

J. O'KEEFE.
Molding Stove-Lid Bowl, &c

No. 226,672.

Patented April 20, 1880.

Fig. 1.

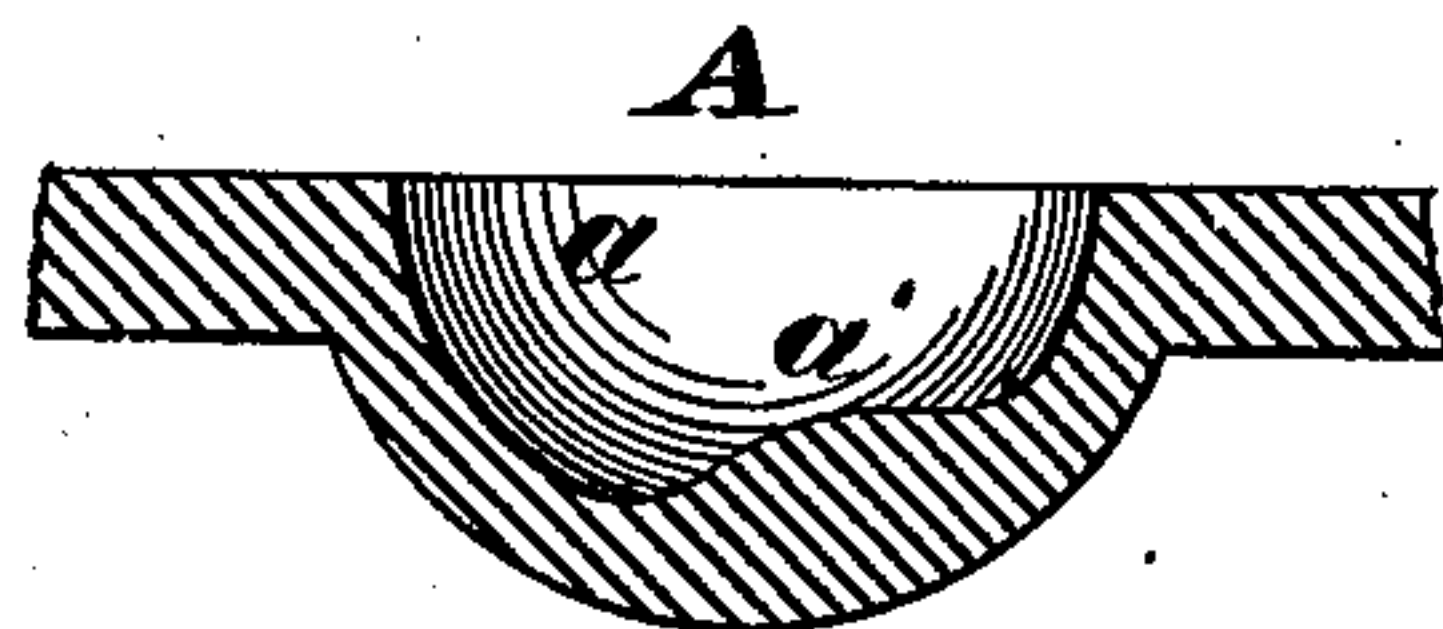


Fig. 2.

