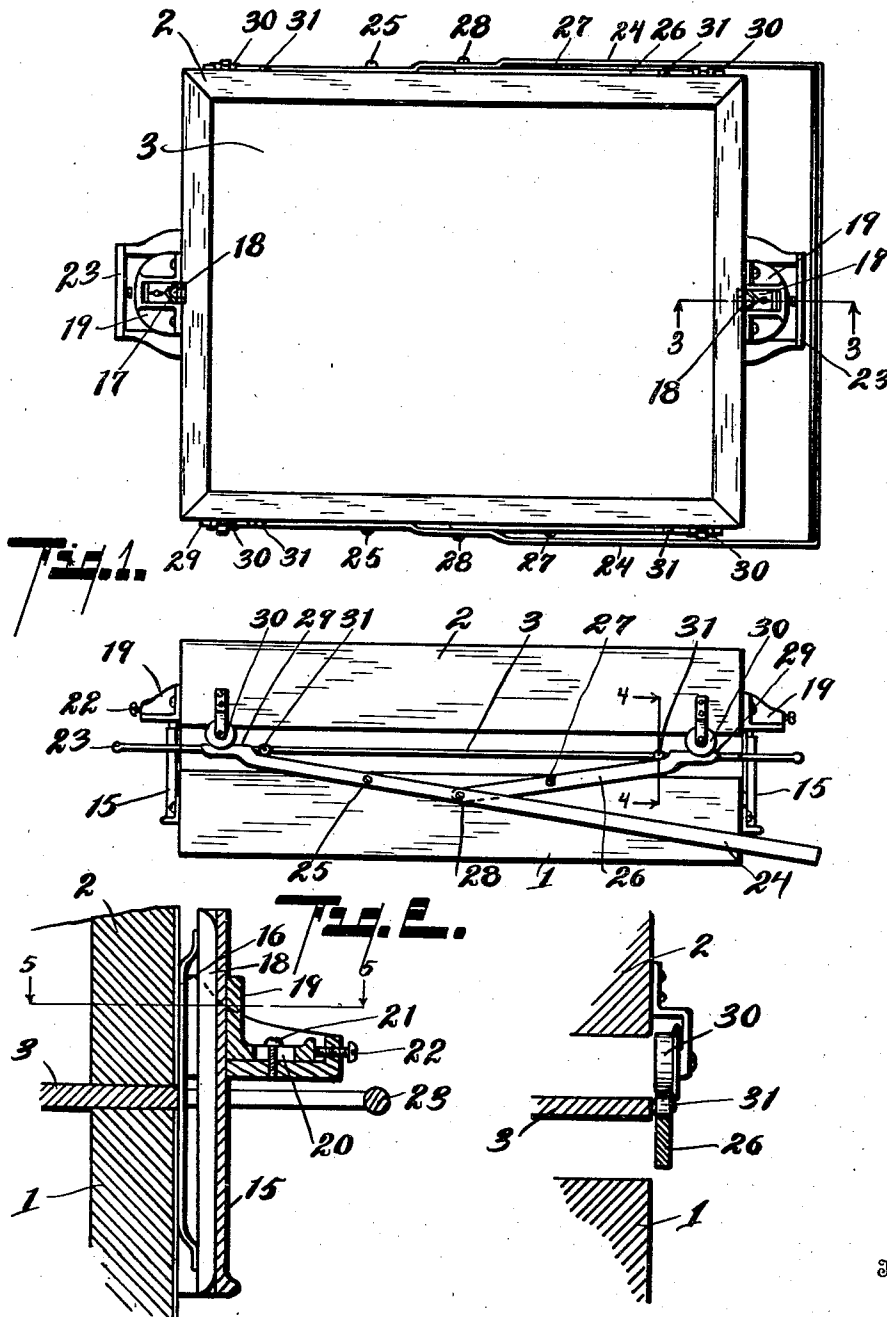


W. C. BOGENSCHUTZ.
FLASK.
APPLICATION FILED JAN. 31, 1910.

956,621.

Patented May 3, 1910.

