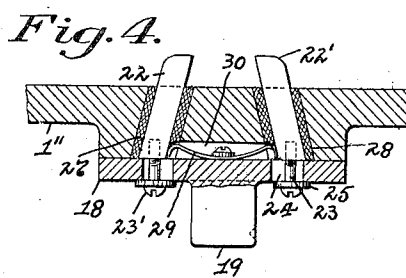
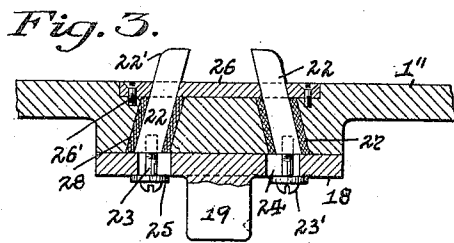
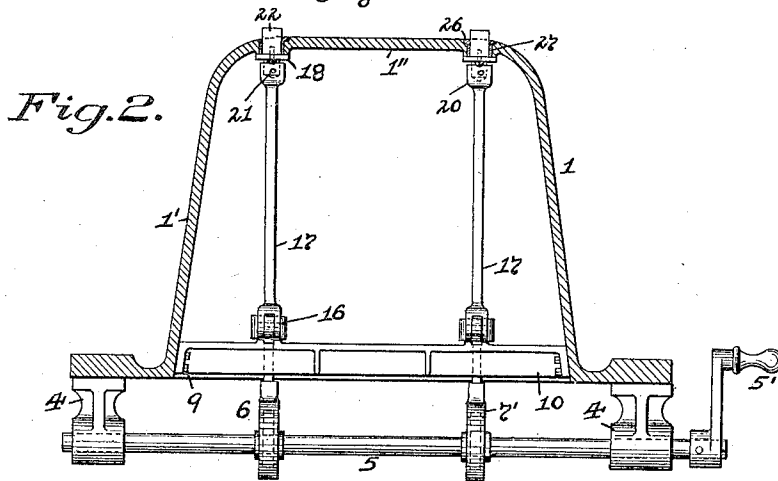
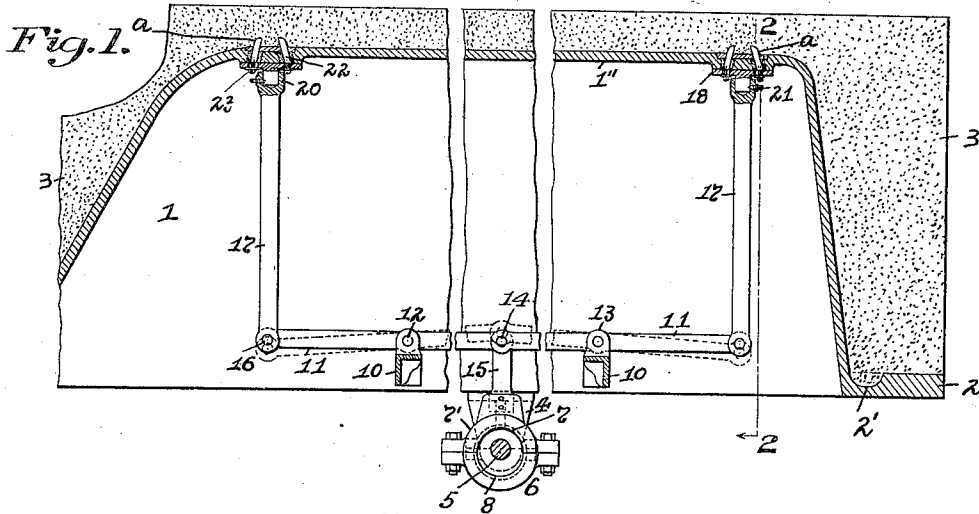


W. H. LOSE.
MOLDING APPARATUS.
APPLICATION FILED AUG. 5, 1908.

971,907.

Patented Oct. 4, 1910.



WITNESSES

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MOLDING APPARATUS.

