position in flasks of the size designed for the applicant's use. This dimension could be varied to suit other flask sizes. In cases where the pattern cannot be shifted in the flask to take care of this difference, and usually such a change can be made, the ends of the bars may be slightly offset to provide the proper pattern dimensions.

Flask bars of any depth can be used, and when narrow bars are employed it is possible that only one bolt will be required to secure each end to the flask. In bars, the depth of which are substantially that of the flask, bolts are used in all apertures in the selected row on each side of the flask.

It will be appreciated that the bar holding arrangement described is of extremely simple construction, as special parts are not required and that the bars, or their positions, may be readily changed. The very close center to center distance between bar holding ribs enable the bars to be located in the exact position required for the pattern with, in some cases, a very slight offset of the bar or bars. However, the bars are secured by the described bar holding arrangement so securely that, for all practical purposes, they are as strong, rigid and vibration proof as if they formed an integral part of the flask.

While, for purposes of illustration, only one form of flask and bar has been shown, it is ob-

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vious that the bar holding arrangement may be used in other types of flasks and bars of various configurations may be employed by those skilled in the art without departing from the spirit of the present invention.

I claim:

1. A molder's flask comprising sides having vertically extending and spaced rows of apertures of bolt size, a plurality of vertically extending ribs formed integral with the flask and projecting from the interior surface of the sides, one rib being positioned between each adjoining row of apertures, said ribs having a horizontally serrated side wall and a flat side wall tapering toward the sides of the flask, a bar extending across the flask, a vertical row of horizontally extending serrations on one of the vertical sides of the bar at both ends thereof to fit the serrations of the selected ribs on opposite side portions of the flask against which the bar is positioned, the opposite side of the bar at both ends flaring outwardly to the extremity of the bar to fill the space between the rib and the row of apertures bordering the space and a bolt for each of the apertures in the said row, the head of each bolt being drawn against the flared portion of the bar to force the bar towards the rib to interlock the serrations of the bar and the rib.

2. A molder's flask comprising sides having horizontally spaced apertures passing there-through, a plurality of vertically extending ribs protruding from the inner surface of the sides of the flask, one of said ribs being positioned between each aperture and the adjacent aperture horizontally spaced therefrom, one of the vertical sides of each of the ribs having horizontal serrations thereon, a bar extending across the flask, horizontal serrations on one side face of each end of the bar for engagement with the serrations in the ribs, and a bolt passing through the apertures in the sides, said bolt engaging the face of the bar opposite the serrations and urging the bar against the serrated face of the adjacent rib to interlock the serrations in the bar and the rib.

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