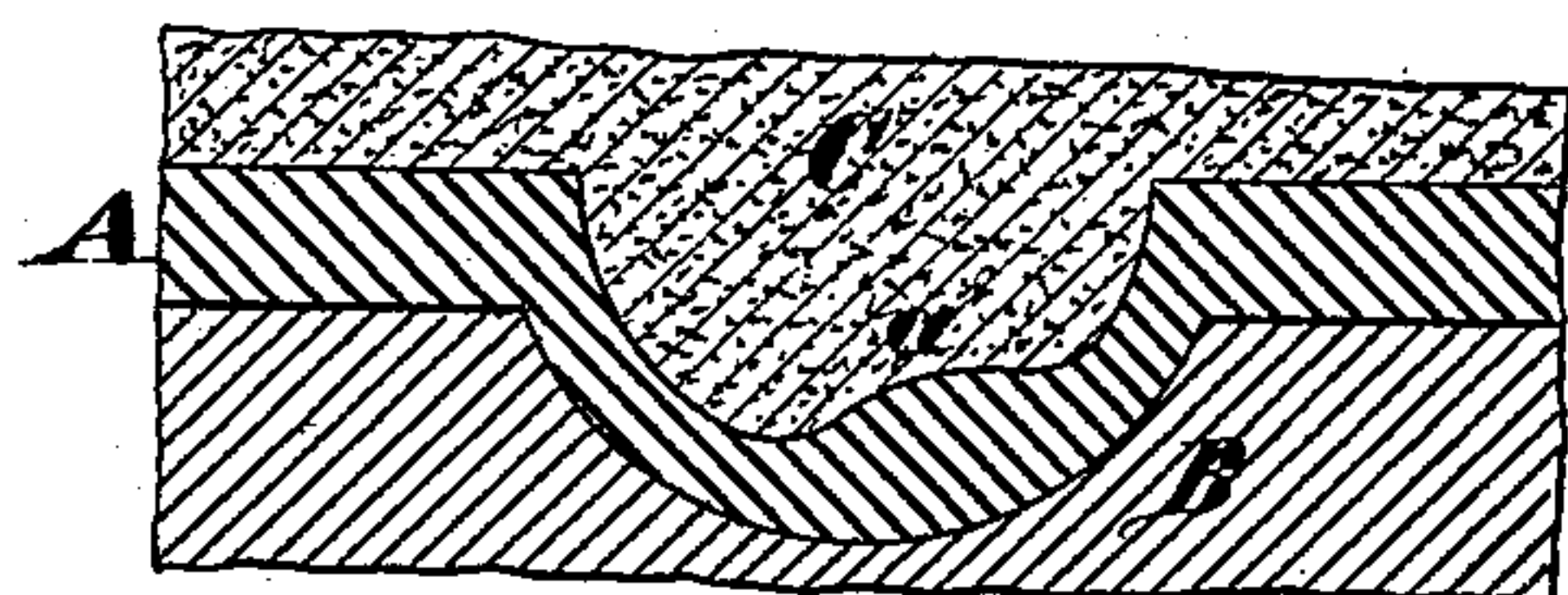


Fig. 3.

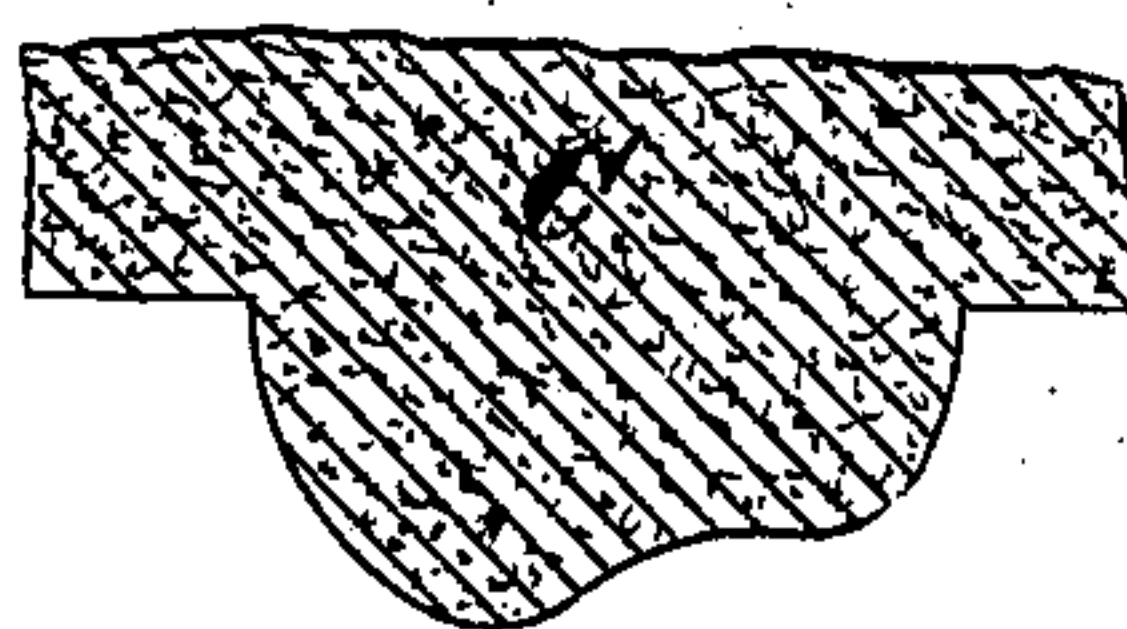


Fig. 4.

