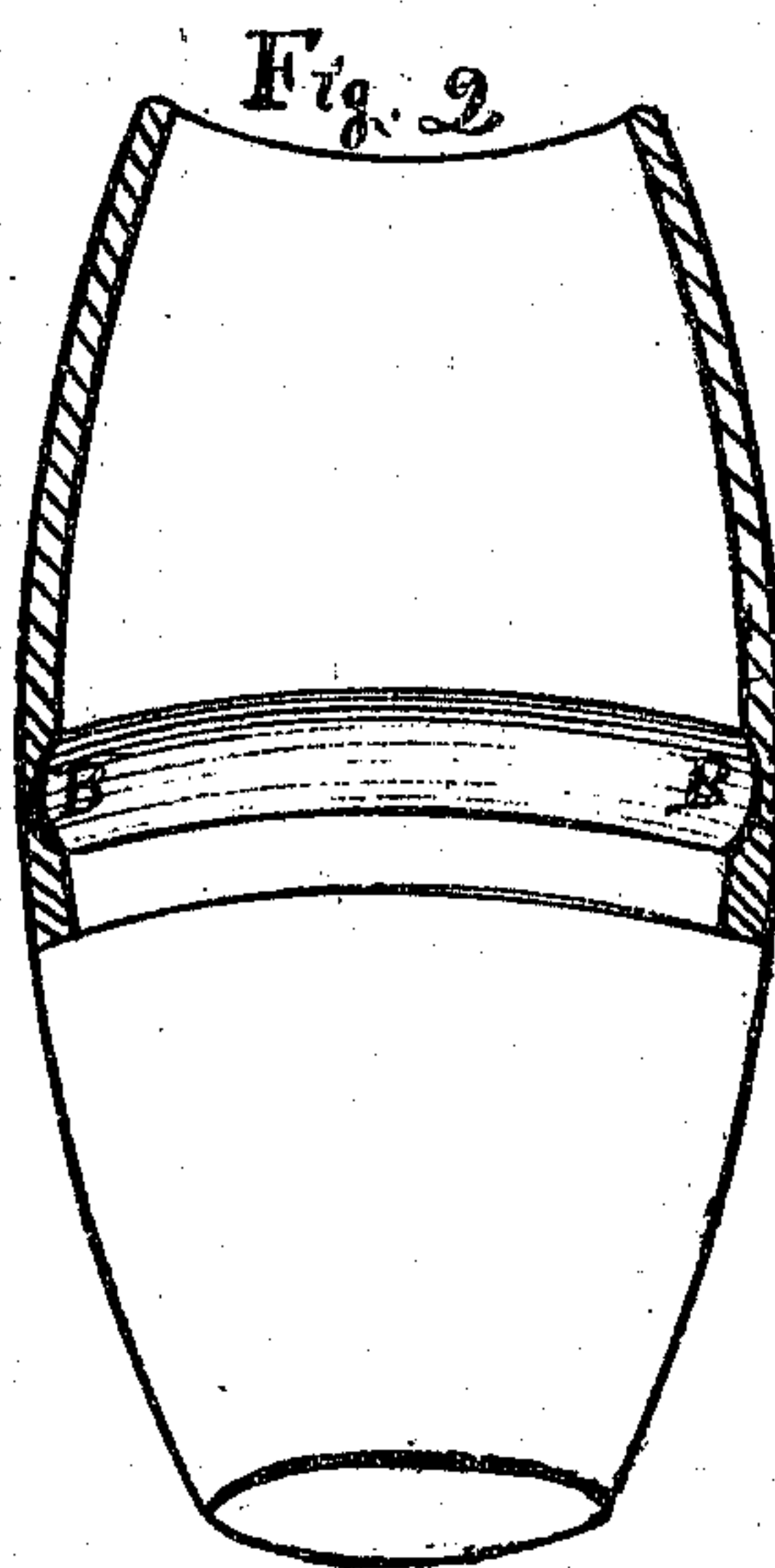
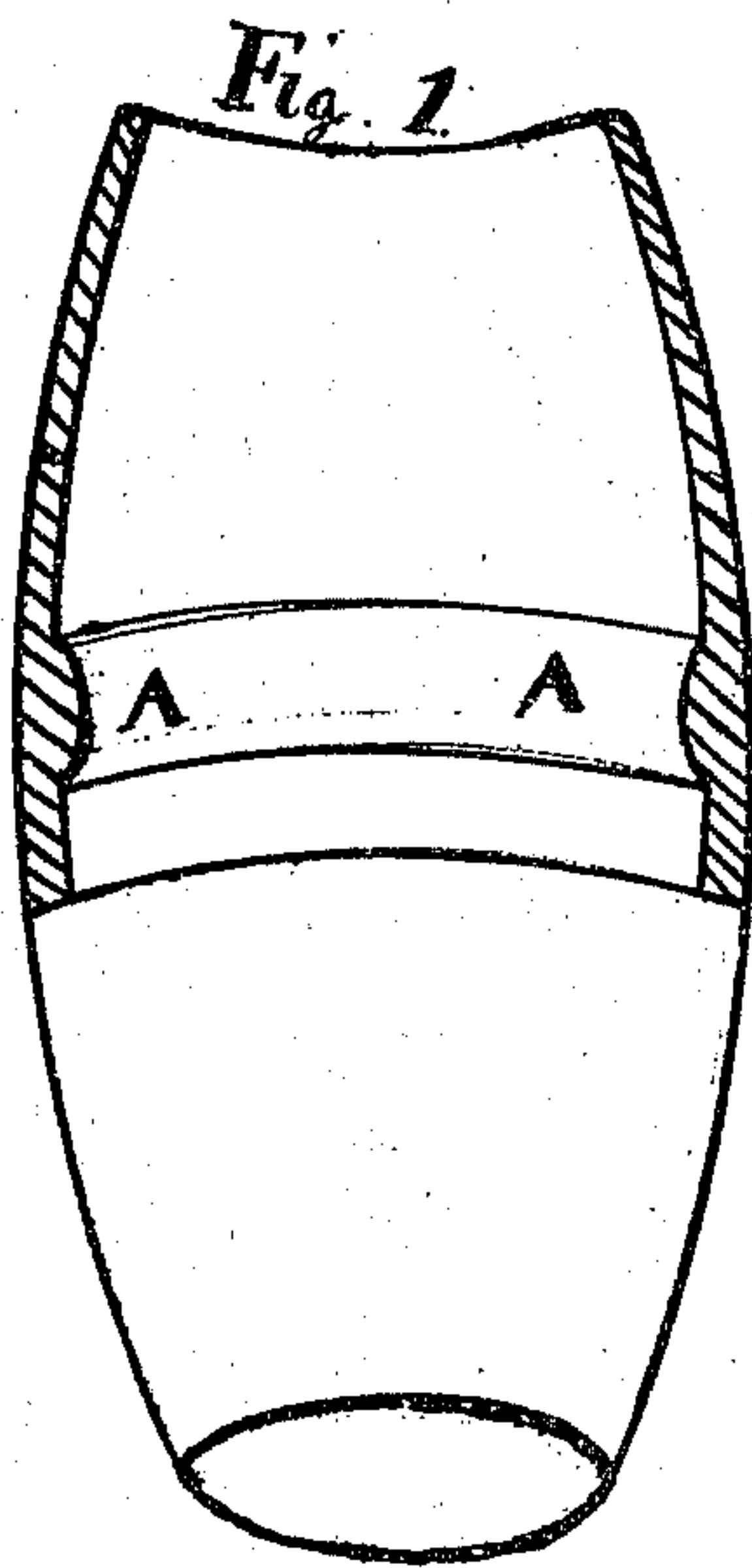