3 SHEETS—SHEET 1.



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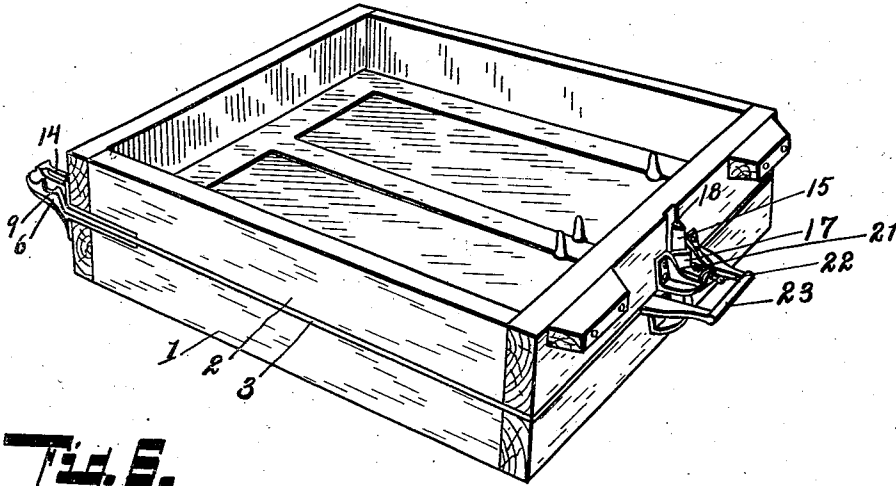


Fig. 6.

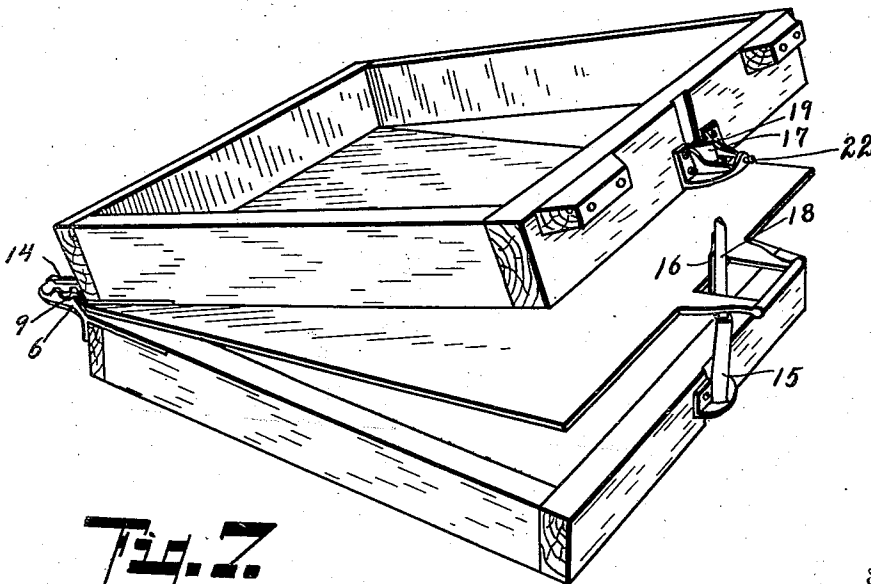


Fig. 7.