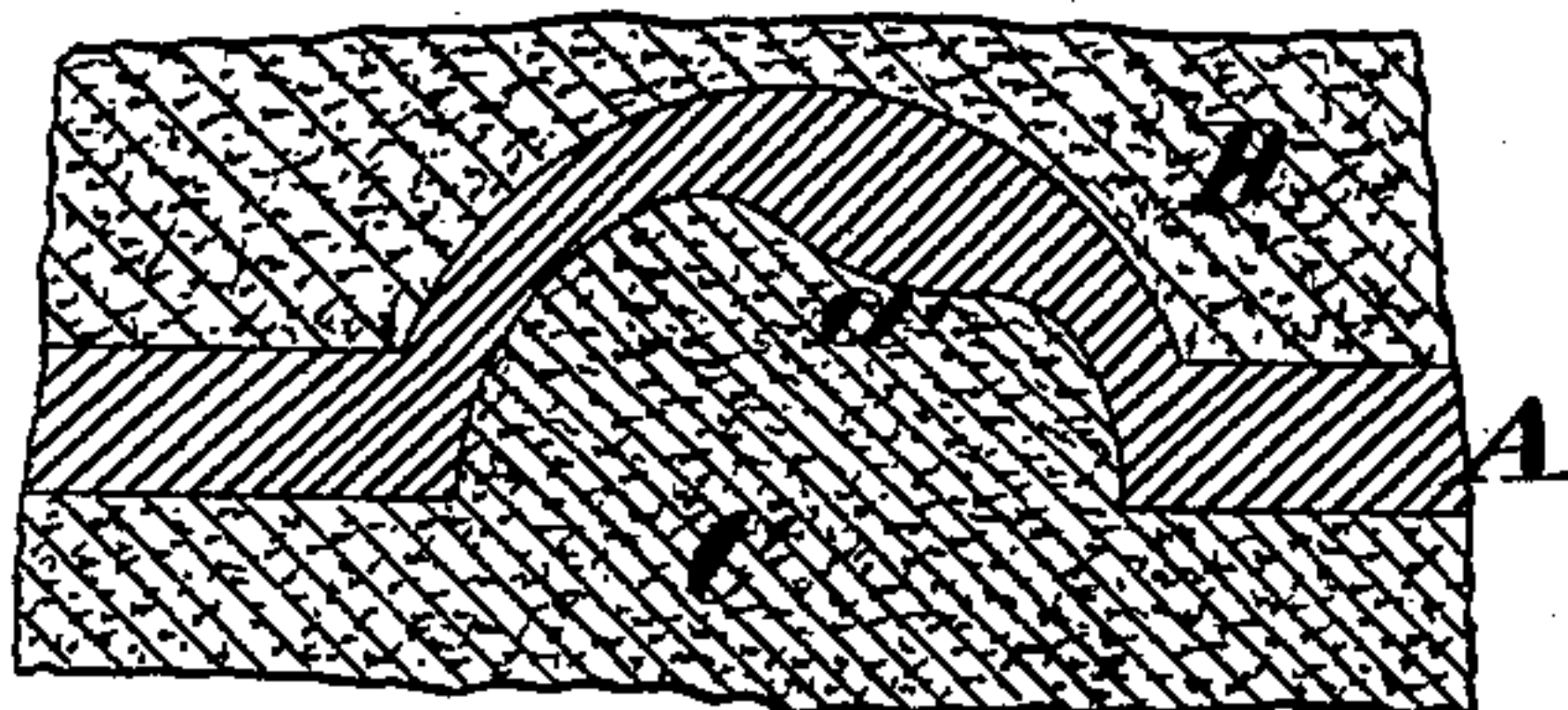


Fig. 5.

