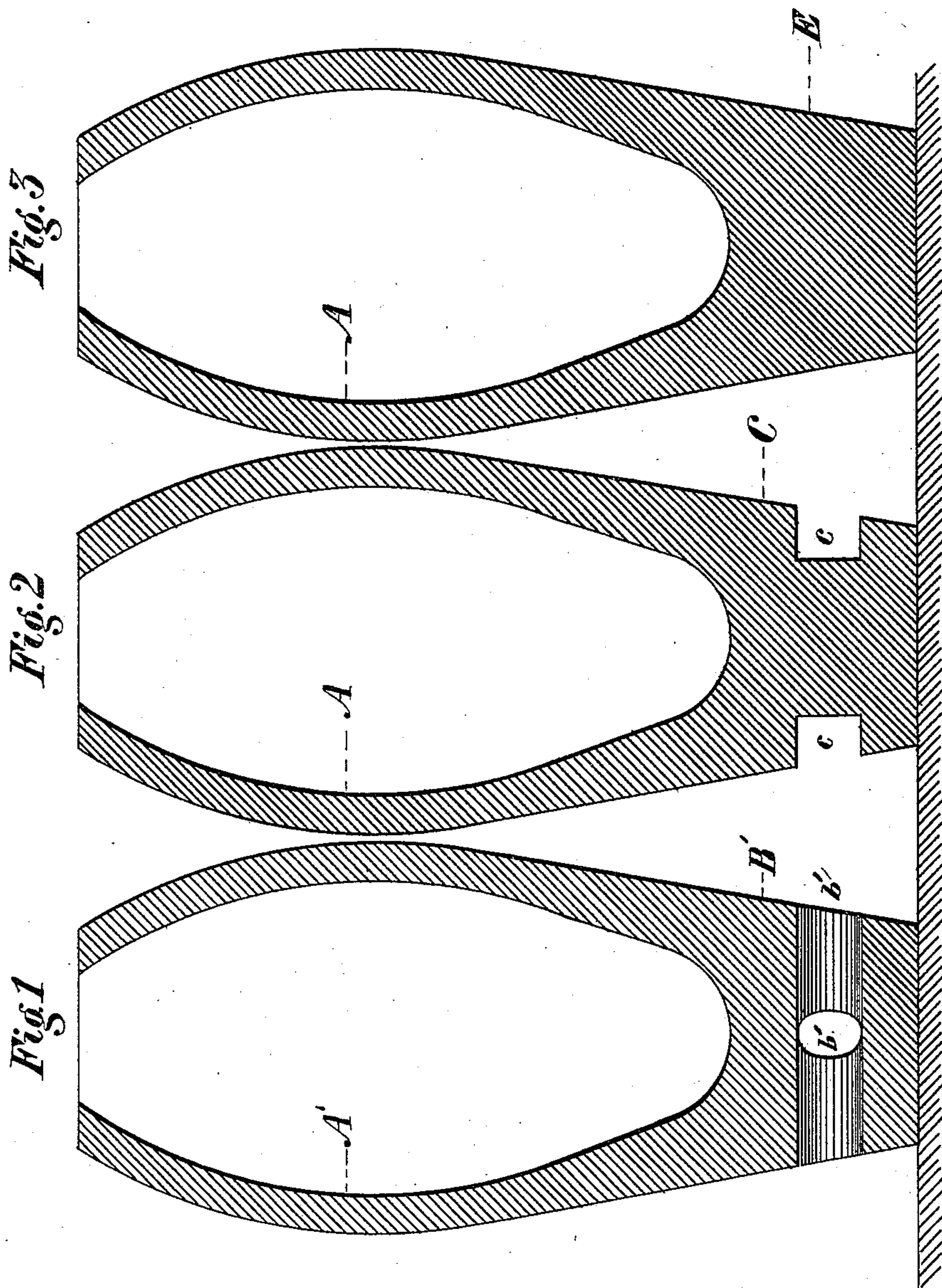


(No Model.)

G. NIMMO.  
CRUCIBLE FOR THE MANUFACTURE OF STEEL.

No. 449,803.

Patented Apr. 7, 1891.



WITNESSES:

*Lucilla Stevenson.*  
*J. H. Stevenson*

INVENTOR

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ATTORNEY



# UNITED STATES PATENT OFFICE.

GEORGE NIMMO, OF ALLEGHENY, PENNSYLVANIA.

## CRUCIBLE FOR THE MANUFACTURE OF STEEL.

SPECIFICATION forming part of Letters Patent No. 449,803, dated April 7, 1891.

Application filed March 27, 1890. Serial No. 345,603. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE NIMMO, of Allegheny, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Crucibles for the Manufacture of Steel and other Purposes, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

Similar letters of reference indicate corresponding parts.

My invention relates to converters such as are used in the steel art, the distinct or peculiar features of which will be fully set forth hereinafter.

The accompanying drawings show three figures, all of which illustrate my invention.

Figures 1, 2, and 3 show converters in full-length section.

A represents the body of the converter in Fig. 2.

B is the base or stand of the converter.

b b is a portion of the base cut out for admission of the flame to the bottom of the converter or crucible.

As a modification of the converter shown in Fig. 2, I show another in Fig. 1, wherein A' represents the main body of the converter or crucible. B' is the base or stand, and as a means of admitting flame or heat to the bottom thereof I have two holes passing entirely through this base at right angles and are marked b' b' in the drawings. It is usual to create such converters without this base or stand which I show, and in lieu thereof to have a separate stand upon which to place the converter in the furnace. The reason for thus raising the converter by such means is to place the body of the same sufficiently high, so that the air coming through the port-holes of the furnace will not strike against the sides or "vital" part of the converter or crucible. Without such elevating of the converter in the furnace the air will strike against the vital part thereof, and very often this results in breakage of the converter, loss of the melt, and disastrous results follow.

My invention accomplishes all that can be desired in forming the body of the converter on a stand or base integral therewith.

The crucibles generally in use have bottoms only about two inches thick, and hence when such crucible is placed in a furnace, especially gas-furnaces, the crucible is below the point of combustion, and hence the action of the air before referred to.

I am aware that it is not new to provide an earthenware vessel with a depending corrugated flange, through which hot air is allowed to circulate into the space beneath the bottom of the vessel, and such construction I therefore disclaim. The object I have in view is to strengthen the crucible at its weakest and most vital point and enable it to successfully resist the weight of the metal to be contained therein as well as the intense heat to which it is subjected while in use in a high-temperature furnace. To the accomplishment of these ends I provide the crucible with an integral solid base, the thickness of which throughout all points is much greater than the sides of the crucible, and for the better circulation of the hot air I provide the transverse passages through certain parts of the base of the crucible.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. As a new article of manufacture, a crucible or converter for melting steel provided with the integral thick base and the channel or passage in said base below the chamber of the crucible, as and for the purpose described.

2. As a new article of manufacture, a crucible or converter for melting steel provided with the integral thick base, and the transverse passages extending entirely through said base below the chamber of the crucible and intersecting each other at or near the middle of the crucible, as and for the purpose described.

In testimony that I claim the foregoing as and for my invention I hereto set my hand in presence of two witnesses.

GEORGE NIMMO.

Witnesses:

JOHN H. CRATTY,  
C. P. WALKER.