Aug. 11, 1936. C. H. BESTER 2,050,778

BALL AND SOCKET ADJUSTABLE MOLD JACKET

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Fig. 1.

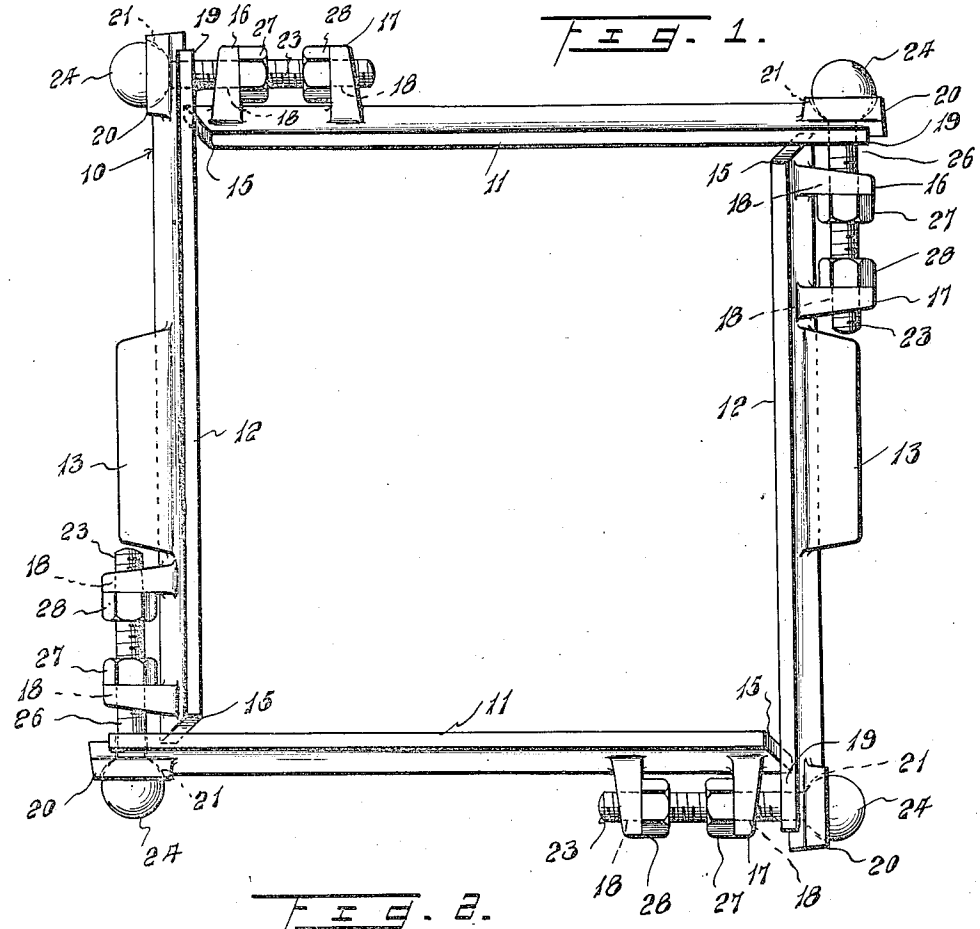
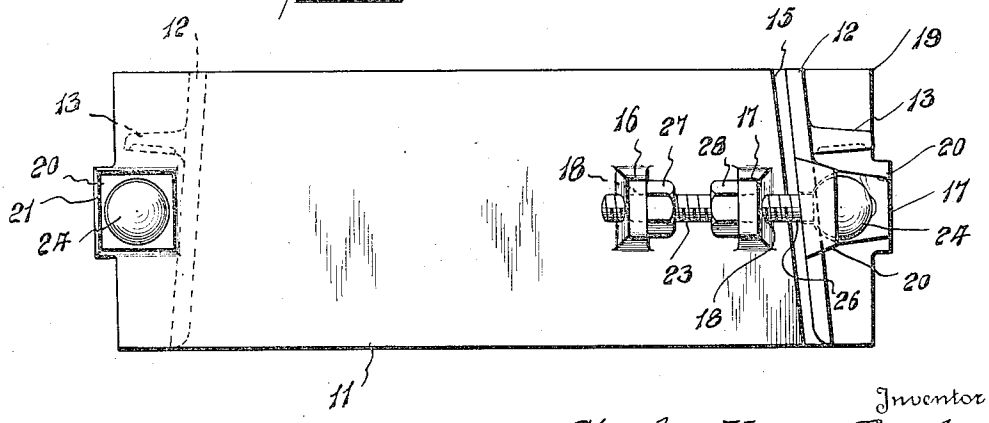



Fig. 2.




Inventor

Charles Henry Bester.

By L. F. Randolph Jr.

Attorney

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Fig. 3.

