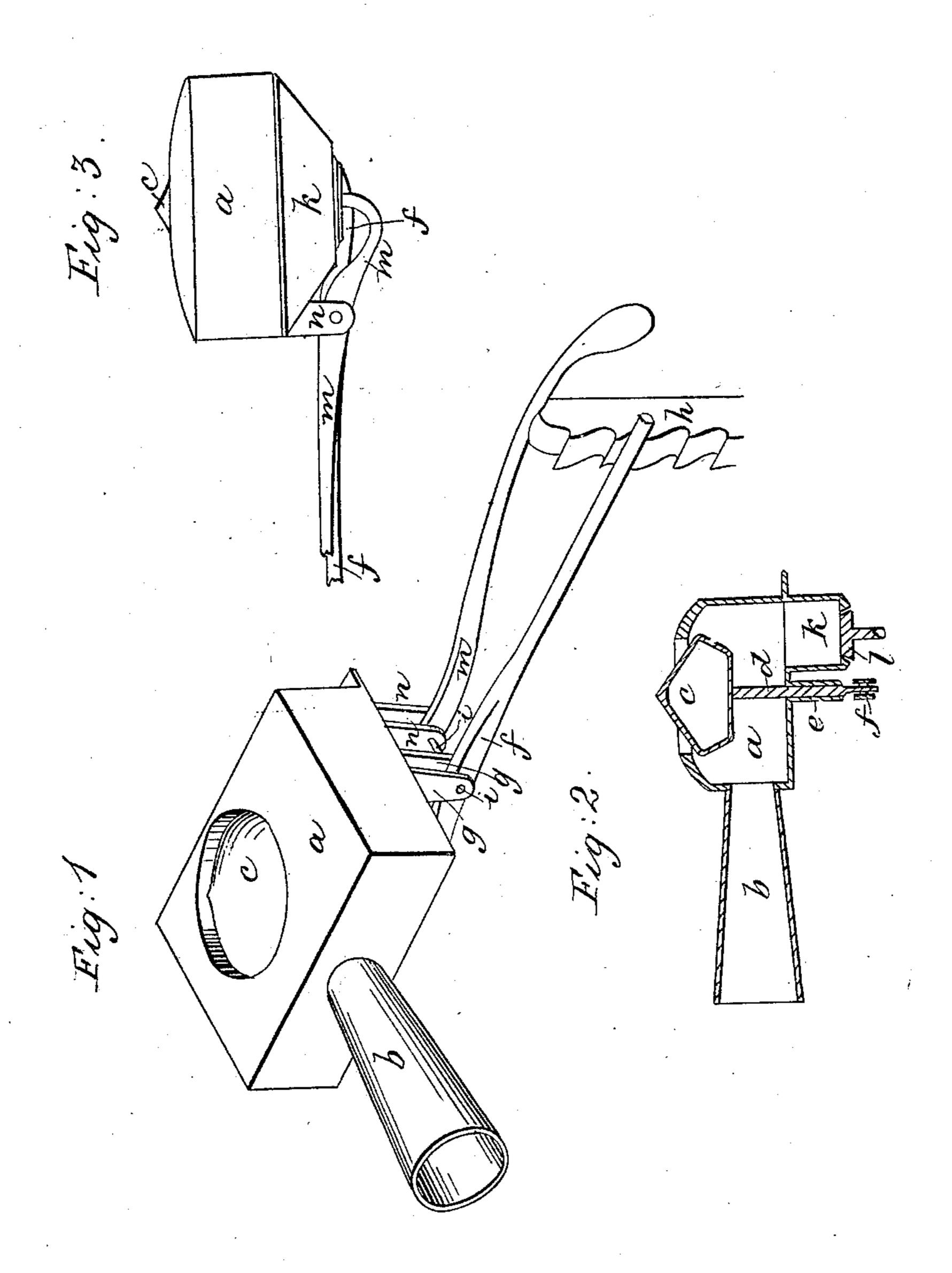
No. 6,217.