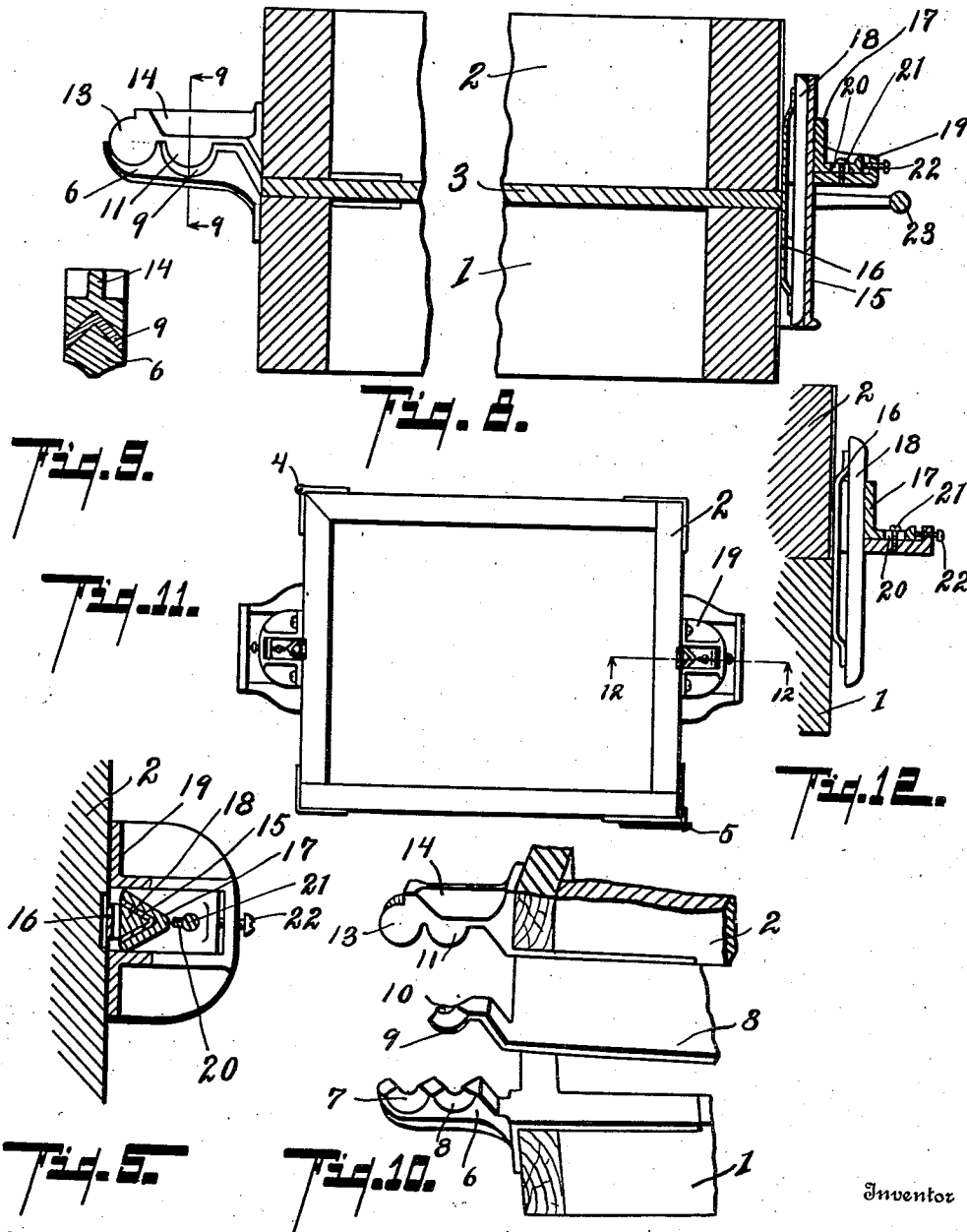
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UNITED STATES PATENT OFFICE.

WILLIAM C. BOGENSCHUTZ, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO
WILLIAM THOMPSON AND DWIGHT CURTENIUS, OF KALAMAZOO, MICHIGAN.

FLASK.

956,621.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed January 31, 1910. Serial No. 541,047.

To all whom it may concern:

Be it known that I, WILLIAM C. BOGENSCHUTZ, a citizen of the United States, residing at Kalamazoo, Michigan, have invented certain new and useful Improvements in Flasks, of which the following is a specification.

This invention relates to improvements in flasks.

My invention relates particularly to the guides for the flask members and means for manipulating the parts.

The main objects of this invention are to provide in a flask an improved guide means which effectively and accurately guides the parts into position and permits their rapid and easy assembling and their rapid disassembling without danger of injury to the mold which has been formed in the flask.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The structure described constitutes one effective embodiment of my invention. Other embodiments would be readily devised by those skilled in the art.

The invention is clearly defined and pointed out in the claims.

A structure constituting an effective and preferred embodiment of the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure 1 is a plan view of a structure embodying the features of my invention. Fig. 2 is a side elevation of the structure appearing in Fig. 1. Fig. 3 is an enlarged detail vertical section taken on a line corresponding to line 3—3 of Fig. 1, showing the arrangement of the guides. Fig. 4 is a detail vertical section taken on a line corresponding to line 4—4 of Fig. 2, showing details of the cope and parting plate lifting device. Fig. 5 is a detail horizontal section taken on a line corresponding to line 5—5 of Fig. 3, showing details of the guide. Fig. 6 is a perspective view of a hinged flask embodying the features of my invention, a parting plate being shown in connection therewith. Fig. 7 is a perspective view of the structure of Fig. 1 partially open to show the relation of the parts. Fig. 8 is an en-

larged detail vertical central section through the structures shown in Figs. 6 and 7. Fig. 9 is a vertical section taken on a line corresponding to line 9—9 of Fig. 8 showing details of the hinges. Fig. 10 is a detail perspective showing the hinge members separated. Fig. 11 is a plan view showing my improved guide applied to a flask having no hinges, the structure illustrated being a snap flask, the parting plate being omitted. Fig. 12 is a detail vertical section taken on a line corresponding to line 12—12 of Fig. 11.

