

(No Model.)

A. F. WENDT.

WATER BOSH FOR BLAST FURNACES.

No. 277,638.

Patented May 15, 1883.

Fig. 1

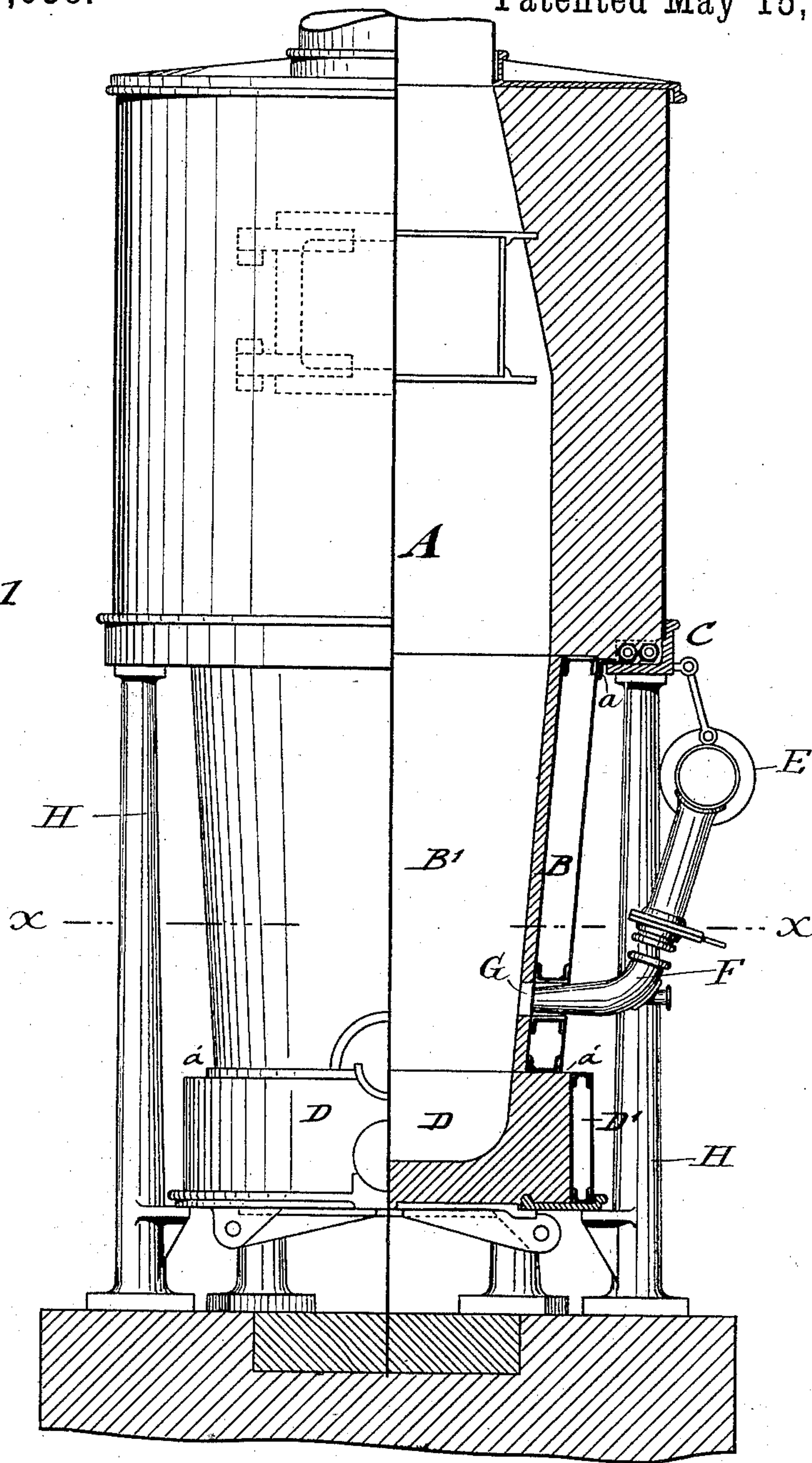
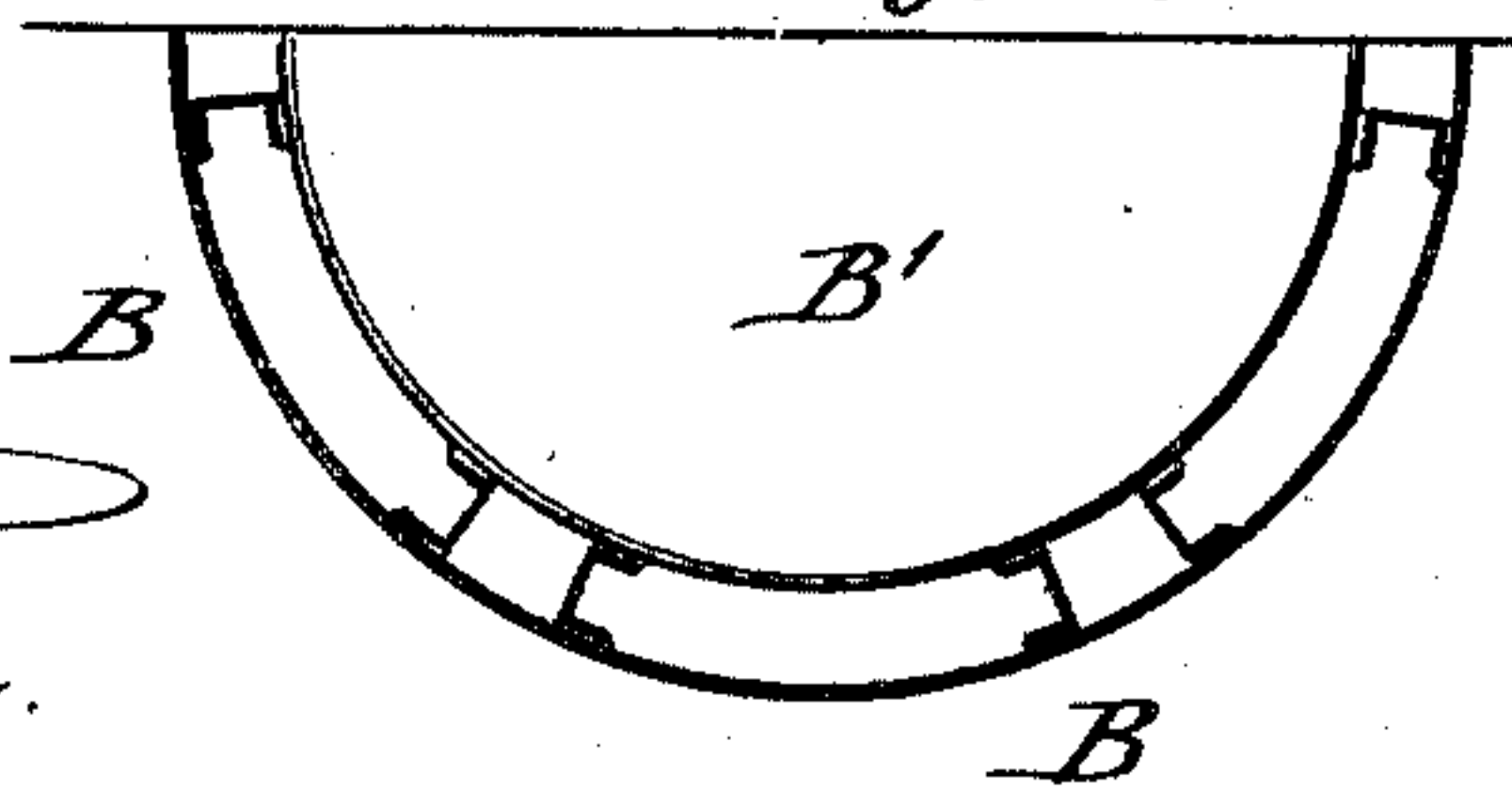


