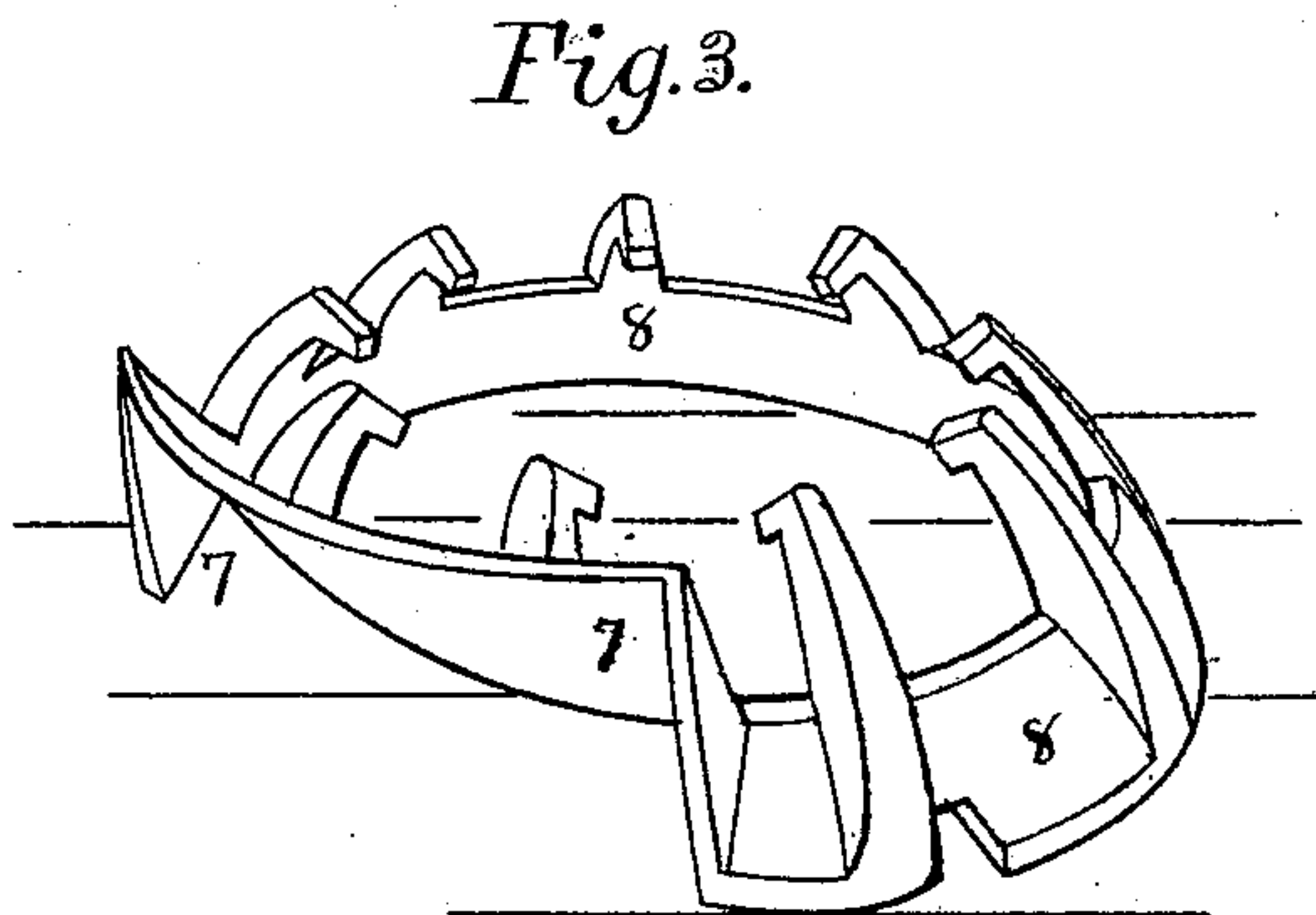