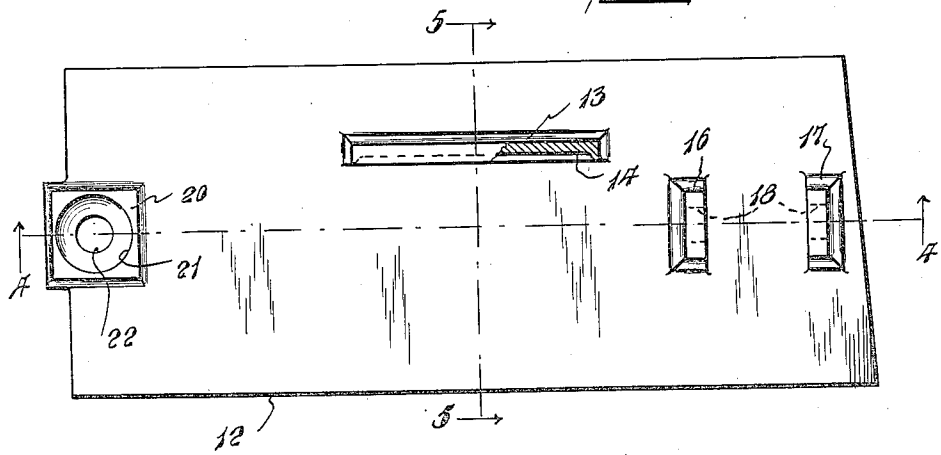



Fig. 4.

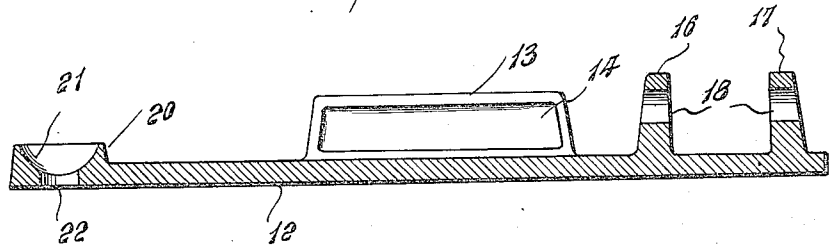



Fig. 5.

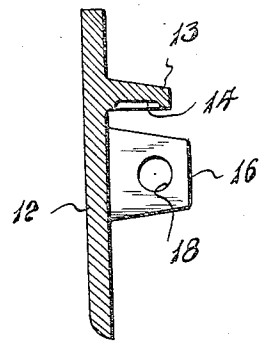
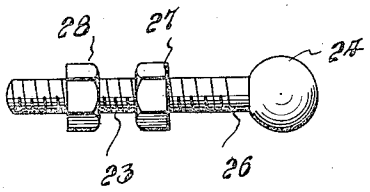



Fig. 6.




Inventor

Charles Henry Bester.

By L. F. Randolph Jr.

Attorney

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# UNITED STATES PATENT OFFICE

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## BALL AND SOCKET ADJUSTABLE MOLD JACKET

Charles Henry Bester, Ironton, Ohio

Application August 21, 1935, Serial No. 37,243

4 Claims. (Cl. 22—112)

This invention relates to an adjustable mold jacket and more particularly the principal object of this invention is to provide a mold jacket wherein the sides are angularly adjustably secured together by ball and socket connections permitting each side to adjust itself to the sides of the tapered snap flasks with which they are used.

As a rule, tapered snap flasks in which molds are made are generally tapered at a five-degree angle, with all the sides having the same taper. This taper, however, may vary during use, and, with the present invention, variations up to and including ten degrees of taper are provided for, although, if desired, by following out the principles of this invention, even greater degrees of taper may likewise be taken care of.

This jacket may be applied to the molds made in the flasks whether they are made only in two parts known as the "cope" and the "drag", or whether they include additional parts known as the "cheeks".

The ball and socket securing and adjusting means of this invention permits two motions at once at one end of each side of the jacket, thereby permitting proper fitting of the jacket of the mold even though the taper of the mold may have varied through use or abuse of flask in which the mold is made.

With the foregoing and other objects in view, as will hereinafter become apparent, this invention comprises the constructions, combinations and arrangements of parts hereinafter set forth, disclosed and shown on the accompanying drawings.

In these drawings:

Figure 1 is a top plan view of the mold and jacket;

Figure 2 is a side view in elevation looking at the lower end of Figure 1;

Figure 3 is an elevational view, partly in section, of one of the jacket sides having a handle formed thereon;

Figure 4 is a longitudinal sectional view on a plane indicated by the line 4—4 of Figure 3;

Figure 5 is a transverse sectional view on a plane indicated by the line 5—5 of Figure 3; and

Figure 6 is an elevational view of the ball-headed bolt.

There is shown at 10 a mold jacket of this invention, this mold jacket being made of two pairs of side pieces 11 and 12. If the snap flask to which this mold jacket is to be applied is substantially square in outline, then the side pieces 11 and 12 will each be substantially identical in length, but should the snap flask be rectangular with one pair of sides longer than the other pair of sides, then the sides 11 of the jacket will be longer than the sides 12 of the jacket.

The sides 11 and 12 are substantially identical except that the side 12 may be provided as shown with handle grips 13 which are undercut as at 14.

