Feb. 4, 1930. F. J. CREQUE 1,745,408

MOLD

Filed March 13, 1928 2 Sheets-Sheet 1

Fig. 1.

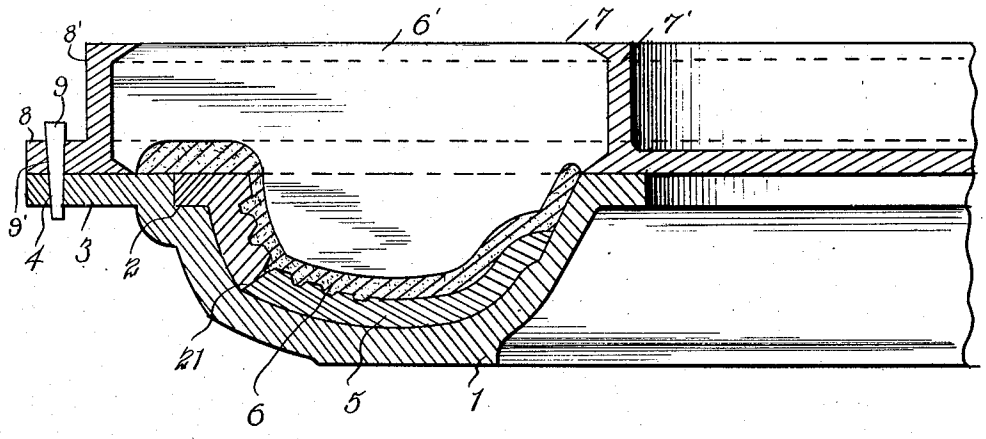



Fig. 2.

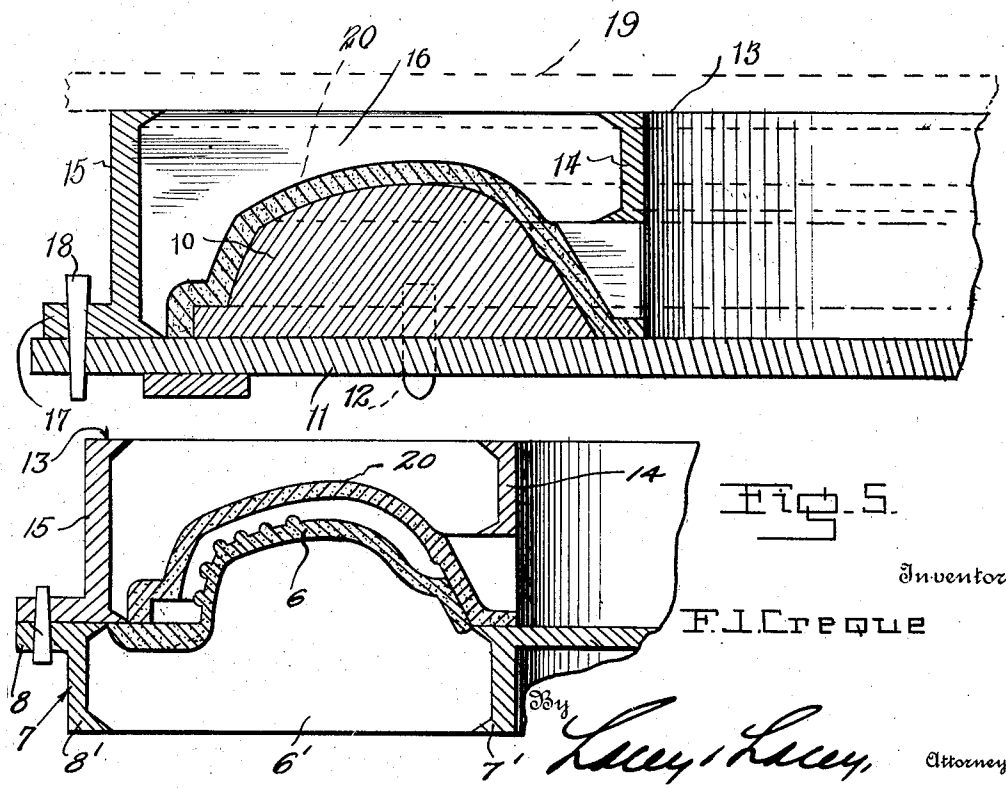



Fig. 5.

Inventor

F. J. Creque

By Lucy & Lucy,

Attorneys.

