A. WARREN.

Improvement in Tuyeres.

No. 125,863. Patented April 16, 1872.

Fig. 1.

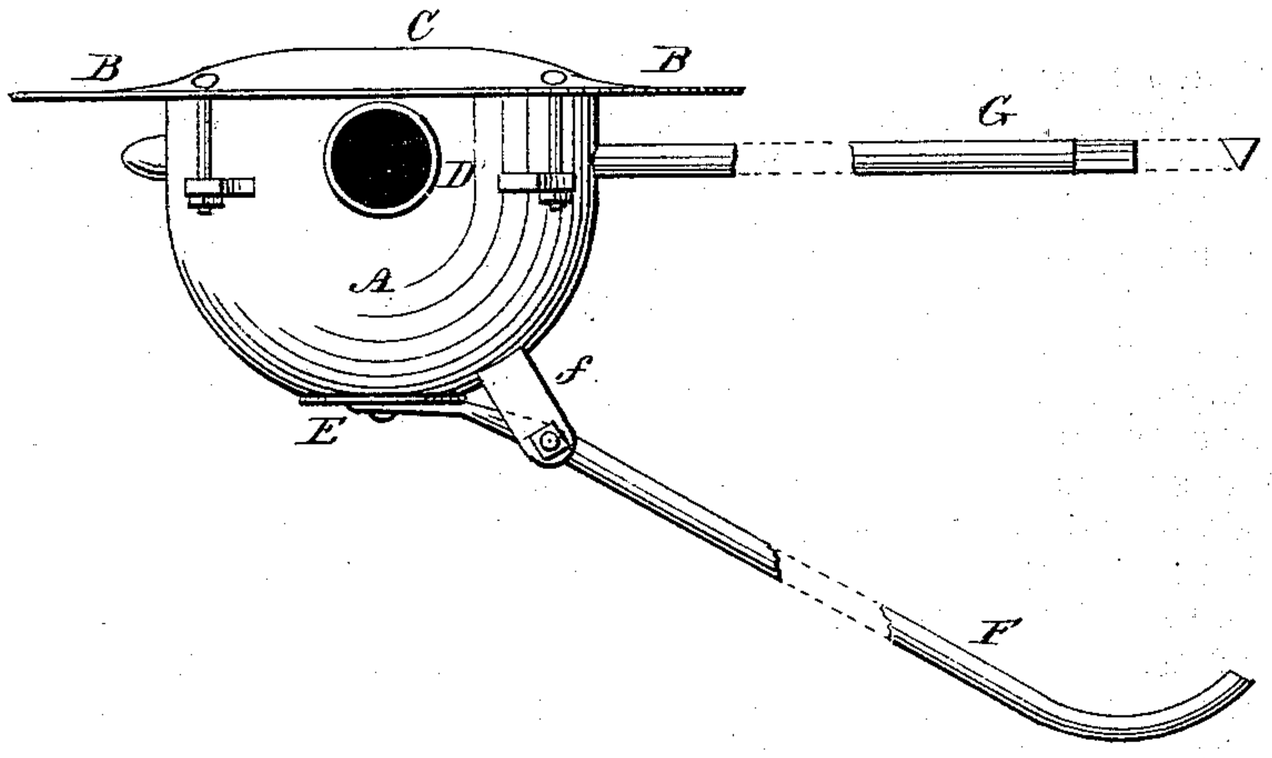
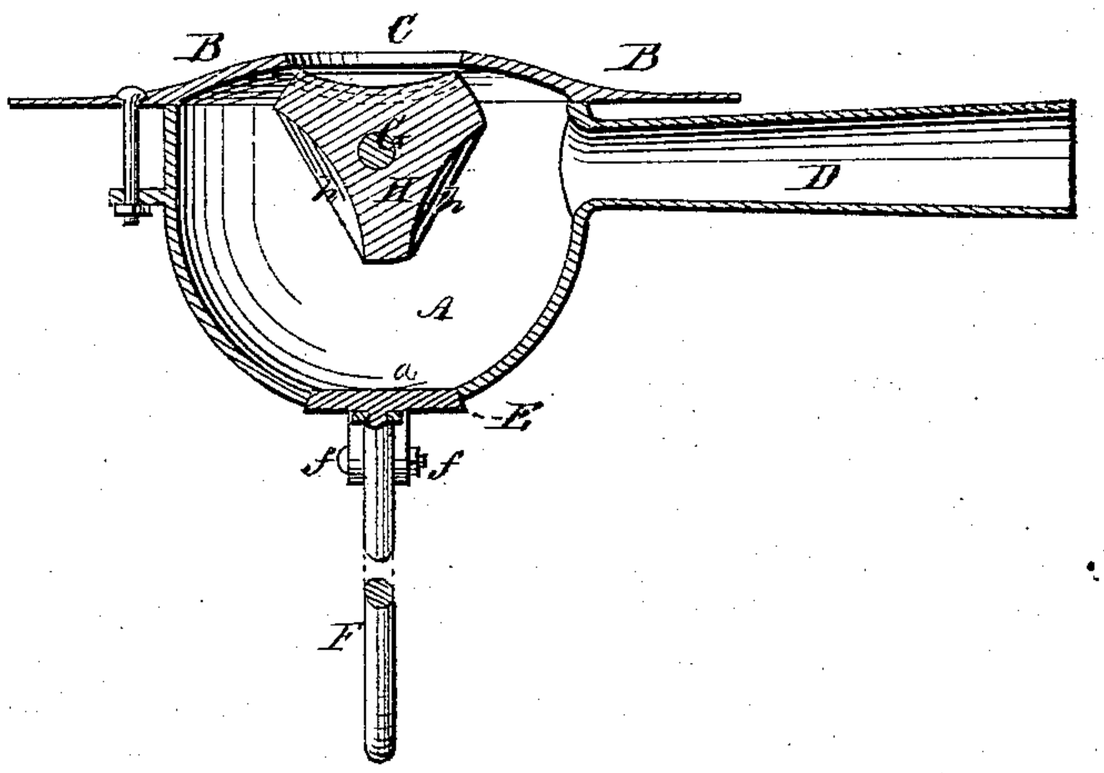