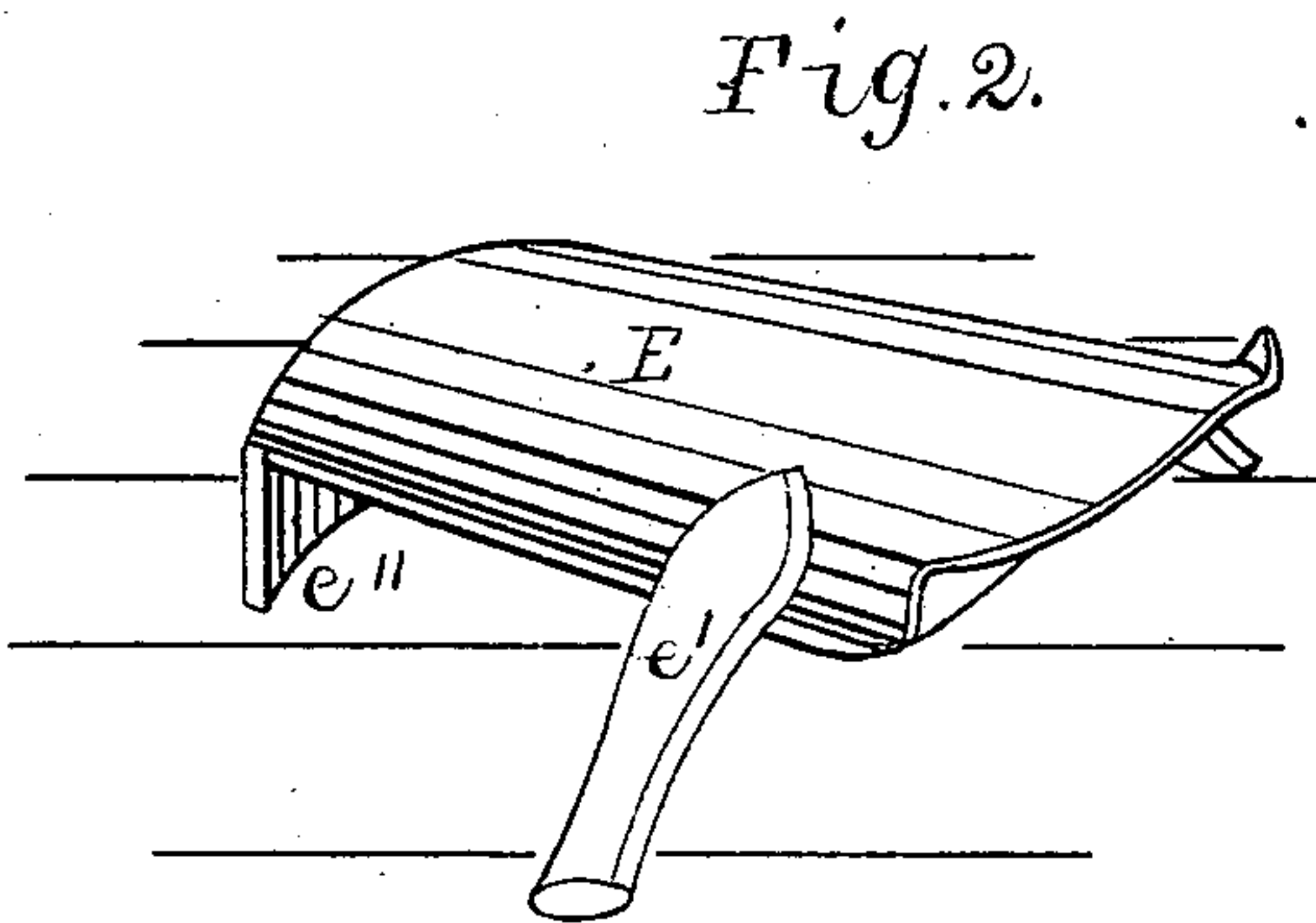