971,907.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed August 5, 1908. Serial No. 447,056.

To all whom it may concern:

Be it known that I, WILLIAM H. LOSE, a resident of Zelenople, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Molding Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a molding apparatus, and has special reference to the molding of lugs on bath-tubs for the reception of the legs therefor.

The object of my invention is to provide a cheap, simple and efficient molding apparatus for forming the cavities for the casting of the bath-tub-leg-lugs in an easy and rapid manner, and one which will do away with the laborious and tedious manner of forming these lugs, as heretofore generally employed.

My invention consists, generally stated, in the novel construction, arrangement and combination of parts, as hereinafter more specifically set forth and described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved molding apparatus, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a pattern and mold having my invention employed therewith. Fig. 2 is a cross-section of the same on the line 2—2 Fig. 1 and looking in the direction of the arrow. Fig. 3 is an enlarged detail sectional view and partly in full lines of a portion of the device. Fig. 4 is a like view showing another form of the same.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing, 1 represents the usual hollow pattern flask for forming a bath-tub having the flange 2 extending out from the open sides and ends of the same, which assists in supporting the mold 3 formed around said pattern and by the recess 2' therein the outwardly extending portion 3' is formed on said mold for the rim of the tub in the casting operation.

Secured to the flange 2 on each side of the pattern 1 are the bearings 4 and within the

same is journaled a shaft 5 which extends across and beyond said pattern and is provided with an operating handle 5' at one end of the same. Mounted upon the shaft 5 are the cam devices 6 which are formed of the casings 7' having the cam faces 7 therein and the cams 8 engaging with the same and secured to said shaft.

Extending across and secured by bolts 9 to the sides 1' of the pattern 1 are the bridge portions 10 which have the tilting bars 11 fulcrumed at 12 in bearings 13 formed thereon, and the inner ends of these bars are pivoted at 14 to the bars 15 connected to the cam casings 7'. The outer ends of the tilting bars 11 are pivoted, as at 16, to the outer ends of the movable vertical bars 17 which extend toward the bottom 1'' of the pattern 1 and are connected to the head plates 18 at their inner ends by means of a boss 19 on one side of said plates fitting in a socket 20 on the ends of said bars and secured therein by a set-screw 21. Extending out from the opposite side of each of the plates 18 are the two plates 22 for forming the cavities *a* in the mold 3 for the leg lugs on the tub and are adapted to fit within and pass through the bottom 1'' of the pattern 1. These plates 22 are in sets at an incline to each other and are connected to the head plates 18 by means of the screw-bolts 23 which engage with the ends of said plates 22 and pass through a slot 24 on each side of the head plates 18, so that washers 25 can be interposed between the heads 23' of said bolts and the faces of said plates. The plates 22 are rounded on the outer sides of the same, as at 22', and they move within a steel wearing plate 26 secured to the outer face of the pattern bottom 1'' by means of screws 26'. Tubular linings 27 to form bearing surfaces for the plates 22 and preferably formed of Babbitt metal are secured within slots 28 in the pattern bottom 1'' and around said plates, although if desired the wearing plates 26 can be dispensed with and such linings extended to the outer face of said bottom, in which case, a leaf spring 29 secured on the head-plates 18 and bearing at its ends against the plates 22 will hold said plates in position, and when said plates are thrown out for use, said spring can be seated in a recess 30 in said bottom.

