I. S. VAN WINKLE.

TUYERE.

No. 192,396. Patented June 26, 1877.

Fig. 1.

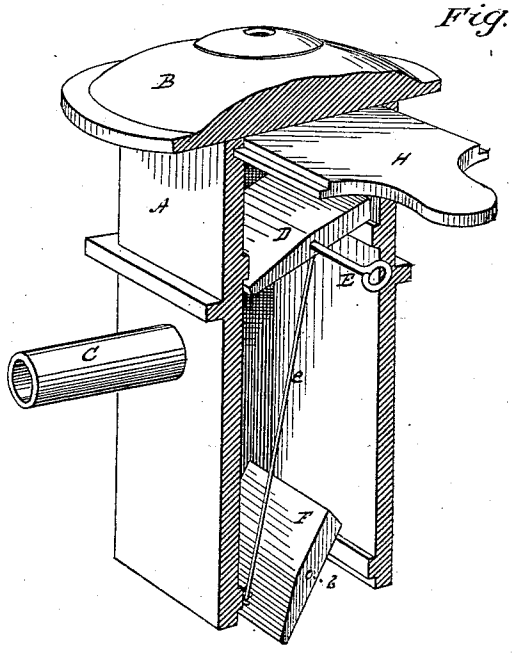
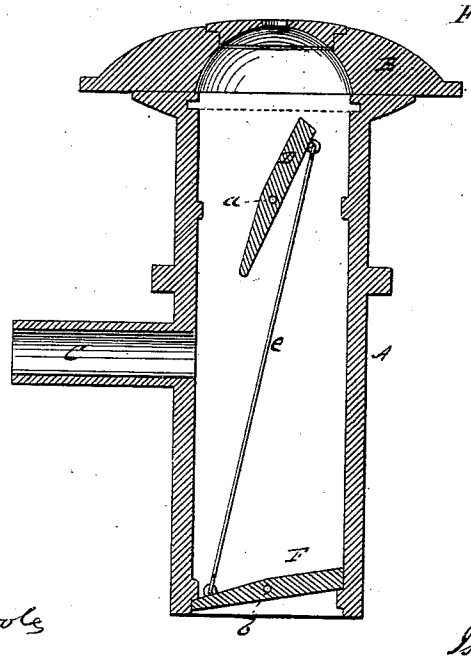


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ISAAC S. VAN WINKLE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN TUYERES.

Specification forming part of Letters Patent No. **192,396**, dated June 26, 1877; application filed March 26, 1877.

To all whom it may concern:

Be it known that I, ISAAC S. VAN WINKLE, of San Francisco, California, have invented a new and Improved Tuyere; and I hereby declare the following to be a full, clear, and exact account thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view with the boxing cut away to show the valves in one position. Fig. 2 is the same with the valves in the opposite position.

The object of my invention is to provide a tuyere-box and tuyere in which I can obtain a controllable draft to the forge, and regulate the quantity of air when the draft is constant in supply, from a pressure-blower or otherwise, through the blast-nozzle. When this continuous blast is not directed toward the fire it must find some outlet, and this I have provided for by locating in the tuyere-box two tilting valves, one above and one below the blast-nozzle, connected by a rod from their diagonally-opposite edges, so that when one valve is opened the other is necessarily closed, as hereinafter more fully described and claimed.

In order that those skilled in the art may make and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the box. B is a grate-cap, and C is the blast-nozzle. Journaled in the box at *a a*, near the grate-cap B, and between it and the blast-nozzle C, is a tilting valve, D, provided with a handle, E, with which to operate it. At the lower and open end of the box B is another tilting valve, F, journaled at *b b* in the sides of box B. A rod, *e*, connects the diagonally-opposite edges of valves D and F, so that as valve D is turned one way valve F is turned correspondingly the other way, and when it is desired to shut off the draft from the forge the blast will take vent through the open end of tuyere-box and valve F.

A sliding plate, H, moves in bearings close against the grate-cap, which may entirely shut off all draft.

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

1. A pair of alternate tilting draft-valves connected together by rod *e*, and having the blast-nozzle between them, in combination with a tuyere, substantially as set forth.

2. The valve D near the grate-cap, and the valve F near the open end of the box, in combination with the rod *e* and handle E, substantially as and for the purpose described.

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Witnesses:

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