R. L. WILLIAMS.

FURNACE FORMING DIE.

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981,731. Patented Jan. 17, 1911.

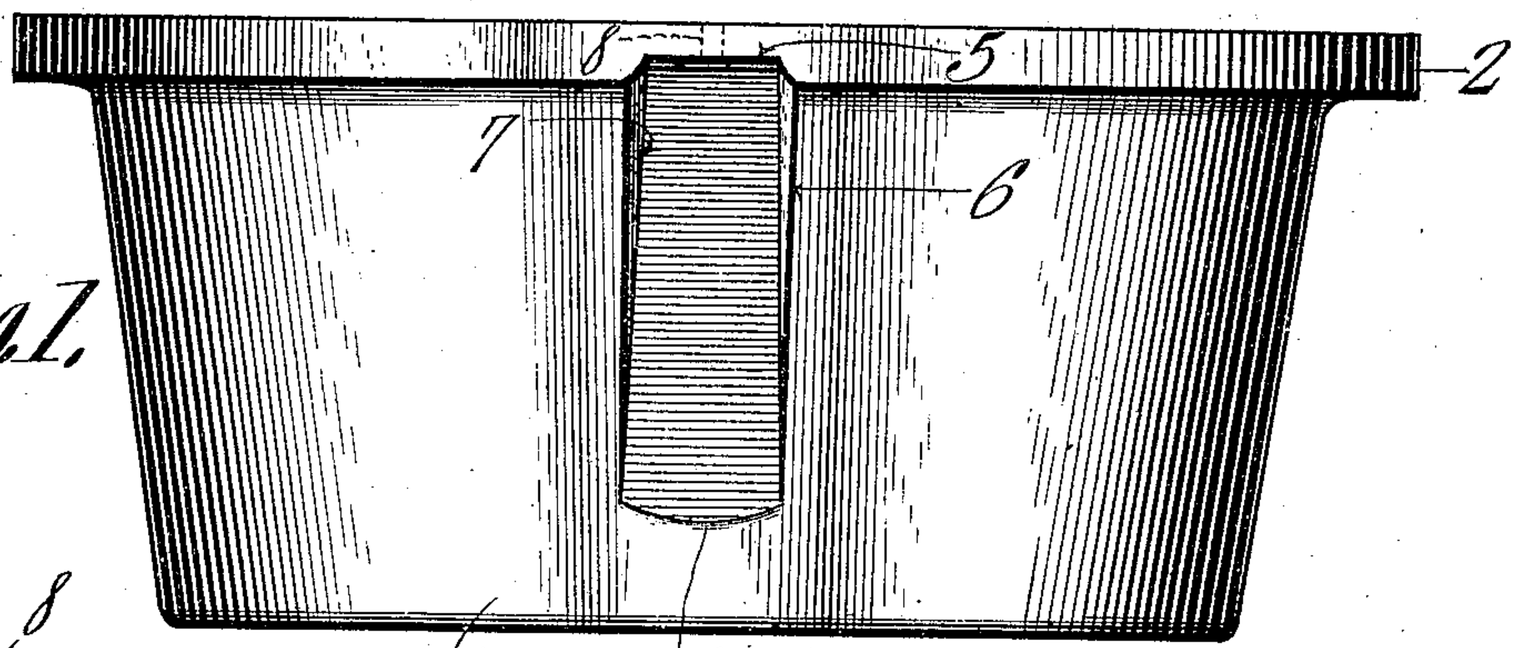


Fig. 1.

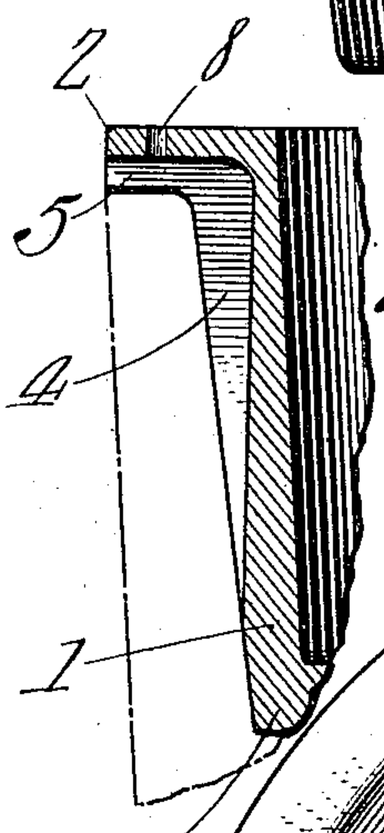


Fig. 3.