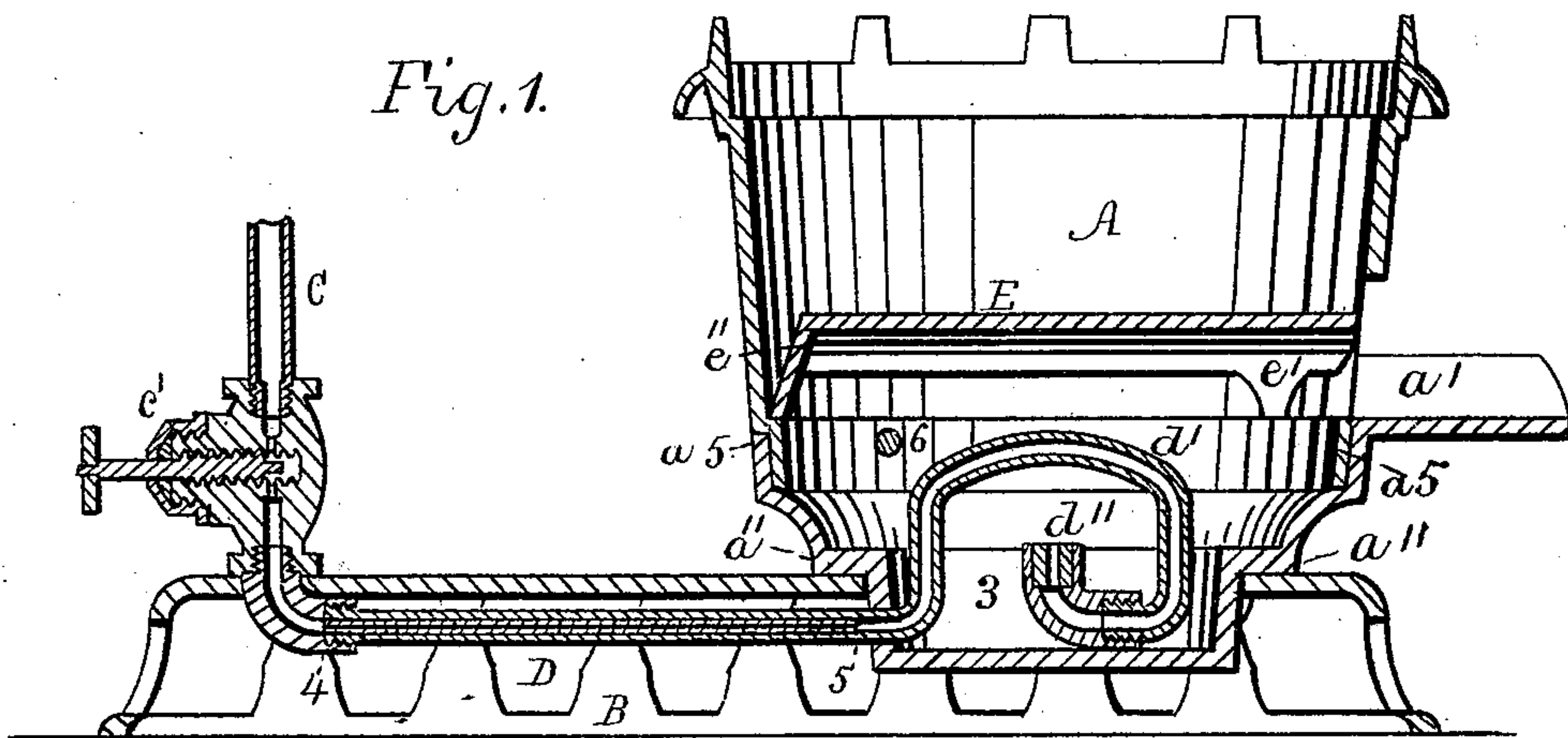


