

J. M. Wilbur, Stereotyping

No. 71,104.

Patented Nov 19, 1867

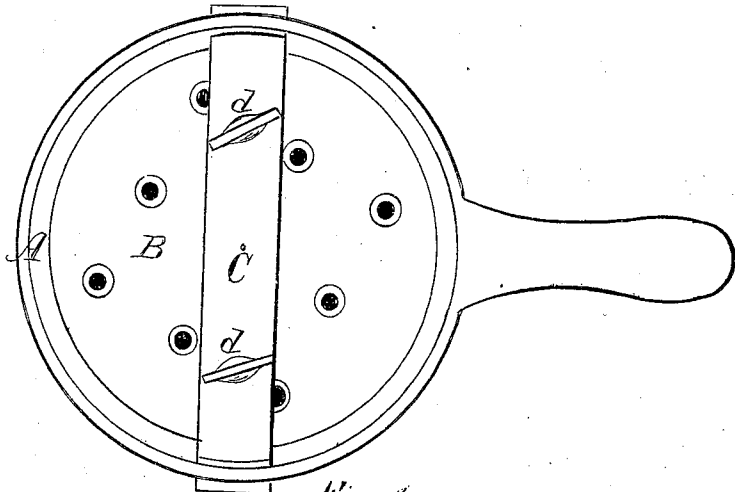


Fig. 1.

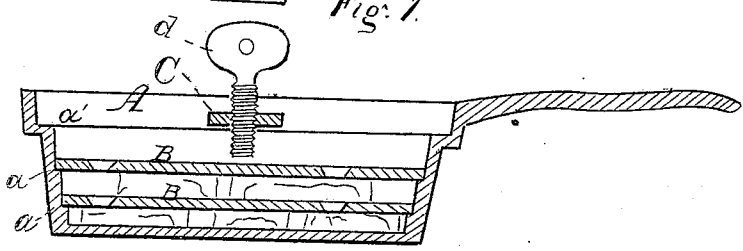


Fig. 2.

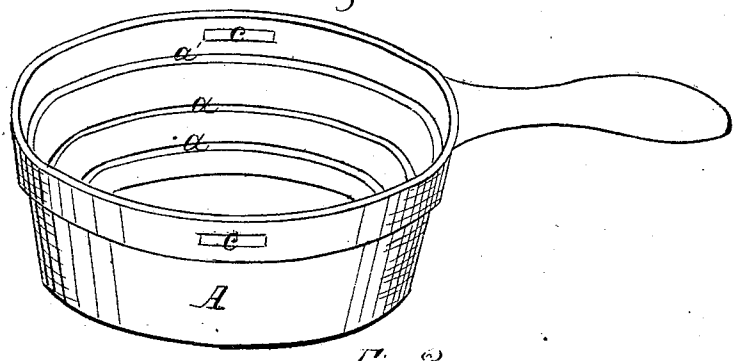


Fig. 3.

Witness
J. L. Ervin

Inventor
J. M. Wilbur

United States Patent Office.

J. M. WILLBUR, OF CLEVELAND, OHIO.

Letters Patent No. 71,104, dated November 19, 1867.

IMPROVEMENT IN STEREOTYPE CASTING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. M. WILLBUR, of Cleveland, county of Cuyahoga, in the State of Ohio, have invented a new and improved Apparatus for Casting Stereotype and Similar Plates; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a plan view.

Figure 2 is a vertical section.

Figure 3 is a perspective view with inside plates removed.

A represents the pan; B B are perforated plates; C represents a cross-bar, provided with thumb set-screws. The red lines represent casts or moulds placed between the plates B B.

This apparatus consists of a pan, A, of any convenient size and shape, according to the desired capacity of the apparatus, and which may be made of cast iron, clay, or any other suitable substance capable of resisting a greater degree of heat than the melted metal. Upon the insides of said pan are ledges *a a*, sufficiently distant apart to leave space between the plates B B. B B are perforated plates, intended to be used as division-plates between the different layers of casts or moulds. They rest upon the ledges *a a*. The plates B B are perforated with a sufficient number of holes to permit the passage of molten metal from one layer to another of the moulds. A cross-bar, C, passes through the holes *c c* in the sides of the pan, and has thumb set-screws *d d* passing down through it to hold the plates and layers of casts down securely in place. The holes in the plates B B also permit the escape of air in the process of casting.

Having thus described the apparatus, the practical operation is as follows: A number of casts or moulds, for casting stereotype or any similar plates, are prepared and placed face downwards in the bottom of the pan, separated a little space from one another. The said casts or moulds have a sufficient number of creases in the sides to admit the melted metal to flow into and fill said moulds. Then one of the plates, B, is placed on top of the casts or moulds, taking care to have some of the holes in said plate B over some of the spaces between the casts, to form a passage for the melted metal to flow into all the casts. The casts are of a thickness sufficient to just fill the space between the plates B B and the bottom of said pan. Next another layer of casts or moulds, arranged in like manner upon the top of the first plate B, and are covered with the second plate B, when the cross-bar C is put in place and the screws *d d* turned down, holding the whole sets of plates and layers of casts securely in place. The pan is then placed over a fire, and the whole heated to a temperature equivalent to that for melting the metal to be cast into said moulds, when the melted metal is poured in in sufficient quantity to fill all the moulds, and also up to the upper rim or ledge *a'* of said pan. The object of heating said pan is to insure the flow of the melted metal into all of the fine lines and corners of said moulds. When this is done the pan is removed from the fire to be cooled. While in the process of cooling, to provide against the face of the newly-cast plates becoming imperfect by the shrinkage of the cooling metal, it will be seen that by the arrangement of the casts in the pan the bottom or lower portion, in cooling, causes the shrinkage to be toward the face of the type, the face of the casts being downward, so that the metal remains intact in the said moulds until quite cold, thus preserving the face of the new-cast plates sharp and clear. By providing the ledges *a a* in the sides of the pan A, for the plates B B to rest upon, and having them closely fitted, the melted metal is not liable to be cooled as when it is permitted to pass down the sides of a pan, and the layers of casts, when completed, are only connected at the points where the holes intervene, thus permitting the different layers of casts to be more easily separated.

By this apparatus casts of any kind may be taken perfectly in any metal that can be fused and poured into moulds. Brass and copper stamps and dies, for seals, &c., may be perfectly cast by this process, by having a pan or crucible made of a material that is capable of standing a greater degree of heat than the metal to be melted, as by heating the said pan or crucible insures the flow of metal into all the interstices of the moulds before it is allowed to cool. Any cast may be made by the use of this apparatus, from a single type or letter to any number of plates, either in brass, copper, or type-metal, as has been fully tested by experiment.

Having thus described the construction and operation of my improved apparatus, what I claim, and desire to secure by Letters Patent, is—

The stereotype-pan A, provided with the ledges *a a*, in combination with the plates B B, constructed substantially as and for the purpose set forth.

J. M. WILLBUR.

Witnesses:

JNO. HANAN,

J. C. ERVIN.