No. 686,758. Patented Nov. 19, 1901.

# D. C. PATTERSON.

## BLOWPIPE.

(Application filed Feb. 8, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

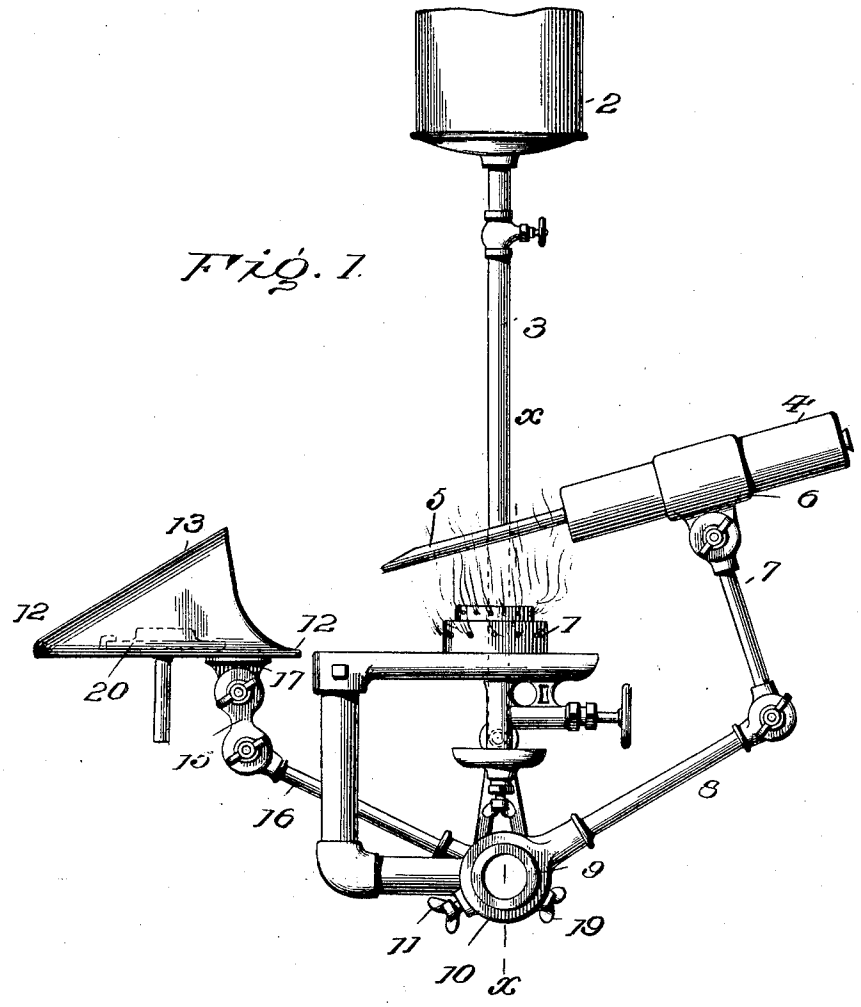
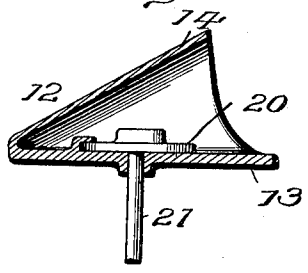



Fig. 4.




Witnesses
Gladys L. Thompson

Inventor
D. C. Patterson
By R. S. & A. B. Lacey,
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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## BLOWPIPE.

(Application filed Feb. 8, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

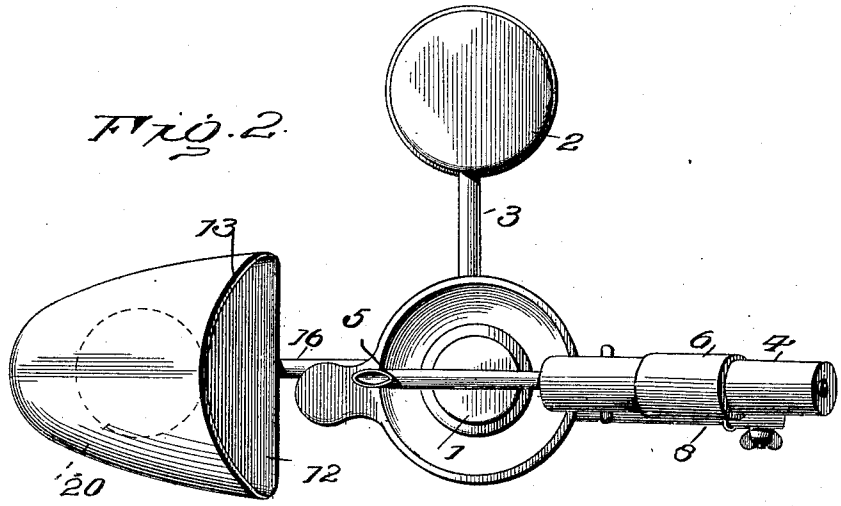
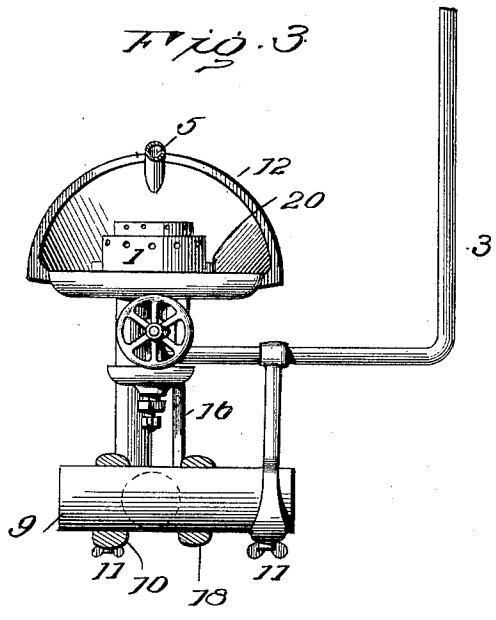



Fig. 3.




