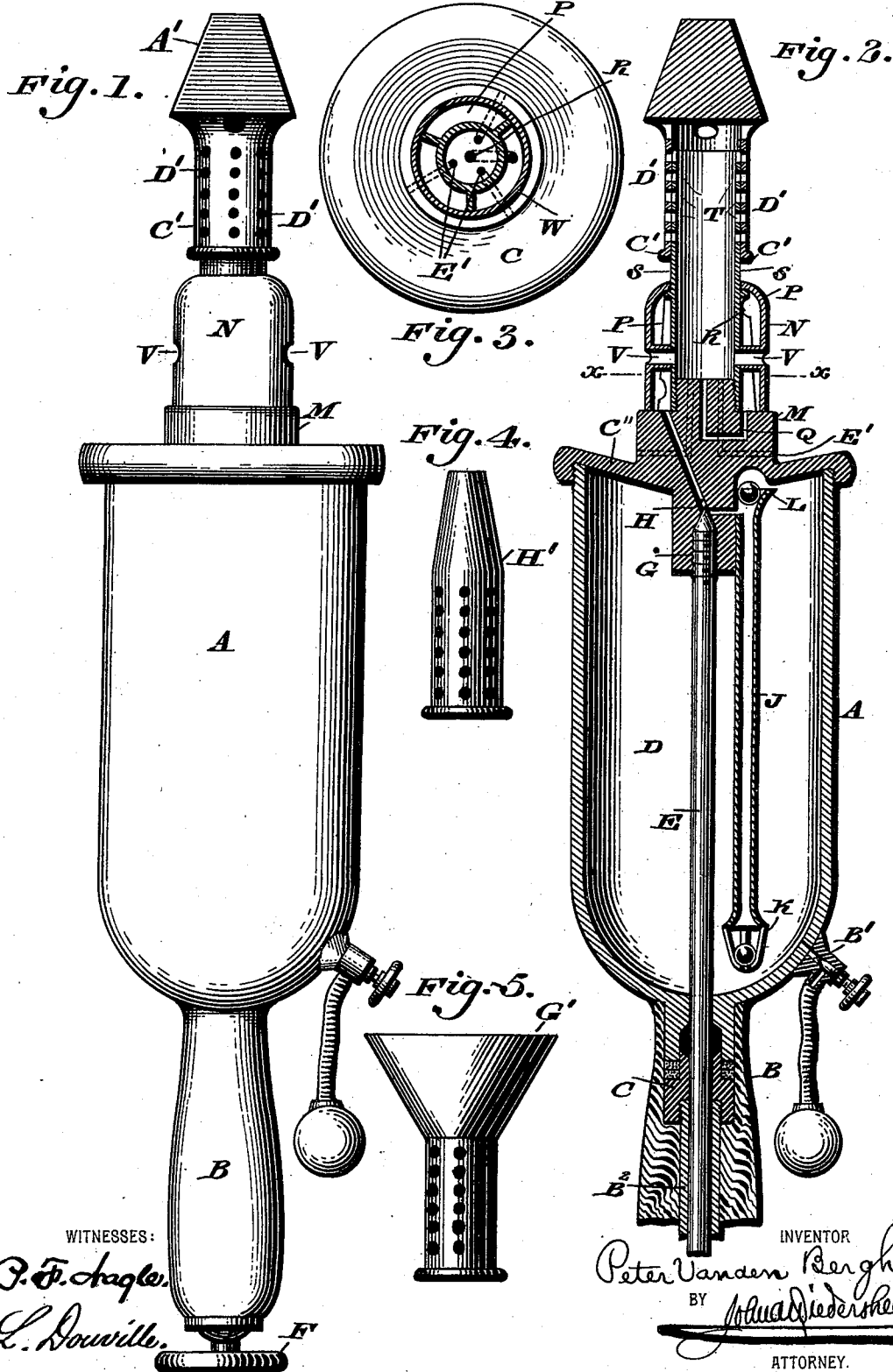


(No Model.)

P. VANDEN BERGHE.
COMBINED SOLDERING IRON, BRAZIER, &c.

No. 577,971.

Patented Mar. 2, 1897.



UNITED STATES PATENT OFFICE.

PETER VANDEN BERGHE, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED SOLDERING-IRON, BRAZIER, &c.

SPECIFICATION forming part of Letters Patent No. 577,971, dated March 2, 1897.

Application filed June 15, 1896. Serial No. 595,538. (No model.)

To all whom it may concern:

Be it known that I, PETER VANDEN BERGHE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in a Combination Soldering-Tool, Brazier, &c., which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of an improvement in soldering-tools and means whereby the same may operate, no matter in what position it is placed.

It further consists of means whereby the same will give off a large amount of heat.

Figure 1 represents a side view of a soldering-tool embodying my invention. Fig. 2 represents a longitudinal section of the same. Fig. 3 represents a transverse section on line *xx*, Fig. 2. Figs. 4 and 5 represent side elevations of different forms of tool-head that may be employed.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a casing having a handle B, in which is fastened the bushing B², one end of which is secured to the packing or stuffing box C. Guided in the said bushing B² and packing-box C and extending into the chamber D of the casing A is the valve-rod E, which has a handle F outside of the handle B.

