

(No Model.)

J. P. WITHEROW.

CONVERTER.

No. 327,424.

Patented Sept. 29, 1885.

Fig. 1.

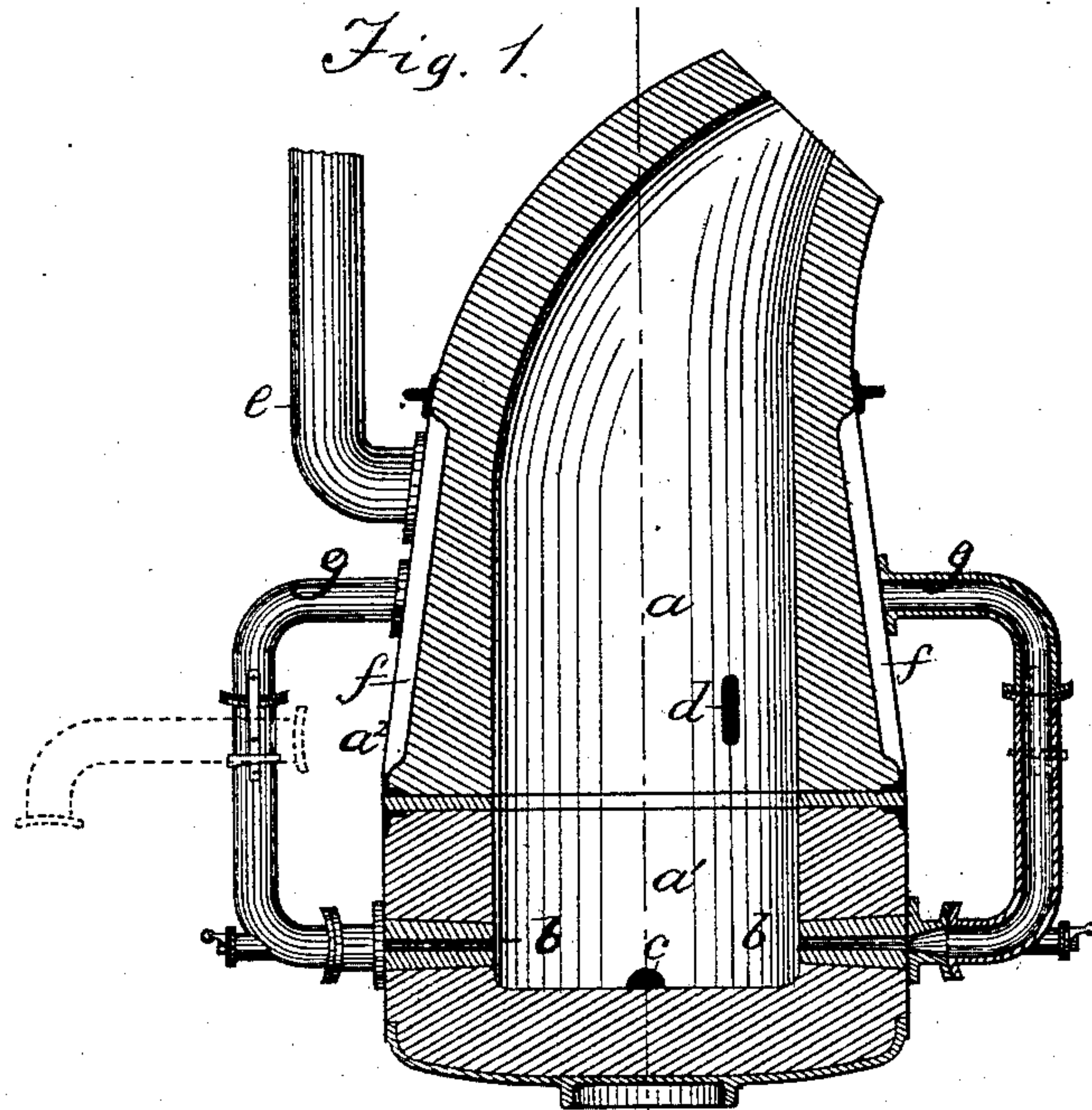
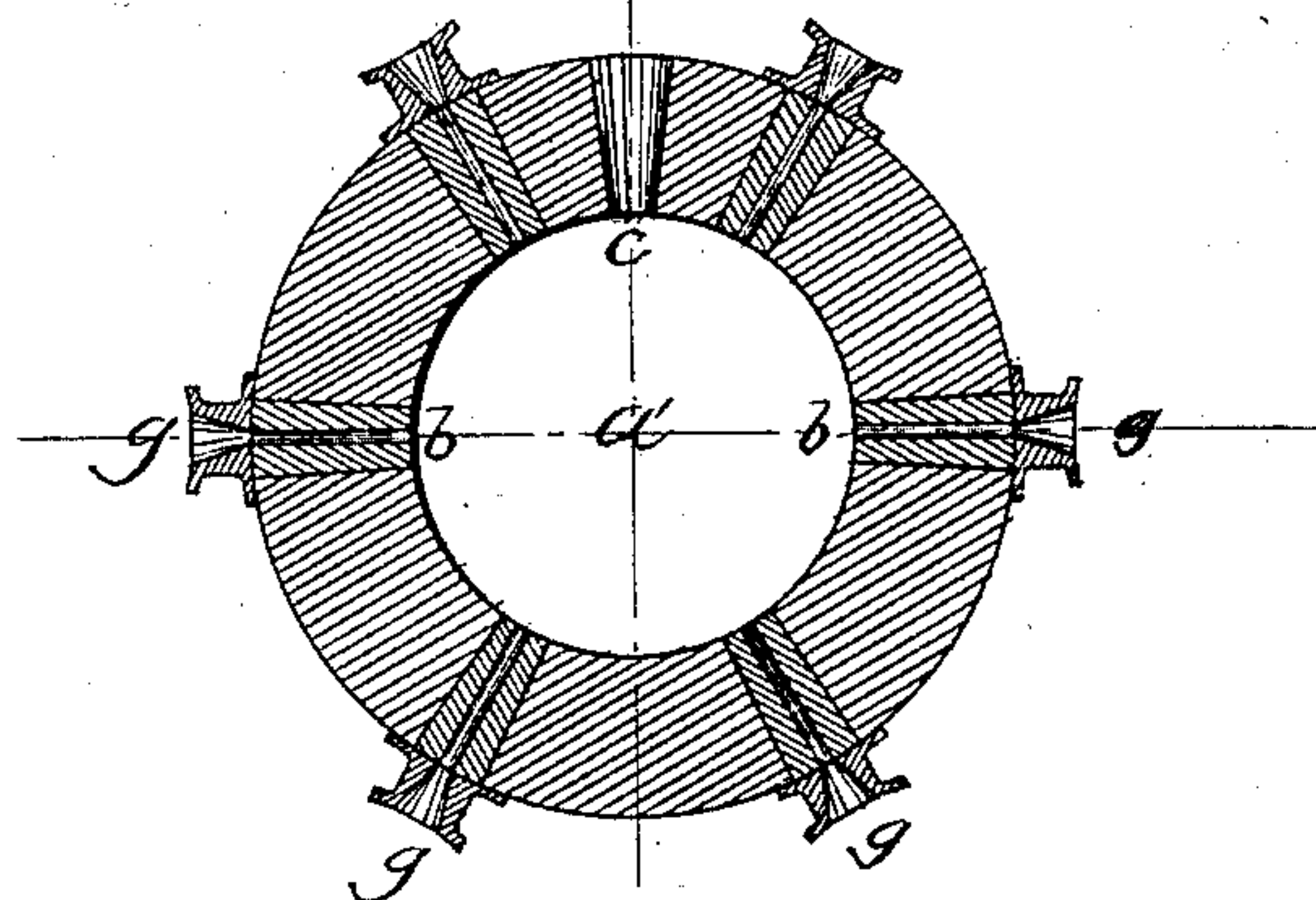