Feb. 4, 1930. F. J. CREQUE 1,745,408

MOLD

Filed March 13, 1928 2 Sheets-Sheet 2

Fig. 3.

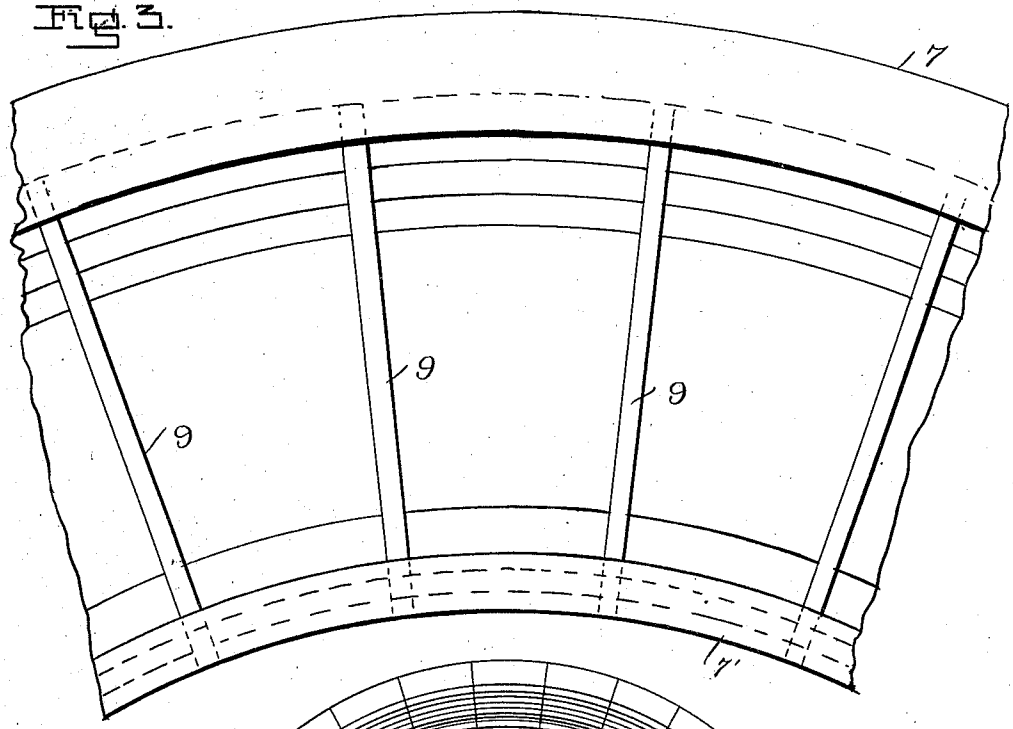
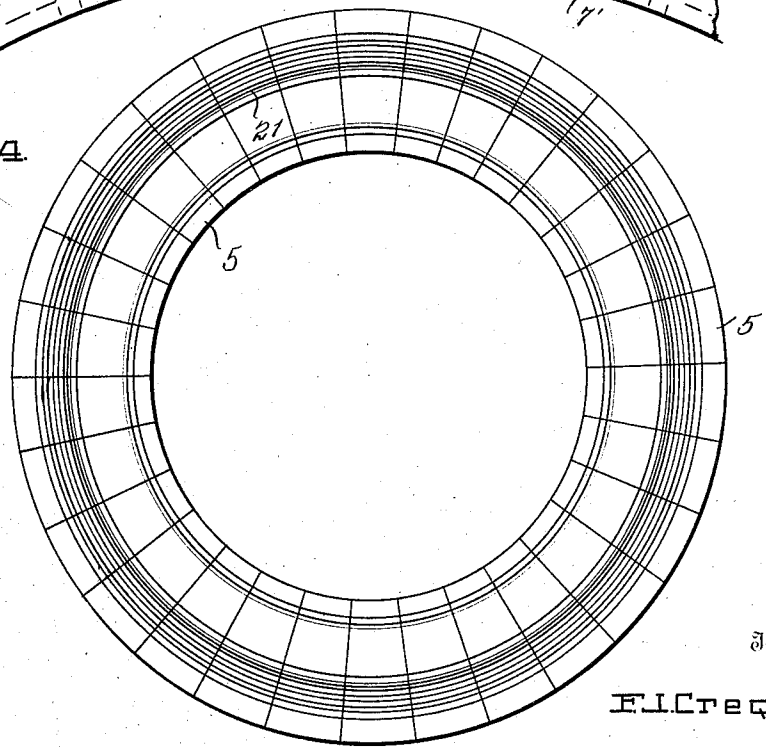



Fig. 4.