Fig. 2.



Witnesses

A. Schlieker

John B. Young

Inventor:

Andrew Warren, by

Prindle and Dyer, his

Attys.

125,863

UNITED STATES PATENT OFFICE.

ANDREW WARREN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. 125,863, dated April 16, 1872.

To all whom it may concern:

Be it known that I, ANDREW WARREN, of St. Louis, in the county of St. Louis and in the State of Missouri, have invented new and useful Improvements in Tuyere-Irons; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my device, and Fig. 2 is a vertical central section of the same on the line *x x* of Fig. 1.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is the better regulation of a current of air passing through a tuyere-iron; and it consists in a globular valve provided upon its periphery with a graduated series of faces, and combined with a suitable casing, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A represents the casing of the device, having a general bowl-shape, and inclosed upon its upper open side by means of a covering-plate, B, made slightly convex immediately over said casing, and provided with a circular central opening, C. Extending horizontally outward from one side of the casing A, at or near its upper edge, is the usual blast-pipe D, while a circular central opening, *a*, provided in and through the bottom of said casing, is inclosed by means of a corresponding valve, E, which valve is secured upon one end of a lever, F, that is pivoted between suitable ears *f* attached to said casing. The opening and valve thus formed serve to permit the escape of such dirt, cinders, &c., as may fall through the upper opening C into said casing. Resting within suitable bearings formed in and through the sides of the casing A is a horizontal shaft, G, upon which, within and at the radial center of said casing, is secured a metal globe, H, having upon or within its periphery two or more faces, *h*, made concave, and having different diameters and depths, the smallest of said faces having a diameter corresponding to the diameter of the opening C.

The globe or valve H thus constructed fits nearly to or against the cover B, and when one of its faces is turned upward, as shown in Fig. 2, the air entering through the blast-pipe D will escape between said valve and the contiguous portions of said cover, the volume of such escaping air being determined by the depth of the space between said cover and the edge of said face, while the depth of said space will depend upon the size of the face, and, consequently, the radial proportion of said valve that has been removed.

It will thus be seen that, as a larger or smaller face is turned upward, the volume of air passing outward from the device will be correspondingly increased or diminished, and, therefore, the greater the number of the graduated faces of different diameters the finer the degree of adjustment of the blast that may be made.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The pivoted globular valve H constructed, as described, with a graduated series of faces, *h*, in combination with the casing A and covering-plate B, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of September, 1871.

ANDREW WARREN.

Witnesses:

CHARLES D. MOODY,

WM. TWINING.