*J. E. Atwood,*

*Crucible Mold.*

*No. 108084.*

*Patented Oct. 11. 1870.*



WITNESSES  
*Thomas J. Durand*  
*Benz. H. Asper*

INVENTOR;  
**JAMES E. ATWOOD.**

# UNITED STATES PATENT OFFICE.

JAMES E. ATWOOD, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN CRUCIBLES FOR MELTING IRON AND STEEL.

Specification forming part of Letters Patent No. **108,084**, dated October 11, 1870; antedated October 8, 1870.

*To all whom it may concern:*

Be it known that I, JAMES E. ATWOOD, of Pittsburg, Allegheny county, and State of Pennsylvania, have invented a new and useful Improvement in Crucibles; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a representation of a crucible with my improvement. Letters A A are the flux-ring or convex ring. Fig. 2 represents a crucible without my improvement. Letters B B show the flux-cut.

The nature of my improvement consists in making a crucible with an extra thickness at the place where the flux eats the crucible while the steel is being killed.

To enable those skilled in the art to make my improvement, I will describe it more fully.

To those that make crucibles by hand, it will be very easy to form the ring A A with the hand. To those that make in molds and use

an inside former, all that is necessary to do is to cut out a concave in said former about three inches in length and about one-half inch deep. The concave in the former will make the convex ring or bulge A A.

A crucible made with my improvement is not only stronger, but will run one more heat than a crucible made of the same material will run without it, and less danger of breaking.

There may be a slight bulge on the outside of the crucible; but that would interfere with the handling of the crucible with the tongs.

### *Claim.*

I claim as my invention—

A crucible for melting iron, steel, and other metals, when constructed with a flux-ring, as herein described, and for the purpose set forth.

J. E. ATWOOD.

Witnesses:

THOMAS J. DURAND,  
BENJ. F. ASPER.