In the drawings, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, 1 represents the drag and 2 the cope of a flask of common type. The parting plate 3 is arranged between the drag and cope in the well known manner.

In the structure illustrated in Figs. 1 to 5 inclusive, I show my improved lifting device for the cope and parting plate. In the structure shown in Figs. 6 to 10 inclusive, I show my improved guide applied to a hinged flask; that is, the drag, parting plate and cope are provided with hinge members, so that the cope can be lifted on its hinge to permit the removal of the parting plate. In the structure shown in Figs. 11 and 12, the hinges are omitted.

The cope and drag here illustrated are the snap flask type; that is, the sides are hinged at 4 and are provided with catches 5. The details of these hinges and catches are not illustrated, as they may be of any desired construction. Where hinges are used, they preferably consist of the arm-like hinge members 6 for the drag which are offset upwardly and provided with knuckle sockets 7 and 8. The parting plate 3 is provided with upwardly offset arm-like hinge members having a knuckle 9 adapted to engage the sockets 8 of the drag hinge members and an upwardly facing socket 10 adapted to receive the knuckles 11 of the cope hinge members, the knuckles 13 of the arm-like hinge members 14 of the cope being adapted to engage the sockets 7 of the hinge members 6 of the drag so that the cope swings clear to permit the removal of the parting plate and when the cope is closed with the parting plate in position the parts are all properly

supported and they are also properly supported when the parting plate is removed.

Where the parting plate is used my improved guide consists of the guide rigid member 15 on the drag which is adapted to receive the guide member 18 on the parting plate. The guide member 17 on the cope is adapted to receive the guide member 15 on the drag. These members are all preferably V-shaped in cross-sections, as illustrated, as they thus serve more effectively to guide and center the parts. The member 18 is yieldably secured by means of the spring 16 which is secured at a central point to the parting plate and at its ends to the guide, so that the guide is yieldingly supported to permit its engagement with the guide 15 when presented thereto with a swinging movement, as when the flask parts are not hinged, or in the event that they are not presented in assembling in an exact horizontal relation to each other. Thus arranged the guide 18 is yieldingly supported, and at the same time it serves its full purpose as a guide, permitting the assembling and disassembling of the parts rapidly and without danger of the guides being wedged in either assembling or disassembling, and, further, the parts are so guided that they can be disassembled with little danger to the mold, which has been formed, being injured. The guide 17 on the cope is preferably adjustably supported on the yoke-like frame 19, the guide being slotted at 20 to receive the screw 21, and an adjusting screw 22 being arranged through the end of the frame. (See Fig. 3.) The handle 23 is arranged so that it can be grasped readily without interference with the guides or to assist in freeing the flask members. In the structure shown in Figs. 11 and 12, where the parting plate is not used, the yielding guide member is mounted on the drag.

I preferably provide an improved device for drawing the cope and the parting plate, as is shown in the preferred construction in Figs. 1 to 5. This embodiment illustrated consists of the levers 24, which are pivoted at 25 on the sides of the drag 1. A pair of coacting levers 26 are pivoted at 27 to the sides of the drag, and to the levers 24 at 28, so that all the levers are actuated together. The outer ends of the levers 24 are preferably connected, so that they may be conveniently actuated together. The levers 24 and 26 are provided with bearing portions 29, on which the rollers 30 on the cope 2 rest. The parting plate 3 is provided with rollers 31, which are engaged by the levers 24 and 26. The bearing portions 29 of the levers are preferably offset and the rollers 31 are arranged to be engaged by the levers between the rollers 30 and the lever pivots, so that the cope is elevated more than the parting plate, thus not only lifting the parting

plate from the drag, but separating the cope from the parting plate. The flask, when equipped with this device and my improved coacting guide, is capable of very rapid manipulation.

I have illustrated and described my improvements in detail in the form in which I have embodied them in practice, as I find that embodiment to be highly satisfactory. I am aware, however, that my invention is capable of considerable variation in structural details and I wish to be understood as claiming the same not only in the specific form illustrated, but broadly as well within the scope of the appended claims.

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

1. In a molding device, the combination with a drag, cope and parting plate, of a guide member on said drag; a guide member on said parting plate connected thereto by a blade spring, said spring being secured at a central point to said parting plate and at its ends to said guide; and an adjustable guide member on said cope, said guide members being V-shaped in cross section, the guide member on said drag being adapted to receive the guide member on said parting plate and the guide member on said cope being adapted to receive the guide member on said drag.

