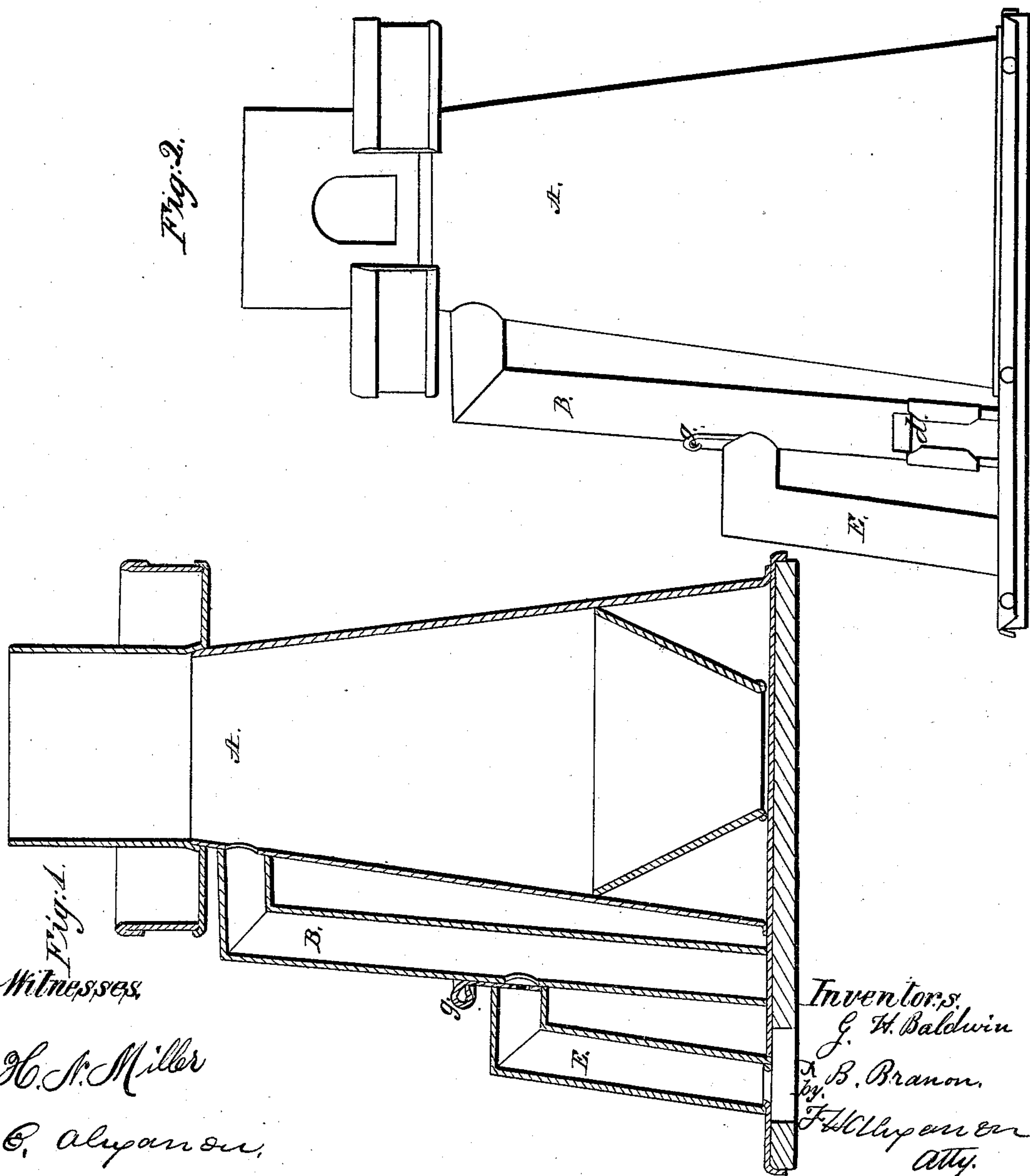


*Bramon & Baldwin.*

*Smelting Furnace.*

*N<sup>o</sup> 92,006.*

*Patented Jun. 29, 1869.*



*Witnesses,*

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*Atty.*

# United States Patent Office.

BARNERD BRANON AND GEORGE H. BALDWIN, OF SHARON,  
PENNSYLVANIA.

*Letters Patent No. 92,006, dated June 29, 1869..*

## IMPROVED APPARATUS FOR COLLECTING THE WASTE GASES OF SMELTING-FURNACES.

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

*To all whom it may concern :*

Be it known that we, BARNERD BRANON and GEORGE H. BALDWIN, of Sharon, in the county of Mercer, and State of Pennsylvania, have invented certain new and useful Improvements in Blast or Smelting-Furnaces; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 represents a vertical section of our invention.

Figure 2 is a side elevation of the same.

The nature of our invention consists in an improvement in blast or smelting-furnaces by the use of connecting-pipes, for the purpose of conveying off the gas which may be generated in the furnace, either to be used for illuminating-purposes or for heating the water in the boilers.

It further consists in separating the extinguished sparks from the gas, in the manner set forth.

A, in the annexed drawing, represents the furnace.

B is a pipe inserted into the furnace, near its top. The said pipe, after forming an elbow, descends to a level with the bottom of furnace A.

The pipe B is designed as a receptacle for the sparks,

which, when collected at the bottom of B, can be removed from an opening covered by the sliding valve *d*.

Midway of pipe B is attached a second pipe, E, for conveying the gas either to the furnace beneath the boilers, or otherwise, to be carried off by gas-pipes, and used for illuminating-purposes.

At the junction of pipe E with pipe B, an opening will be made in E to receive a sliding valve, *g*, the said valve having numerous small perforations, which will admit a passage for the gas, but arrest the sparks, which will necessarily descend to the lower end of pipe B, and thence be removed as above described.

Having thus described our invention,

What we claim, and desire to secure by Letters Patent, is—

The furnace A, in combination with the pipes B and E, when said pipes are furnished with sliding valves, constructed as and for the purpose described.

In testimony that we claim the foregoing as our own, we affix our signatures, in presence of two witnesses.

BARNERD BRANON.  
GEO. H. BALDWIN.

Witnesses:

ABNER APPLGATE,  
M. T. MILLER.