J. P. HAYES.

Tinners' and Plumbers' Furnaces.

No. 151,391.

Patented May 26, 1874.



Witnesses:

Benj Morrison.
Wm H. Morrison.

Inventor:

John P. Hayes.

UNITED STATES PATENT OFFICE.

JOHN P. HAYES, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TINNERS' AND PLUMBERS' FURNACES.

Specification forming part of Letters Patent No. 151,391, dated May 26, 1874; application filed April 29, 1874.

To all whom it may concern:

Be it known that I, JOHN P. HAYES, of the city of Philadelphia, in the State of Pennsylvania, have invented an Improved Furnace for Tinnners' and Plumbers' Use, of which the following is a specification:

My improvement relates to the portable iron furnaces in which the heat is produced by the combustion of fluid hydrocarbons, supplied to burner from a communicating fountain-head; and the object of my invention is to produce a simple and economical portable furnace for the use of tinnners and plumbers for heating their soldering-irons and melting solder for connecting lead pipes.

Figure 1 is a vertical longitudinal central section of said furnace and the regulating supply-cock in a section of the pipe leading to the fountain-head, (not shown;) Fig. 2, a perspective view of the flame-deflector, detached; and Fig. 3, a perspective view of a supporting-frame to be substituted for the deflector when the solder-melting pot (not shown) is applied over the vaporizer.

The body A of the furnace is circular, tapered downward from its open top to a point a little below the hearth *a'*, and then contracted so as to form a flat circular shoulder *a''*, which supports it upon the base B, into which the sunken chamber 3, closed at its bottom, enters and extends about half-way down into said base B, as shown in Fig. 1. The base B is oblong, rounded at both its ends, and has numerous large openings around through its sides, as shown. The body of the furnace A rests at one end of the base B, and through the top of the opposite or projecting end of said base a vertical pipe, *c*, coming from an elevated fountain-head, (not shown,) connects with the stop and regulating cock *c'*, which is supported on the base B, and connects with the horizontal pipe D, which extends horizontally along in the said base, enters an appropriate hole in the side of the combustion-chamber 3, and then extends vertically upward a short distance, and in an arched form, just beneath

the horizontal plane of the hearth, nearly to the opposite side of the chamber 3, thence downward, and finally upward to within a short distance below the arch *d'*, where it ends in a small jet-hole, *d''*, directly beneath said arch. The horizontal portion of the pipe D is packed with plaster-of-paris, or other non-conductor of heat, and a slender hole made through its center from 4 to 5, through which the fluid hydrocarbon passes before it reaches the combustion-chamber 3, and is thus prevented from becoming heated therein. The fluid becomes heated and vaporized in passing through the arched portion *d'*, and is discharged so as to burn from the jet *d''*, whereby the flame is directed upward against and around the vaporizer *d'*. The removable deflector E is a curved plate of cast-iron, which extends from the mouth of the furnace horizontally backward to the opposite side of the same, leaving open spaces between its two side edges and the respective opposite sides of the furnace, and is supported by legs *e'* and a downward-projecting part, *e''*, of its rear end, both of which rest upon a shoulder, 5, in the inner side of the furnace, so that the arched plate of said deflector will be about two or two and a half inches above the arched vaporizer *d'*, or at such a distance above the vaporizer *d'*, or the horizontal plane of the hearth *a'*, as will just allow of the usual soldering-irons (not shown) being introduced with facility from the hearth, the latter afterward supporting the handle-ends thereof, and the cross-bar 6 supporting their points while subject to the heating-flame, the said cross-bar 6 being supported transversely and horizontally across the furnace in the same plane with the hearth *a'*.

When the plumber desires to melt his pot of solder, he removes the deflector E and inserts in its place the skeleton supporting-frame shown in Fig. 3, with its throat 7 fitting closely around the opening from the hearth *a'*, and its bottom rim 8 around against the sides of the furnace, so as to compel the draft from the hearth-opening to pass down under the rims 7 and 8 of the skeleton

support, and thence up against the bottom of a melting-pot, which may be thereon, and thus concentrating the heat at said bottom.

I claim as my invention—

The detachable pot-supporter, Fig. 3, constructed and applied as described, for the

purpose of directing the draft and heat mainly to the bottom of a melting-pot supported thereby.

JOHN P. HAYES.

Witnesses:

BENJ. MORISON,
WM. H. MORISON.