Patented March 27, 1849.



UNITED STATES PATENT OFFICE.

ROBERT D. PORTER, OF HARPERS FERRY, VIRGINIA.

CONICAL VALVE IN TWYERS.

Specification of Letters Patent No. 6,217, dated March 27, 1849.

To all whom it may concern:

and State of Virginia, have invented a new and Improved Twyer for Blacksmith's Forges; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this 10 specification, in which—

Figure 1, is a perspective view; Fig. 2 a vertical section, and Fig 3, an elevation.

Similar letters indicate like parts in both

figures.

My improved forge twyer is composed of the air box a, of the form represented in the drawings, and the various parts connected therewith, as hereinafter set forth.

b, is the tube for connecting the air box 20 of the twyer with the bellows, or other blow-

ing apparatus.

The box a, is cast with an aperture in its top, round or oval, to the inner edge of which is accurately fitted the conical valve 25 c, terminating in a point, as shown in the

drawings. The stem d, of the valve (c,) passes down through the guiding tube e, projecting from the bottom of the air box; the lower end of 30 the stem d, is jointed to the lever f, which sustains the valve c, and by which its position is adjusted: the lever f, is supported by the joint pin i, between the lugs g, g,—descending from the bottom of the front side 35 of the air box. The outer end of the lever f, is supported by notches in the standard h, or in any other convenient manner—by means of which its position can be readily adjusted, for the purpose graduating the 40 position of the valve c, and thereby increasing or diminishing the space between the same and the sides of the aperture in the box a, for regulating the discharge of air to the fire, as circumstances may require. On the opposite side of the air box (a_i) from the bellows tube (b,) there descends from the bottom of the box an ash pit (k,) (Fig. 2,) the sides of which incline downward toward the center of its base, (as shown in 50 Fig. 3) in which is located the valve *l*, opening downward; the stem of the valve l, is jointed to the balance lever m; the lever m,

works on the fulcrum pin i, between the lugs

n, n; and its front end is sufficiently heavy

55 to close the valve l. The valve c, being of a

Be it known that I, Robert D. Porter, of from the air box, will act upon its entire ex-Harpers Ferry, in the county of Jefferson | posed surface and prevent it from being injured by fire. The pointed shape of the valve also facilitates the free discharge of 60 the ashes and cinders into the ash box, and prevents their accumulation above the valve. Should any ashes or cinders lodge in the air space about the valve, they can be readily removed by elevating the front end of the 65 lever f, suddenly, and bringing it back to its rest again. The strength of the blast as it enters the air box a, through the pipe b, drives the ashes and cinders, as they fall through the valve opening, forward into the 70 ash pit: the smith can at any moment discharge the ashes and cinders from the ash pit by elevating the front end of the lever m, and thereby opening the valve l.

I generally cast the air box a, the pipe b, 75 the vertical guiding tube e, and the ash pit

k, all in one piece.

In practice it is found that the forge fire has no injurious action upon the top of the air box a, or the valve c; the air within the 80 box, and its passage therefrom over the face of the valve, serving as a perfect protection from injury from this cause.

In constructing the masonry of the forge for the reception of my improved twyer, an 85 aperture must be formed in the front wall thereof, and a passage extended therefrom under the twyer; through this passage and aperture, the levers f, and m, extend out within a convenient distance of the smith 90 working at the forge; and into the rear end of the passage, the cinders and ashes are discharged from the ash pit of the twyer, from which they may be removed by a scraper inserted into the opening in front; 95 or in any other suitable manner.

Having thus fully described my improved forge twyer, what I claim therein as new and desire to secure by Letters Patent, is—

The giving the movable valve c, the form 100 of a cone for the purpose of facilitating the discharge of the ashes and cinders into the air box and ash pit, and for protecting the valve from being injured by the fire, substantially as herein set forth.

ROBT. D. PORTER.

Witnesses:

Z. C. Robbins, V. H. GODDARD.