Secured to the casing A at the end opposite the handle B is the cap C', on which is a lug G, the latter being in the chamber D, and through which is the passage H, the valve-rod E being adapted to enter said lug in a suitable recess and operate so as to close said passage H when desired. Secured to said lug G is a tube J, at either end of which are the ball-valves K and L, being so arranged that when one is closed the other is opened, it being noticed that the ends of said tube J are at the opposite extremities of the said chamber D. M designates a lug on the side of the cap C' opposite to that of the said lug G. Suitably secured to the said lug M is the casing N, which forms the chamber P, to which the said passage H leads, the opposite end of said passage having access to the said tube J. Q designates another passage leading from the said chamber to the burner R, around

which is situated the tube S, the latter having the perforations T therein for supplying air to the flame.

V designates passages which are in the casing N and lead to the interior of the tubes S, supplying air to the bottom of the flame. A' designates the soldering-iron, which is mounted on the said tube S and is provided with the sleeve C', which is adapted to fit on the tube S. Said sleeve C' is provided with the openings D', and it will be noticed that when desired the said openings D' and the perforations T may be made to coincide, but by turning the sleeve both the openings and the perforations are closed. Passages E' are also made in the lug M, which lead to the interior of the tube S and supply air to the burner R, in which case the passages V may be dispensed with.

B' designates a valve through which access to the chamber D is had, a suitable pump being employed to fill the same.

I do not desire to be limited to the use of a soldering-iron, and in Figs. 4 and 5 I show a brazier H' and a head G' for giving off a flame of considerable size.

The operation is as follows: The valve B' is opened and the combustible liquid is forced into the chamber D in any suitable manner, after which enough air is forced in the said chamber and from time to time to keep the said liquid under suitable pressure and the valve B' is closed. When it is desired to use the tool in the position seen in Fig. 2 of the drawings, it will be seen that the ball-valve closes the upper part of the tube J and the ball-valve K is opened. The valve-stem E is now operated in order to open the passage H. The liquid in the chamber D will be at the handle end thereof, and, being under pressure, will ascend the tube J into the passage H and into the chamber P, and from thence out through the passage Q, where it is ignited at R, the air for the flame passing through the openings V and T, or in case the passages E' are employed the air will be supplied there-through. It will be noticed that the chamber P surrounds the flame and is heated thereby, and as the fluid passes through said chamber it is also heated before it reaches the flame, which causes it to burn, being a much greater heat.

If the tool is used in the direction opposite to that shown in Fig. 2, that is, "downwardly," the valve L will be opened and the valve K closed. The valve-stem E is operated to open the passage H, and as the liquid in this case will be at the cap end of the chamber D, at which the valve L is situated, the fluid will pass up the tube J to the passage H and follow the same course as indicated in the previous operation. By closing up the passage H the flame will be extinguished, as there is no more fluid to reach the same, and the tool can be safely stored or put away. By using the head G' the tool is adapted for cooking and other suitable purposes, and by the use of the brazier H' the tool is adapted for other work than soldering. The heating or soldering or brazing irons may be easily removed from the tube S and any different one may be placed thereon.

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

1. In a combined soldering-tool and brazier, a casing with a cap, a passage-way therein, means for controlling said passage, a chamber in communication with said passage-way and a burner communicating with said chamber, the latter surrounding said burner, said parts being combined.

2. In a combined soldering-tool and brazier, a casing with a cap, a valve-stem mounted in said casing, its other end forming a valve for a passage-way in said cap, a chamber connected with said cap and communicating with said passage-way, a burner connected by a second passage-way in said cap with said chamber, said chamber surrounding said burner, and the walls of said chamber having air-passages leading to said burner, and

a perforated tube above said burner, said parts being combined.

3. In a combined soldering-tool and brazier, a casing with a cap on one end and a handle on the other, a chamber outside of said casing and in communication with the same, a valve-stem controlling a passage in said cap, a burner within said chamber and in communication with the same, and a tube in said casing having at its opposite ends, valves controlling a passage-way in said cap to said chamber, said parts being combined.

4. A casing with a cap on one end and a handle on the other, a chamber outside of said casing, a passage-way in said cap leading from within the casing to said chamber, a rotary valve-stem controlling said passage-way, a burner within said chamber having a communication therewith, a perforated tube outside of said burner, and a valve with means for forcing air into said casing, said parts being combined.

5. A casing with a handle on one end, a cap on the other and having inner and outer lugs thereon, passage-ways therein, a casing on said outer lug forming a chamber in communication with the inside of said casing, a valve-stem controlling a passage-way leading from within said casing, a burner within said chamber, a perforated tube outside of said burner, a tube in said casing having alternating operating-valves at its opposite ends and means for filling any pressure in said casing, said parts being combined.

PETER VANDEN BERGHE.

Witnesses:

JOHN A. WIEDERSHEIM,
WM. C. WIEDERSHEIM.