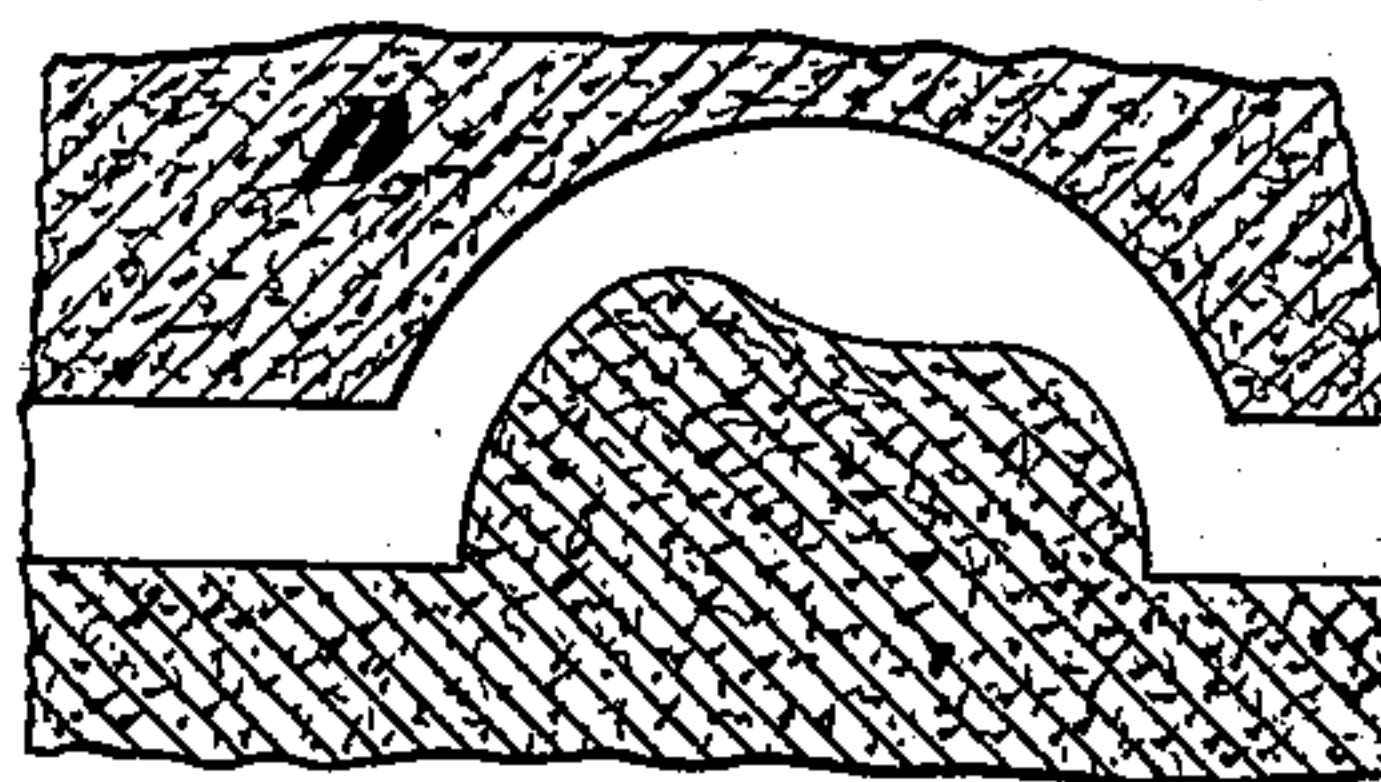


Fig. 6.