The sides of the mold jacket can be made of any suitable material or metal, such as aluminum, cast iron, steel or the like. Each of the side pieces of each jacket has one end 15 formed with a taper of at least five degrees, thereby permitting a taper adjustment. Adjacent this tapered end 15, the side piece is provided with a pair of externally projecting spaced lugs 16 and 17, the lugs 16 and 17 being provided with aligned apertures 18. At the other end 19 of the side piece there is provided an externally projecting boss 20 which is provided with a semi-spherical socket or recess 21. Each socket 21 is centrally provided with an aperture 22 extending through the side piece, this aperture 22 being tapered at an angle of at least five degrees from the socket side of the side piece to the inner side of the side piece.

A ball-headed bolt 23 is provided with a ball head 24 substantially ¼ inch less in diameter than the diameter of the semi-spherical socket 21. The shank of this bolt 23 is threaded throughout the major portion of its length but left unthreaded or plain as at 26 for at least a slight distance adjacent the ball head 24. Two nuts 27 and 28 are provided for adjusting the portion of the bolt 23 relative to the lugs 16 and 17.

In operation the side pieces 11 and 12 are assembled as shown in Figure 1 with the tapered end 15 of one side piece alined with the inside of the adjacent side piece, while the other end 19 extends beyond the tapered end of the side piece adjacent to that side.

Bolts 23 are placed through the apertures 22, the ball heads 24 resting within the sockets 21 while the shanks extend through the apertures 18 of the lugs 16 and 17 and are adjusted relative thereto by means of the nuts 27 and 28, thereby permitting the jacket to fit the mold sides even though they may vary slightly in size or in taper.

The handles 13 are provided on the shorter sides whenever the jacket 10 is to be made rectangular rather than square so as to enable the jacket to be easily carried and placed on and removed from the mold.

As the result of the taper of at least five degrees in the size of the aperture 22 extending through the side pieces and the smooth portion 26 of the shank on the bolt 23 and further the taper at the ends 15 of the side pieces, the side pieces will universally adjust themselves to the taper

and angle of the sides of the mold and the bolt will not bind in the holes **22** due to this taper.

The spaced lugs **16** and **17** and the nuts **27** and **28** permit proper adjustment of the side pieces relative to each other about the sides of the mold. As the result, the snap flasks may taper up to ten degrees with the construction already shown, but if tapered snap flasks of a greater degree are to be utilized, then the taper of the sides **15** and of the size of the aperture **22** may be correspondingly increased to provide for such increase in angularity in the snap flasks.

The novel features and the operation of this device will be apparent from the foregoing description. While the device has been shown and the structure described in detail, it is obvious that this is not to be considered to the exact form disclosed and that changes may be made therein the scope of what is claimed without departing from the spirit of the invention.

Having thus set forth and disclosed the nature of this invention, what is claimed is:—

1. A mold jacket comprising a plurality of side pieces, one end of each side piece being tapered at an angle, means for universally and adjustably securing the tapered ends of each side piece to the other end of each adjacent side piece, said means comprising an apertured socket at said other end of each side piece, and a ball headed bolt extending through said apertured socket, and securable to the adjacent side piece adjacent the tapered end thereof, the tapered ends of the side pieces having a pair of externally extending aligned apertured lugs through which the ball headed bolt extends, said ball headed bolt having a pair of nuts thereon, one nut cooperating with each of said lugs.

2. A mold jacket comprising a plurality of side pieces, each side piece having one end tapered at an angle, the inner face of the side piece being smooth, a pair of externally projecting lugs on the outer face of the side piece adjacent the tapered end, a pair of aligned apertures extending through said lugs, a socket on the other end of each side piece projecting from the outer face thereof, an aperture extending from said side through said socket to the inner face of the side piece and a plurality of securing elements mounted in said apertures having balls engaging said sockets.

3. A mold jacket comprising a plurality of side pieces, each side piece having one end tapered at an angle, the inner face of the side piece being smooth, a pair of externally projecting lugs on the outer face of the side piece adjacent the tapered end, a pair of aligned apertures extending through said lugs, a socket on the other end of said side piece projecting from the outer face thereof, an aperture extending from said side through said socket to the inner face of the side piece, and a plurality of ball headed bolts for adjustably joining said side pieces together, each ball headed bolt having a plurality of nuts thereon, the ball head of each bolt being received in the socket at one end of the side piece, and the shank of each bolt extending through the aligned apertures in the lugs at the tapered end of the side piece and being adjusted relative thereto by said pair of nuts thereon.

4. In a joint for first and second side pieces of a mold jacket or the like, the first side piece having one end tapered at an angle, a pair of external lugs on the outer face of the first side piece adjacent said tapered end having apertures therethrough, a socket on the second side piece projecting from the outer face thereof, an aperture extending from said second side piece through said socket to the inner face of the second side piece, and a securing element mounted in said apertures having a ball engaging said socket.

CHARLES H. BESTER.