Fig. 2.

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# UNITED STATES PATENT OFFICE.

ARTHUR F. WENDT, OF NEW YORK, N. Y.

## WATER-BOSH FOR BLAST-FURNACES.

SPECIFICATION forming part of Letters Patent No. 277,638, dated May 15, 1883.

Application filed August 23, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR F. WENDT, of the city, county, and State of New York, have invented certain new and useful Improvements in Water-Boshes for Blast-Furnaces, of which the following is a specification.

This invention has reference to an improved construction of blast-furnaces, whereby the crucible may be readily relined without stopping the furnace.

In the accompanying drawings, Figure 1 represents a side elevation, one-half being in section, of a blast-furnace of my improved construction; and Fig. 2 is a horizontal section on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The shaft A of the blast-furnace is of the usual construction, being provided with a mantle-ring, C, and supported by pillars H. The bosh B' is provided with a water-jacket, B, and suspended from the mantle-ring by means of angle-irons *a* or equivalent means. The hearth or crucible D of the furnace is surrounded by a separate water-jacket, D', which is of larger diameter than the lower diameter of the water-jacket B, so that an annular space, *a'*, is formed between said water-jackets. The furnace is provided with a common bustle-pipe, E, and with tuyere-pipes F, one of which is shown, and tuyeres G.

When it becomes necessary to reline the

crucible the tuyeres are removed, and bars or pipes, cooled by water, are introduced through the tuyere-openings. These bars or pipes serve to support the charge of the furnace. The furnace is then tapped out clean below said bars. Fire-clay is then rammed in through the narrow annular space between the jackets. In iron blast-furnaces this space is large enough to introduce even fire-bricks of large size.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A blast-furnace consisting of a main stack provided with a mantle-ring and supported by pillars, upon which said ring rests, a jacketed bosh provided with tuyere-openings adapted to receive bars for supporting the charge when the tuyeres are withdrawn, means for suspending said jacketed bosh from said mantle-ring, and an independently-jacketed crucible of larger circumference than the lower outer circumference of said jacketed bosh, whereby an annular space is formed between said bosh and crucible, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ARTHUR F. WENDT.

Witnesses:

PAUL GOEPEL,  
CARL KARP.