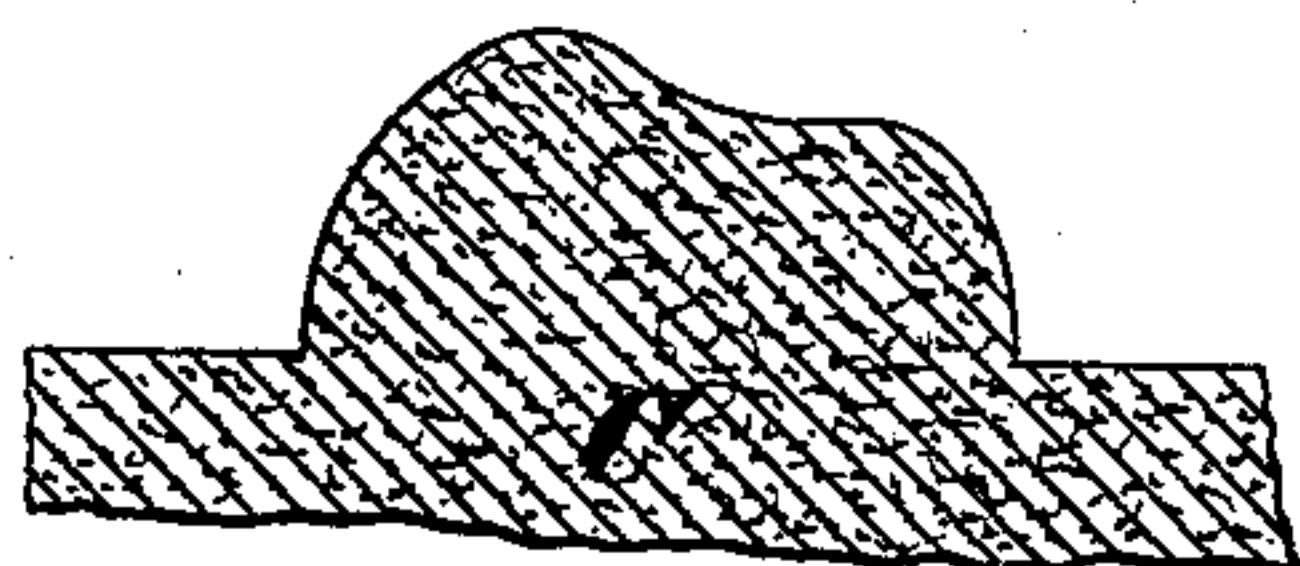


Fig. 7.

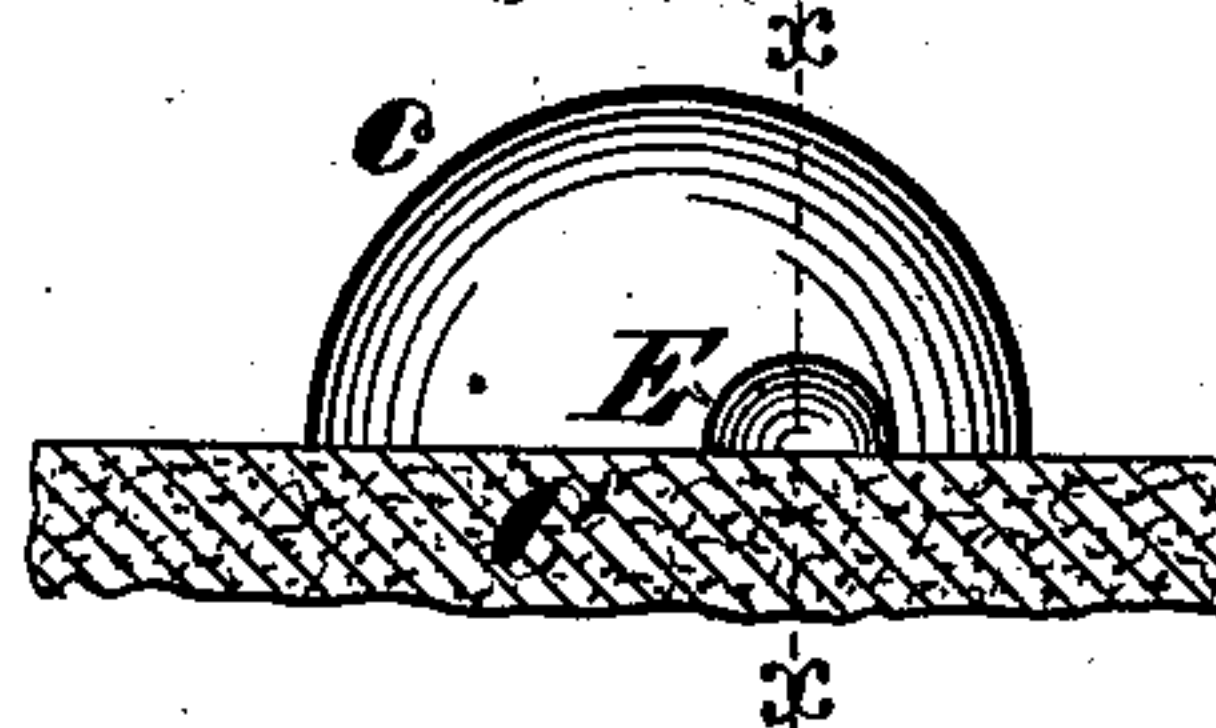


Fig. 8.