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES P. WITHEROW, OF ALLEGHENY CITY, PENNSYLVANIA.

CONVERTER.

SPECIFICATION forming part of Letters Patent No. 327,424, dated September 29, 1885.

Application filed July 8, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. WITHEROW, of Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Converters; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention consists in an improved construction of converter, whereby the bustle-pipe or wind-trunk, which distributes the blast to the tuyeres, is utilized to protect and preserve the lining of the converter.

To enable others skilled in the art to make and use my invention, I will now describe it by reference to the accompanying drawings, in which—

Figure 1 is a vertical section of a converter embodying my improvement. Fig. 2 is a horizontal section at the line of the tuyeres.

Like letters of reference indicate like parts in each.

The converter illustrated in the drawings is of the type known as "fixed" converters, and is composed of two sections, *a a'*, the upper one being supported in a fixed position upon suitable posts, and the lower one, *a'*, being removable for the purpose of renewing the lining, tuyeres, &c. The lower section is provided with tuyeres *b* and metal tap-hole *c*, and the upper section is provided with a slagging-hole, *d*.

It has heretofore been customary to provide the converter either on its upper or lower section with a bustle-pipe for distributing the blast to the tuyeres, said bustle-pipe being connected in a suitable manner to the blast-pipe *e*, which leads from the blowing engine. In my present construction I form the casing *a'* with double walls, so as to form an annular chamber, *f*, around the converter, to which chamber the blast-pipe *e* is connected. The tuyere-pipes *g* extend from the chamber *f* to the tuyeres *b* for the purpose of supplying the latter with air, and these tuyere-pipes are ca-

pable of being disconnected from the tuyeres *b* and swung back, as indicated by the dotted lines in Fig. 1, or in any other desirable way, so as to permit the easy removal of the lower section, *a'*, for repairs or renewal.

The annular chamber *f* thus described not only acts as a bustle-pipe for distributing the blast to the tuyeres, but also serves to protect the lining of the upper portion of the converter, so as to prevent its rapid wasting with the heat.

I do not limit myself to the application of the blast-chamber *f* to the sides of the upper portion of the converter alone, as it may be applied to the lower portion, *a'*, in which case it would have the functions of an external bustle-pipe, which has heretofore been used on the side of the lower part, and in addition thereto, being placed inside of the shell, would serve to protect the lining and the tuyeres from rapid destruction by the heat.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A converter provided with a blast-distributing chamber arranged inside of the shell and connected with the blowing-engine, in combination with tuyere-pipes leading to the tuyeres, substantially as and for the purposes described.

2. A converter provided with a fixed upper section, having blast-chamber in the shell or jacket of the same, a removable lower section having a tuyere or tuyeres, a blast-pipe connected to the hollow shell, and a tuyere pipe or pipes extending from the hollow shell to the tuyere or tuyeres, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 30th day of June, A. D. 1885.

JAMES P. WITHEROW.

Witnesses:

THOMAS B. KERR,
W. B. CORWIN.