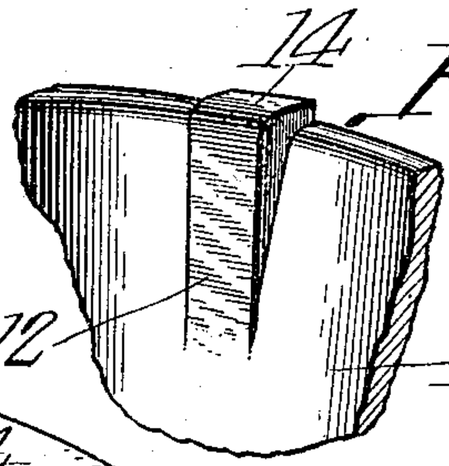
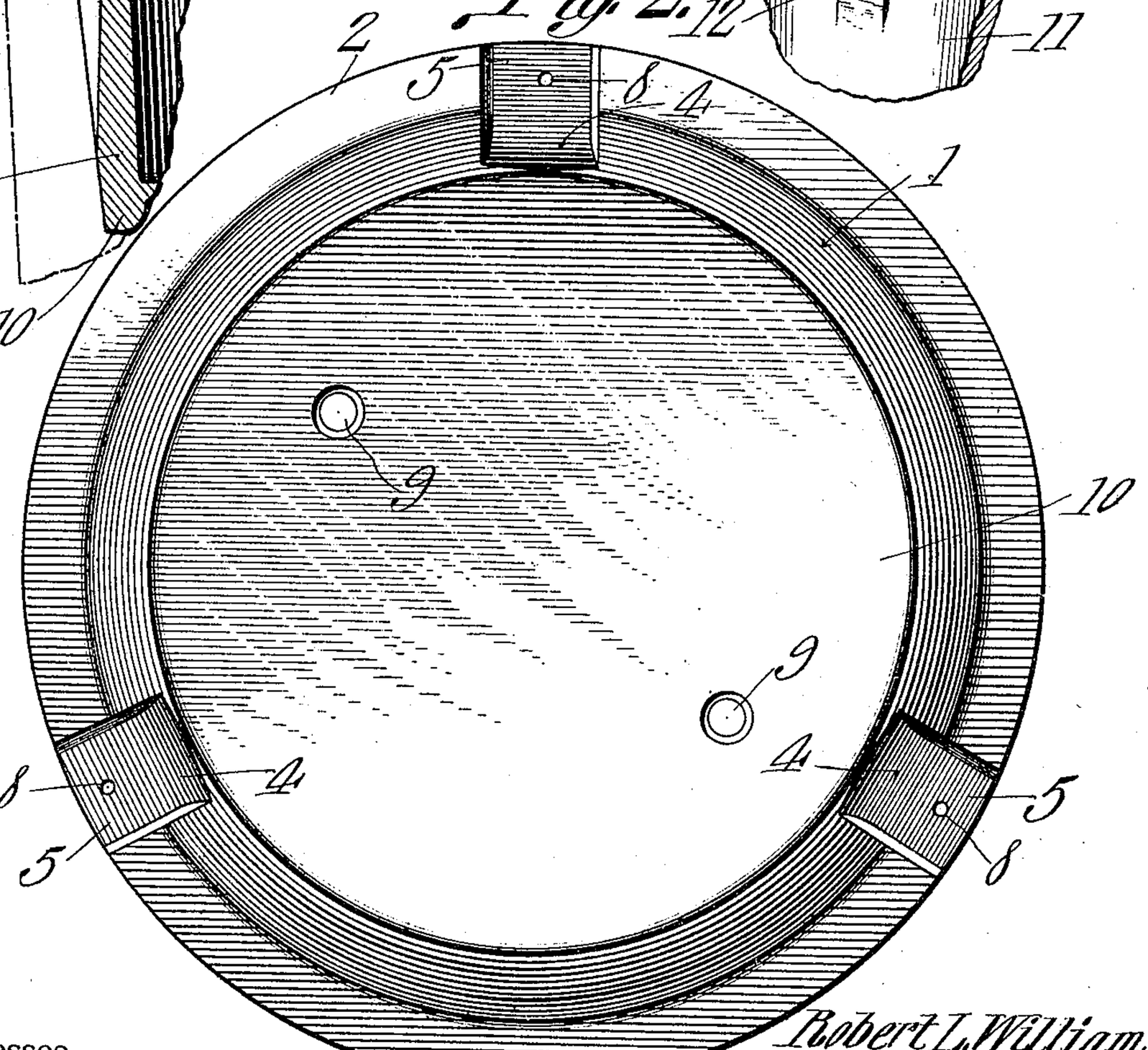


Fig. 4.

Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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FURNACE-FORMING DIE.

981,731. Specification of Letters Patent. **Patented Jan. 17, 1911.**

Application filed May 23, 1910. Serial No. 562,992.

To all whom it may concern:

Be it known that I, ROBERT L. WILLIAMS, a citizen of the United States, residing at McDade, in the county of Bastrop and State of Texas, have invented a new and useful Furnace-Forming Die, of which the following is a specification.

By way of explanation, I will state that it is customary, in warm climates, to employ, for cooking, for ironing and the like, a simple furnace, adapted to be used out of doors. The furnaces are fictile elements, being ordinarily fashioned from clay. The furnaces are provided, at spaced points along their upper edge, with upstanding lugs, the function of these lugs being to space a pot or the like from the upper edge of the furnace-proper, so that there may be a draft between the upper edge of the furnace and the pot or other article which is resting thereon. The fashioning of these lugs has hitherto been a matter of considerable difficulty. The lugs have been applied to the completed furnace, by hand, the operation increasing materially the cost of the furnace, both on account of the additional labor required, and on account of the fact that these manually applied lugs not infrequently crack off when the furnaces are dried and burned. For the reasons above pointed out, these lugs, although important elements in a furnace of the character described, have in some cases been abandoned entirely, and in other cases so altered in contour that their functions have been materially impaired.