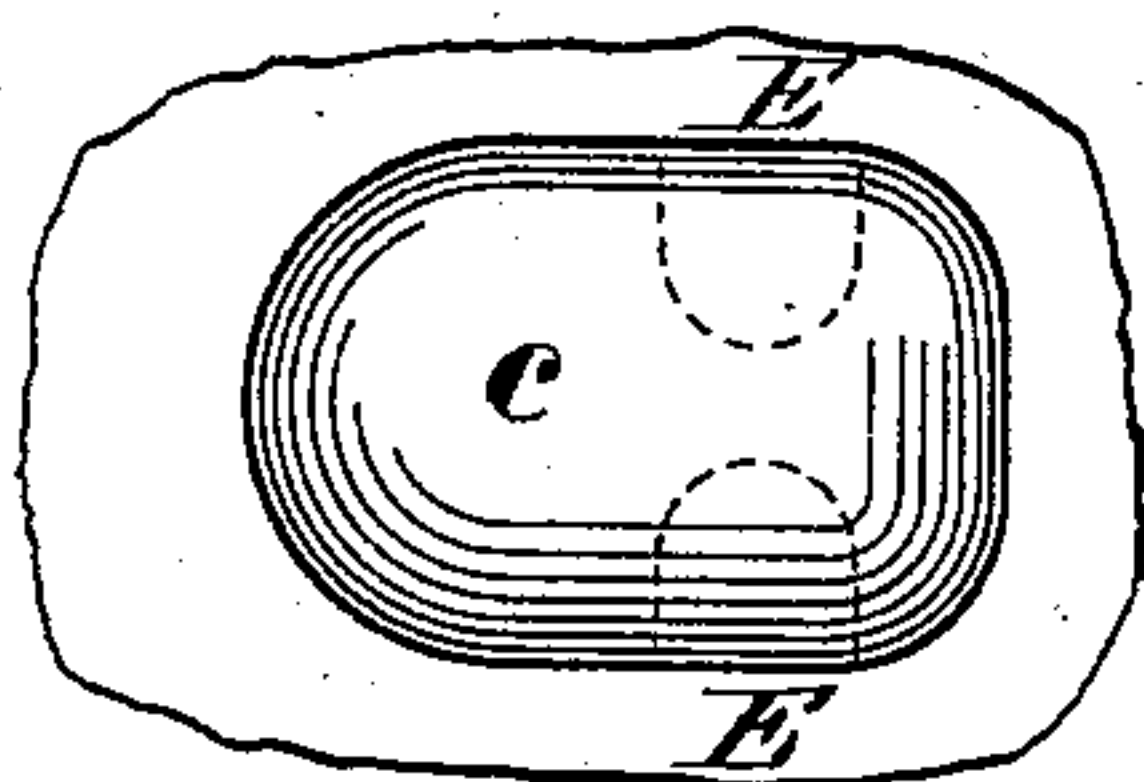
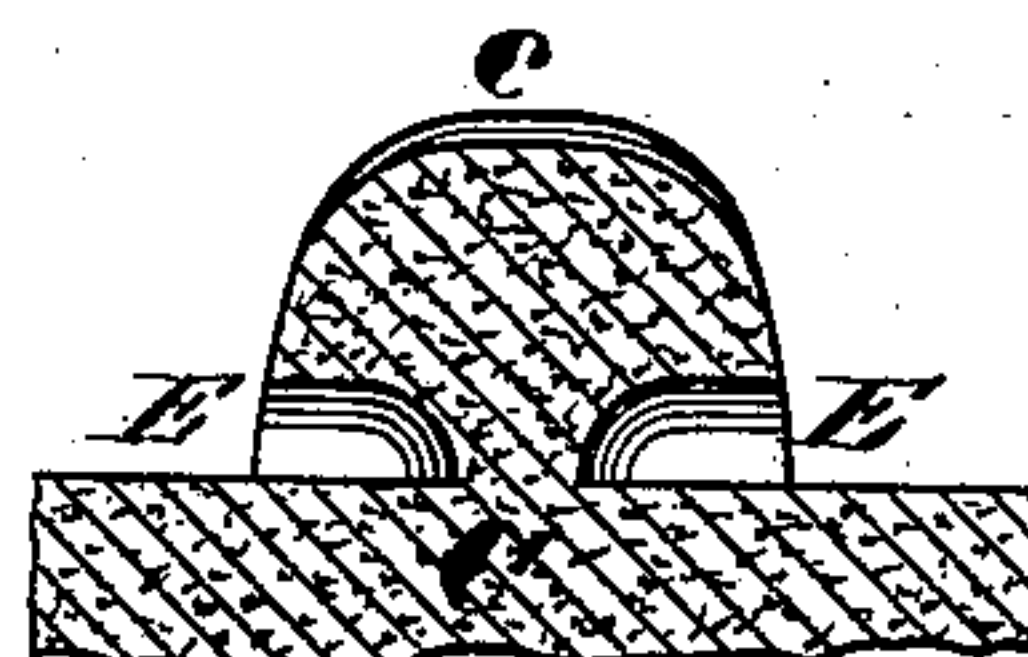


Fig. 9.