Witnesses
J. M. Lemire
Gladys L. Thompson

Inventor
D. C. Patterson

By A. D. Adsit, Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

DAVID C. PATTERSON, OF CYNTHIANA, KENTUCKY, ASSIGNOR OF ONE-HALF TO J. T. HEDGES, JR., OF CINCINNATI, OHIO.

## BLOWPIPE.

SPECIFICATION forming part of Letters Patent No. 686,758, dated November 19, 1901.

Application filed February 8, 1901. Serial No. 46,550. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID C. PATTERSON, a citizen of the United States, residing at Cynthiana, in the county of Harrison and State of Kentucky, have invented certain new and useful Improvements in Blowpipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to brazing and soldering apparatus, and is designed to provide a machine for this purpose which will be light, portable, compact, effective, and adjustable to suit the convenience of the artisan and the nature of the work in hand and which will utilize the heat and the heat-producing medium to the best possible advantage.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and the drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a brazing apparatus and blowpipe constructed in accordance with and embodying the essential features of the invention. Fig. 2 is a top plan view thereof. Fig. 3 is a section about on the line X X of Fig. 1 looking to the left. Fig. 4 is a central longitudinal section of a concentrator, showing the work-holder in elevation.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The apparatus comprises, essentially, a burner 1 of any type for consuming either oil, gas, or analogous inflammable material generally used in a device of this character. As shown the burner is of the vapor variety, the volatile hydrocarbon being supplied thereto from a tank or reservoir 2 by means of a valved pipe 3.

Forming a part of the apparatus is a blast contrivance for projecting the flame upon the work to be brazed, soldered, or reduced to a molten state. This blast-creating device consists of a holder 4 for containing alcohol, naphtha, or kindred volatile substance. A tube 5 is connected with one end of the holder 4 and in operation is located above the burner, so as to enter the flame, whereby the alcohol is vaporized and escapes from the tube in a stream or jet and serves to intensify the flame and project the same upon the work. The holder 4 is fitted to a cuff or sleeve 6, which has adjustable connection with a rod or bar 7, so as to be turned to any desired angle. The rod or bar 7 has adjustable connection with a companion rod or bar 8, which in turn has adjustable connection upon a support 9. An eye 10 is provided at the lower end of the part 8 and encircles the support 9 and is held thereon in an adjusted position by means of a clamp-screw 11. The parts 7 and 8 constitute sections of a bracket arm or support, and the joints between said sections and between the arm and the part 6 consist of overlapping parts clamped by means of a binding-screw. By mounting the blast-creating device in the manner set forth it can be adjusted to any height and to any angle, so as to direct the flame upon the work to the best possible advantage.

In order to concentrate the heat and prevent air striking and chilling the work, a hood 12, of refractory material, is provided and is of flaring form and comprises a flat base 13 and a cover 14, curving transversely and inclining away from the base 13 at the open end of the hood. This hood has adjustable connection with a bracket arm or support, so as to be turned to any angle or made level when the bracket-arm is adjusted to raise or lower the hood. The bracket-arm consists of sections 15 and 16, joined in a manner similar to the parts 7 and 8, and the hood 12 has a pendent part 17, joined to the upper end of the section 15. An eye 18 is provided at the lower end of the section 16, and a binding-screw 19 coöperates therewith to secure the bracket-arm in an adjusted position upon the support 9. The manner of mounting the hood admits of the work being raised or lowered,

moved to a greater or less distance from the burner, and turned to any angle as may be desired to obtain the best possible results.

The work-holder consists of a revoluble table 20, having a pendent stem 21 and mounted upon the base 13 of the hood 12, with the stem 21 passing through a reinforced opening formed in the said base 13, so as to be rigid for turning the table to bring every portion of the work in direct contact with the flame. This table 20 may be of refractory material or may be of metal covered with asbestos or other refractory substance.

Having thus described the invention, what is claimed as new is—

1. In apparatus of the character described, and in combination with the burner, a work-holder, and a blast-creating device comprising a tube connected with a holder containing a liquid to be vaporized by the flame of the burner and serving to project said flame upon the work, substantially as set forth.

2. In apparatus of the character described, and in combination with the burner, an adjustable work-holder, a blast-creating device, and an adjustable support therefor, substantially as specified.

3. In combination with the burner, a work-holder adjustable to any elevation, toward and from the burner and to any angle, a blast-creating device, and a bracket-arm forming a support therefor to admit of the blast-creating device being raised or lowered, moved toward and from the burner and adjustable to any angle, substantially as specified.

4. In apparatus of the character described, a heat-concentrator consisting of a flaring hood formed of a horizontal base and an arched cover connected at its edges and one end with the base, and spaced from the base at its opposite end, substantially as described.

5. In apparatus of the character described, a heat-concentrator consisting of a horizontal flat base, and an arched cover connected at its edges and one end to the base and inclining from the base toward its opposite end which is spaced therefrom, a revoluble work-holder fitted upon the flat base, and a stem journaled in the base and adapted to fix the position of the work-holder and to provide actuating means therefor, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID C. PATTERSON. [L. S.]

Witnesses:

DAN. R. KIMBROUGH,

HOPE REDMAY.