

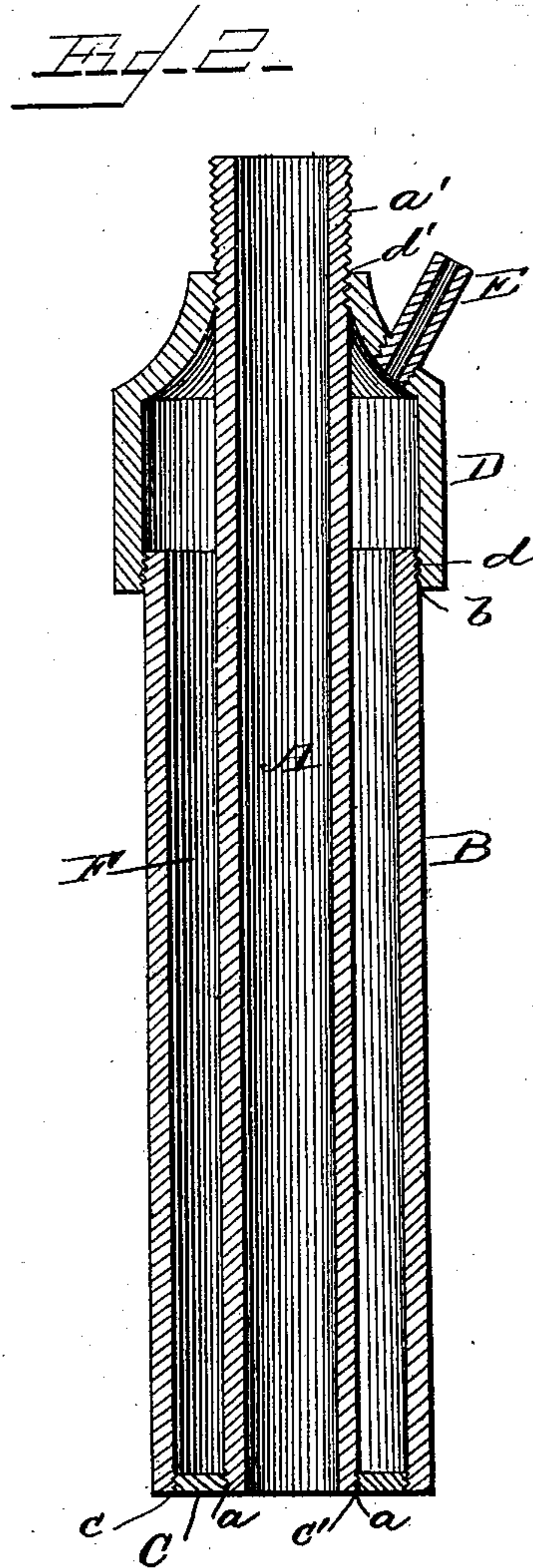
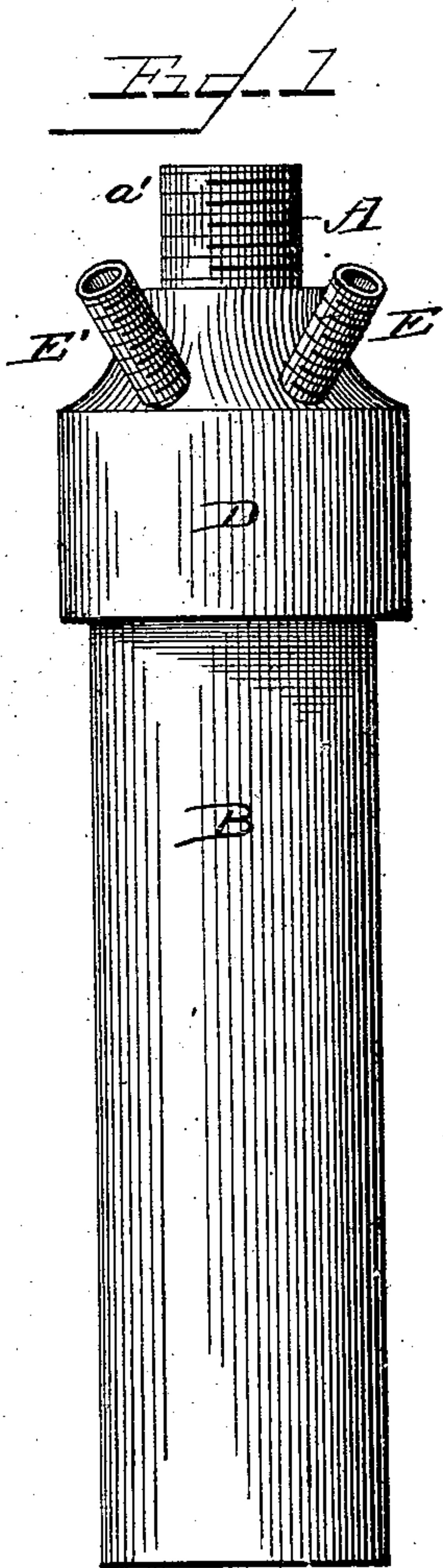
(No Model.)

B. S. LOGAN.

TUYERE IRON.

No. 311,017.

Patented Jan. 20, 1885.



WITNESSES
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TUYERE-IRON.

SPECIFICATION forming part of Letters Patent No. 311,017, dated January 20, 1885.

Application filed October 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN S. LOGAN, a citizen of the United States of America, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Forge-Tuyeres; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in forge-tuyeres; and it consists in providing a tuyere with a straight blast-pipe, which is surrounded by a water-tube having inlet and outlet openings which are connected to a water-tank, the parts being coupled together at one end by a casting, and at the other end by a screw-threaded washer or plate, as will be hereinafter more fully set forth, and pointed out in the claim.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side view, and Fig. 2 is a sectional view.

A represents the blast-pipe, which is externally screw-threaded at its front end, as shown at *a*, and at its opposite end it is also threaded, as shown at *a'*.

B represents the incasing-cylinder, through which the pipe A passes, and said incasing-cylinder is attached at its front end to the blast-pipe by a plate, C, which is provided with both internal and external screw-threads, as shown at *c c'*, the internal screw-threads engaging with the threaded portion of the pipe A, while the external threads *c* engage with the threads formed on the inner side of the cylinder B.

The pipe A and cylinder B are connected to each other at their opposite ends by a casting or coupling, D, which is provided internally with screw-threads *d d'*, the screw-threads *d* engaging with the external screw-threads *b* upon the cylinder B, while the threads *d'* engage with the threads *a'* upon the pipe A. The casting or coupling D is reduced at one end, as shown, so as to engage with the threaded portion of the pipe A, and at this reduced portion it is provided with pipes or tubes, which are let into the same. These tubes E E' are connected to a water-tank, from which water is admitted into the opening F, formed between the pipe A and the cylinder B and coupling D, by which means a circulation is provided, so as to prevent the tuyere burning out.

The tuyere hereinbefore described is adapted to be used either in a horizontal or vertical position, and, if desirable, a blast of air may be forced in the chamber F instead of water.

The tuyere hereinbefore described, with the exception of the plate C, is manufactured of ordinary tubing and the coupling therefor.

I claim—

In a tuyere, a blast-pipe, A, externally screw-threaded at each end, in combination with the outer cylindrical casing, B, internally screw-threaded at its front end and externally at its rear end, and connected at said rear end to the blast-pipe by a coupling, D, having tubes E E' connected thereto, and a plate, C, internally and externally screw-threaded, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN S. LOGAN.

Witnesses:

E. F. RAMSAY,
SAM. H. BENTZ.