Attest.

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UNITED STATES PATENT OFFICE.

JOHN O'KEEFE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO EXCELSIOR MANUFACTURING COMPANY, OF SAME PLACE.

MOLDING STOVE-LID BOWLS, &c.

SPECIFICATION forming part of Letters Patent No. 226,672, dated April 20, 1880.

Application filed February 16, 1880.

To all whom it may concern:

Be it known that I, JOHN O'KEEFE, of St. Louis, Missouri, have made a new and useful Improvement in Molding Stove-Lid Bowls and other Articles, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a vertical section taken through a stove-lid pattern used in carrying out the improvement; Fig. 2, a vertical section taken through the core-pattern and follow-board; Fig. 3, a sectional view of the core; Fig. 4, a sectional view, showing the two parts of the mold and the pattern; Fig. 5, a view similar to that of Fig. 4, the pattern being removed; Fig. 6, a sectional view of the core in position for being punched; and Figs. 7, 8, 9, respectively, a side elevation, a plan, and a sectional view (taken on the line *xx* of Fig. 7) of the core after having been punched.

The same letters denote the same parts.

The present invention has relation to that form of stove-lid bowl wherein the means for holding the lid-lifter therein consists in nibs projecting from the sides of the bowl.

Heretofore in casting such bowls the custom has been to first form a core the exact shape of the inside of the bowl, and then, and by means of a suitable apparatus therefor, to punch cavities in the bowl-core of the shape and size of the intended nibs. Now, the effect of this practice is to cause the sand in the core immediately over the points where the cavities in question are formed to be compressed too much and to such a degree of hardness as to cause blow-holes to occur in the casting, one-third of the lids, in practice, being spoiled in the casting.

To obviate this difficulty is the aim of this improvement, which consists in an improved mode of molding the bowl-core, as follows: In place of molding the bowl-core the exact shape and size of the inside of the bowl, the core is formed with a depression above the points where the nib-cavities are to be formed, the capacity of which depression is equal to the sum of the capacities of the intended cavities. The latter are then formed by punching the core in the usual way, and in so doing the sand, instead of being compressed, finds vent by reason of the space left by the removal of the

segment from the core, and is moved so as to fill out the core to the curvature of the finished bowl, and when thus filled out and formed the core is uniformly of the proper degree of hardness, and the casting can then be made without defects.

The method is illustrated in the annexed drawings, A, Fig. 1, representing the form of bowl-pattern used in carrying out the improved method. Instead of having upon its inside the shape of the intended bowl, it has a protuberance, *a'*, the contents of which are equivalent to the contents of the bowl-nibs. The pattern A is then placed on a follow-board, B, and the sand C rammed in the usual way, leaving a core of the form shown in Fig. 3. The other part, D, of the mold is then formed in the customary manner, and as shown in Figs. 4, 5. The part D is then removed, leaving the core C in the position of Fig. 6. The punching device (the desirable form of which is described in an application for Letters Patent therefor of even date herewith) is then brought into use, and the nib-cavities E E, Figs. 7, 8, 9, are formed in the core C. As the cavities are punched the form of the core changes from that shown in Fig. 6 to that shown in Figs. 7, 8, 9, being at the surface the exact shape of the inside of the intended bowl, and the sand throughout the core is of the proper degree of hardness for casting, and the bowl when cast is free from blow-holes.

The improvement is especially adapted to stove-lids of the kind named; but it is also useful, in molding other articles, in forming the molds for which cavities or depressions have to be punched in the sand.

I claim—

The herein-described mode of molding a core having cavities for stove-lids and other articles, which consists in forming the core with a depression the capacity of which is equal to the sum of the capacities of the cavities to be formed in the core, and then filling out the core to its final shape by punching the cavities, substantially as described.

Witness my hand.

JNO. O'KEEFE.

Witnesses:

CHAS. D. MOODY,
SAML. V. BOYD.