2. In a molding device, the combination with a drag, cope and parting plate of a guide member on said drag; a guide member on said parting plate connected thereto by a blade spring, said spring being secured at a central point to said parting plate and at its ends to said guide; and an adjustable guide member on said cope, the guide member on said drag being adapted to receive the guide member on said parting plate and the guide member on said cope being adapted to receive the guide member on said drag.

3. In a molding device, the combination with a drag, cope and parting plate, of a guide member on said drag; a guide member on said parting plate yieldably connected thereto; and a guide member on said cope, said guide members being V-shaped in cross section, the guide member on said drag being adapted to receive the guide member on said parting plate and the guide member on said cope being adapted to receive the guide member on said drag.

4. In a molding device, the combination with a drag, cope and parting plate, of a guide member on said drag; a guide member on said parting plate yieldably connected thereto; and a guide member on said cope, the guide member on said drag being adapted to receive the guide member on said parting plate and the guide member on said cope being adapted to receive the guide member on said drag.

5. In a molding device, the combination with a drag, cope and parting plate provided with hinge members, of a guide member on said drag; a guide member on said parting plate yieldably connected thereto; and a guide member on said cope, the guide member on said drag being adapted to receive the guide member on said parting plate and the guide member on said cope being adapted to receive the guide member on said drag.

6. In a molding device, the combination with a pair of coacting mold members, of a rigid guide member on one of said mold members and a coacting guide member on the other of said mold members yieldingly secured thereto by a blade spring, said spring being secured at a central point to said mold member and at its ends to said guide, said guide members being V-shaped in cross section.

7. In a molding device, the combination with a pair of coacting mold members, of a rigid guide member on one of said mold members, and a coacting guide member on the other of said mold members yieldingly secured thereto by a blade spring, said spring being secured at a central point to said mold member and at its ends to said guide.

8. In a molding device, the combination with a pair of coacting mold members, of a rigid guide member on one of said mold members and a coacting guide member on the other of said mold members yieldingly secured thereto, said guide members being V-shaped in cross section.

9. In a molding device, the combination with a pair of coacting mold members, of a rigid guide member on one of said mold members, and a coacting guide member on the other of said mold members yieldingly secured thereto by blade spring, said spring being secured at a central point to said mold member and at its ends to said guide member.

10. In a molding device, the combination with the cope, drag and parting plate, of a guide member on said drag; a guide member on said parting plate yieldably connected thereto; a guide member on said cope, the guide member on said drag being adapted to receive the guide member on said parting plate, and the guide member on said cope being adapted to receive the guide member on said drag; and a device for manipulating said parting plate and cope, comprising levers arranged in pairs pivotally mounted on said drag and pivotally connected to each other, and members on said cope and parting plate arranged to be

engaged by said levers, the members on said parting plate being arranged to be engaged by said lever between the members on said cope and the lever pivots, all coacting for the purpose specified.

11. In a molding device, the combination with the cope, drag and parting plate provided with coacting guide members, of a device for manipulating said parting plate and cope, comprising levers arranged in pairs pivotally mounted on said drag and pivotally connected to each other, and members on said cope and parting plate arranged to be engaged by said levers, the members on said parting plate being arranged to be engaged by said levers between the members on said cope and the lever pivots, all coacting for the purpose specified.

12. In a molding device, the combination with the cope, drag and parting plate, of a guide member on said drag; a guide member on said parting plate yieldably connected thereto; a guide member on said cope, the guide member on said drag being adapted to receive the guide member on said parting plate and the guide member on said cope being adapted to receive the guide member on said drag; and a means for simultaneously elevating said parting plate and cope varying distances whereby they are separated from the drag and from each other, all coacting for the purpose specified.

13. In a molding device, the combination with the cope, drag and parting plate provided with coacting guide members, of means for simultaneously elevating said parting plate and cope varying distances whereby they are separated from the drag and from each other, all coacting for the purpose specified.

14. In a molding device, the combination with the cope, drag and parting plate, and a device for manipulating said parting plate and cope, comprising levers arranged in pairs pivotally mounted on said drag and connected to each other, and rollers on said cope and parting plate arranged to be engaged by said levers, the rollers on said parting plate being arranged to be engaged by said levers between the rollers on said cope and the lever pivots, all coacting for the purpose specified.

In witness whereof, I have hereunto set my hand and seal in the presence of witnesses.

WILLIAM C. BOGENSCHUTZ. [L. s.]

Witnesses:

W. E. DERWENT,
MABEL GARRISON,
CHAUNCEY STRONG.