It is the object of this invention to provide a die, so constructed that it may be employed in fashioning, in a single operation, a fictile furnace of the character above mentioned, and the lugs thereon, the furnace and the lugs being fashioned in one piece, and at a single operation.

Another object of the invention is to provide a fictile furnace, having lugs, extended along the inner face of the furnace to reinforce the side wall of the same, the lugs being carried across the upper edge of the furnace so as to provide the necessary draft between the furnace and the article which is rested thereon.

The drawings show typical embodiments merely, and it is to be understood that changes, properly falling within the scope of what is claimed, may be made, without departing from the spirit of the invention.

In the drawings,—Figure 1 is a side elevation of a furnace forming die constructed in accordance with my invention; Fig. 2 is a bottom plan thereof; Fig. 3 is a fragmental transverse section of the die; and Fig. 4 is a detail perspective showing a portion of a fictile furnace, as it will appear when completed by the die disclosed herein.

The die, which is preferably formed from metal, may be described roughly as being frusto-conical in general outline, the smaller end of the die being, of course, downwardly disposed in operation. The die, although a one-piece structure, may for convenience in description be divided into a body 1 and a flange 2, the flange outstanding from the periphery of the body 1 at the upper end thereof. In the exterior face of the body 1, there are a plurality of channels 4, disposed in upright relation, three of these channels being shown, although more or less than that number may be employed at the option of the manufacturer. As seen to best advantage in Fig. 3, the channels 4 are carried outwardly from the body 1 into the lower face of the flange 2, as denoted by the numeral 5. Moreover, by referring to Fig. 1 of the drawings, it will be seen that the side walls of the channels 4 diverge as at 6, as they approach the flange 2. As the side walls of the channels 4 extend inwardly toward the center of the body 1, the said side walls converge as at 7. Thus, each channel 4 is widest adjacent its bottom, and likewise wider at its front than at its back. By referring to Fig. 1 it will be seen that the form of the channel hereinbefore referred to is carried out in that portion of the channel which, as denoted by the numeral 5, is located in the lower face of the flange 2; and thus the portion 5 of the channel takes the form of an opening in the lower face of the flange 2, flaring outwardly and converging inwardly toward the center of the body 1.

It will be seen that when the die, constructed as hereinbefore pointed out, is thrust into the clay which is to form the furnace, the die may readily be withdrawn, without impairing the lugs which are formed in the channels 4. This ready withdrawal of the die from the fictile mass, results from the fact that the side walls of the channels 4 diverge as at 6, and converge as at 7, the die being withdrawn from the clay, without tearing away any portion of the lugs formed in each of the channels 4. The die is commonly well oiled upon its exterior, and

ordinarily the die may be removed from the clay without difficulty. Sometimes, however, when a tough, tenacious material is being worked, the suction of the die must be considered. In such case, the flange 2 is provided with a plurality of vents 8, the same being extended downwardly through the flange, to communicate with that portion 5 of the channel 4 which is located in the lower face of the flange. The positions of the vents 8 will be well understood by a comparison of Figs. 2 and 3. Moreover, the body 1 may be provided with a plurality of outlet valves 9, located in the bottom 10 of the body, and adapted to permit any air which may be imprisoned beneath the die, to find its way outwardly, and likewise, to permit the air to pass beneath the bottom of the die when the die is being drawn out of the material.

Referring to Fig. 4, wherein a portion of the completed furnace is shown, it will be seen that the lug 12 is located upon the inner face of the side 11 of the furnace, the lug, as shown at 14, being extended upwardly over the upper edge of the body 11.

In Fig. 3 of the drawings, the position of the side wall of the furnace is shown in dotted line, in connection with the die whereby the furnace is formed.

Owing to the frusto-conical form of the body 1, the channel 4 will, at its lower end, run out to nothing, the lug 12 in the completed furnace, merging at its lower end into the side wall 11 of the furnace. The portions 5 of the channels, serve to define chambers beneath the flange 2, and into these chambers, the air will flow through the vents 8. During the process of withdrawing the die from the fictile material, the air will pass through the vents 8 into the chambers defined by the portions 5 of the channels, thus lessening the suction of the die, before the die has been elevated to such an extent that the lower face of the flange 2 is raised above the upper surface of the fictile material.

Having thus described the invention, what is claimed is:—

A die for the formation of fictile pots, comprising a body provided at its top with an outstanding flange, there being spaced, upright channels in the exterior face of the body, the channels being extended outwardly from the body across the lower face of the flange, there being vents through the flange, communicating with the extended portions of the channels, said extended portions constituting chambers beneath the flange, into which chambers the air will flow through the vents, during the withdrawal of the die from the fictile material, but before the lower face of the flange has been elevated above the material.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBERT L. WILLIAMS.

Witnesses:
S. L. Brannon,
D. R. Le Master.