The use and operation of my improved

molding apparatus is as follows:—The mold 3 is formed by the pattern 1 and around the same and flange 2 thereon in the usual manner and after being so formed and while in this position the operator turns the handle 5' in the proper direction, which will revolve the shaft 5 in its bearings 4 on said flange and turn the cams 8 on said shaft toward said pattern, so that they will be in the positions shown in Figs. 1 and 2. When the cams 8 are thus turned to these positions the enlarged portions on said cams by their engaging with the cam faces 7 on the casings 7' will throw out said casing to the positions shown in Fig. 1, so that the tilting bars 11 will then be thrown to a horizontal position and the vertical bars 17 carried thereby will be thrown inwardly, which will cause the plates 22 carried by the plates 18 on the inner ends of said bars to slide through the bottom 1" of the pattern 1 and allow their outer ends to enter the mold 3 the required distance to form the leg-lug cavities *a* therein. After these cavities *a* have been so formed in the mold 3, the operator turns the handle 5' in the opposite direction from that first described, which will cause the shaft 5 to turn in a like direction, so that the cams 8 carried by said shaft will act to throw in the casings 7 by the enlargements on said cams engaging with the cam facings 7 on said casing being also thrown in by said shaft and tilt the bars 11 to the positions shown in dotted lines Fig. 1. By thus tilting the bars 11 the vertical bars 17 will be drawn backwardly, and the plates 22 on the plates 18 at the inner ends of said bars 17 will be pulled into the bottom 1" of the pattern 1 in such a position so that the outer ends of said plates 22 will be confined within the said bottom.

By reason of the guide plates 22 in each set being arranged at an incline and toward each other the cavities *a* formed by the same in the mold will enable the formation of angular shaped lugs for the dovetailed seat between them when the casting for the tub has been formed by said mold, so that the legs for supporting such tub can be afterward inserted in said seats, and said plates will always move at the same angle or incline by reason of the inner ends of the same being supported by the screws 23 in the slots 24 of the plates 18 which will allow a lateral movement of said screws in said slots.

In case of any breakage or wear of the guiding bearings for the plates 22 the wearing plates 26 and Babbitt filler 27 composing said bearings can be easily and quickly repaired or renewed, so that the operation of said plates can always be performed to form accurately spaced cavities *a* for forming the leg-lugs for the dovetailed seats on the tub and by such an apparatus the usual separate pieces for forming the inclined faces for the

lugs are done away with, so that cleaner and better cavities can be formed in the mold and they will not be liable to become injured or broken as in the use of the ordinary means for forming the same.

The device can be used for forming inclined, angular and other shaped lugs for other purposes than for bath-tub-legs, and various modifications and changes in the design and construction of my improved molding apparatus may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as my invention and desire to secure by Letters Patent, is—

1. In a device for forming lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates connected to a head and adapted to project through openings in the pattern, means on said pattern and connected to said head for projecting said movable plates into the mold to form cavities in said mold for the casting of said lugs, and spring means on said head and engaging with said plates to hold said plates in position.

2. In a device for forming angular faced lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates resting on and connected to a head, said plates being mounted angularly and adapted to project through openings in the pattern, headed pins projecting from the lower ends of said plates and passing through slots in said head, and means on said pattern and connected to said head for projecting said movable plates into the mold to form angular shaped cavities in said mold for the casting of said lugs.

3. In a device for forming angular faced lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates resting on and connected to a head, said plates being mounted angularly and adapted to project through openings in the pattern, headed pins projecting from the lower ends of said plates and passing through slots in said head, and cam operated means on said pattern and connected to said head for projecting said movable plates into the mold to form angular shaped cavities in said mold for the casting of said lugs.

4. The combination, with a bathtub pattern having space within for the mechanism described and brackets projected from its lower side with an eccentric shaft journaled therein, of two eccentrics upon said shaft with eccentric rods extended upwardly therefrom, two beams extended across inside of the pattern and provided each with two bearings, four levers journaled upon said bearings and connected in pairs to the upper ends of the eccentric rods, prongs connected to the outer ends of the levers and extended through the surface of the pattern to mold

the lugs for four feet simultaneously, and means for turning the eccentric shaft.

5 In a device for forming lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates resting on the top of and connected to a head and adapted to project through openings in the pattern, and means on said pattern and connected to said head for projecting said

movable plates into the mold to form cavities 10 in said mold for the casting of said lugs.

In testimony whereof, I, the said WILLIAM H. LOSE, have hereunto set my hand.

WILLIAM H. LOSE.

Witnesses:

JOHN G. STRUTT,
A. E. W. HANCE.