Inventor

F. J. Creque

By Lacey & Lacey, Attorneys

Patented Feb. 4, 1930

1,745,408

# UNITED STATES PATENT OFFICE

FRANK J. CREQUE, OF CUYAHOGA FALLS, OHIO

## MOLD

Application filed March 13, 1928. Serial No. 261,268.

The present invention is directed to improvements in methods for molding bushings for use in connection with molds for vehicle tires.

The primary object of the invention is to provide a method for molding bushings used in the molding of rubber tires, the method being such that the molded bushing will have impressed therein any suitable design.

Another object of the invention is to provide a method wherein the pattern for forming the designs upon the bushings is formed from a plurality of segments, which are formed in sections in order to facilitate the placing or removing the same from the mold.

Another object of the invention is to provide a method wherein the segments will be positively maintained in their proper position within the mold and held against dislodgment during the tamping of sand therein.

In the accompanying drawings:

Figure 1 is a fragmentary transverse sectional view showing the drag and ring assembled.

Figure 2 is a similar view of the cope flask and pattern ring.

Figure 3 is a fragmentary plan view of the flask.

Figure 4 is a plan view of the assembled pattern segments.

Figure 5 is a sectional view on the line 5—5 of Figure 3.

Referring to the drawing, 1 designates a cast iron bowl which is of ring form, said bowl having an annular shoulder 2 and a terminal flange 3 formed with openings 4. It is in this bowl part of the mold that the master pattern segments 5 are engaged which have formed in their upper faces suitable designs which will be impressed in the sand core 6. These segments are placed in the bowl with their outer ends abutting the shoulder 2, thus maintaining the same in fixed position during the tamping of the sand in the bowl to form the core 6. The sand is received in the ring drag 7 which is formed with a flange 8 adapted to rest upon the flange 3, there being pins 9 engaged in the openings 4 of the flange 3 and openings 9′ of the flange 8 to maintain the flask and bowl in operative position. The rings 7′ and 8′ comprising the drag 7 are maintained in concentric relation by the drag bars 6′.

After the sand has been thoroughly tamped the drag and mold are inverted, and the bowl is lifted leaving the pattern segment upon the core 6 formed by the tamped sand. These segments are then lifted leaving the impression of the design thereof in the sand core, as will be obvious. The cope portion of the mold is formed by placing the pattern ring 10, which may be formed from any suitable material, upon the bottom board 11 and anchoring the same thereto by dowel pins 12 fixed to the ring and removably fitted in said board.

The cope 13 consists of concentric rings 14 and 15 maintained in spaced relation by bars 16, the outermost ring 15 having an annular flange 17 which is keyed to the board 11 by pins 18. The sand is tamped in the cope and gated with conventional forms of horns. A mold board 19, indicated by dotted lines in Figure 2, is then placed upon the cope 13 and the assembly is then inverted, after which the pattern ring 10 is removed.

The cope 13 is then turned over and placed upon the now inverted core 6 in the drag 7 and the metal poured in the horns to be molded in the space between the core 6 and sand core 20 in the cope. It will be observed that the ring 15 is of such height that when the same is resting upon the flange 8 of the drag 7 the space between the cores 6 and 20 will be sufficient to mold bushings of proper thickness. The bushings thus formed are then placed in a conventional form of tire mold for completing the molding operation.

The master pattern segments 5 are made in sections, as indicated at 21 in Figure 4, to facilitate the removal thereof from the bowl 1.

Having thus described the invention, I claim:

A mold of the class described comprising an annular bowl having a continuous shoulder therein, a pattern consisting of a plurality of segments adapted to be placed transversely in the bowl with their outer ends engaging the shoulder, said segments

having designs thereon, a drag removably engaged with the bowl, a sand core tamped in the drag and upon the segments for receiving impressions of the designs of the segments, said drag and core being invertible to permit removal of the bowl and segments, a cope adapted to be placed upon the drag and having a sand core therein, the cores of the drag and cope cooperating to provide a space for receiving casting metal.

In testimony whereof I affix my signature.

FRANK J. CREQUE. [L. S.]