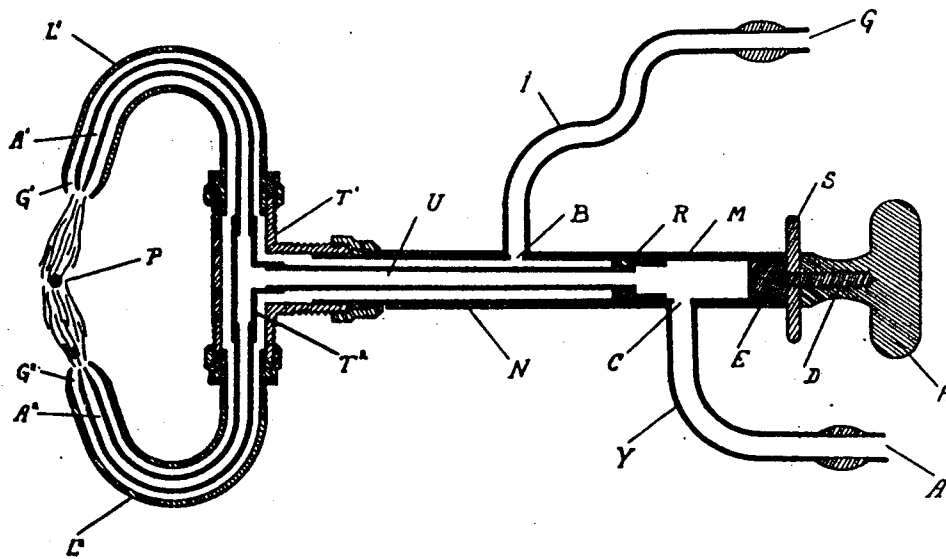


H. SCHWEITZER.
GAS BLOWPIPE.

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1,046,112.

Patented Dec. 3, 1912.



WITNESSES

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GAS-BLOWPIPE.

1,046,112.

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To all whom it may concern:

Be it known that I, HEINRICH SCHWEITZER, a subject of the German Emperor, residing in New York, in the county and State of New York, have invented new and useful Improvements in Gas-Blowpipes, of which the following is a specification.

In the ordinary soldering blowpipe we have one gas exit in the center of which is an air exit. The gas exit is formed by the end of a gas pipe, the air exit by the end of an air pipe. Fuel gas is driven through the gas pipe and air, or any other oxygenic gas substance favoring combustion, is forced through the centrally located air pipe. Fuel gas and oxygenous gas substances mixed by means of a blowpipe produce a higher heat than one brought about by the usual gas burner, however the heat generated by a single gas and air or gas and oxygen blowpipe is not sufficient for many purposes.

The object of my invention is to construct a blowpipe with two or more separate gas and air exits and to place these exits in such a position that the driven flames meet in one point. The heat of the blowing flames is concentrated upon one place and a quicker, much higher heat is obtained than in the single ending ordinary blowpipe.

My improvement is an advantage in the use of small sharp flames as well as in the conflagration of two or more large blowing flames for heating purposes.

My improvements lead to a blowpipe with one main tube for fuel gas dividing into branch tubes and one main tube for oxygenic gas dividing into branch tubes; the relative disposition of the respective tubes as well as the way of connecting the main tubes with the sources of gas supply and the shape of the end pipes allowing for the termination in converging direction are special points of novel character. The converging direction of two or more flames is of great value in soldering pipes, plates, or articles which are held by a plaster compound in their relative position during the soldering process as the heat can be applied from more than one side.

The sectional figure of the accompanying drawing illustrates a blowpipe with two gas exits the construction of which is as follows: A handle screw, H, and a setscrew, S, threaded in their axial centers move upon a spindle, D; this spindle is projecting from a lock nipple, E, locking the main tube, M,

posteriorly. The main tube, M, is perforated at the points B and C and surrounded by a snug fitting sleeve, N, having tube projections I and Y. These projecting tubes I and Y communicate with the interior of the main tube when their interior openings are placed upon the perforations of the main tube; this is simply done by turning the sleeve N around its longitudinal axis until the opening of the tube I is adjusted upon the opening, B, of the tube M, when at the same time the opening of the tube Y is directed upon the opening C of the tube M.

The letter U indicates the main tube for oxygenic gas substances (air, nitrous oxid, oxygen, etc.); this main air tube U is closed toward the anterior part of the main gas tube, M, by the fitting R, which separates an anterior space from a posterior space in the main tube M.

The fitting T' divides the main gas tube M into branches, the fitting T² divides the main air tube U into branches. The subdividing ends of the dividing fittings may be directed in any suitable angle to the direction of the main tube M. The branch tubes for air or other oxygenic gas substances are thus distributed to the respective branch tubes for fuel gas. The fuel gas enters the blowpipe at G and leaves it at G' and G². The air or oxygenic gas enters the blowpipe at A and leaves it at A' and A².

Turning movements of the sleeve N regulate the distribution of gas and air so that while the blowpipe is held with 3rd, 4th, and 5th finger of the hand, thumb and forefinger control the regulation of gas and air admission.

The handle screw, H, tightened upon the spindle, D, of the nipple, E, by the set screw, S, makes a firm connection with the main tube, M, around which the sleeve, N, rotates. The amount of gas, G, and air or oxygenous substance, A, to be passed through the respective tubes is dependent upon the position of the openings of the tube, I, and, Y, over the perforations, B, and, C, of the main tube, M. While a full supply and large flames are obtained by placing the internal openings of the gas and air supply tubes, I, and, Y, exactly over the perforations, B, and, C, a diminution of gas and air supply and small needle flames are obtained in changing the position of the tubes, I, and, Y, from the position mentioned before by an axial movement of the sleeve, N, to the

right or left. The blowpipe is manipulated by holding the handle with 3rd, 4th and 5th finger of the hand while the sleeve, N, is operated by the thumb and fore-finger.

5 The curved branch tubes L' and L'' terminate in converging direction so that the blowing flames meet in one point P. The curves of the branch tubes may be more or less pronounced so that the converging
10 flames may meet at any desirable angle. Any desired number of branches may be fitted at the end of the main gas tube.

Having now fully described my invention I claim:

- 15 1. Blowpipe for combined use of fuel gas and oxygenous gas substances consisting of one larger main tube for fuel gas divided into terminal branch tubes, and one smaller main
20 tube for oxygenous gas substances which in turn is divided into terminal branch tubes, said tubes for oxygenous gas substances suspended throughout in said tubes for fuel gas in such manner that the larger main tube
25 main tube for oxygenous gas and each one of the terminal branch tubes for oxygenous gas is disposed in the interior of one of the branch tubes for fuel gas, substantially as described and shown.
- 30 2. Blowpipe for combined use of fuel gas and oxygenic gas substances having one larger main tube for fuel gas divided into terminal branch tubes, and one smaller main
35 tube for oxygenic gas substances which in turn is divided into terminal branch tubes; the tubes for oxygenic gas substances suspended throughout in the tubes for fuel gas in such manner that the larger main tube for fuel gas carries in its interior the smaller

main tube for oxygenic gas and each one of 40 the terminal branch tubes for oxygenic gas is disposed in the interior of one of the branch tubes for fuel gas, the pipes of said branch tubes bent to allow for their termination in a converging direction substantially 45 as described and shown.

3. Blowpipe for combined use of fuel gas and oxygenic gas substances having one larger main tube for fuel gas divided into 50 terminal branch tubes, one smaller main tube for oxygenic gas substances which in turn is divided into terminal branch tubes, and a sleeve surrounding the larger main tube; the tubes for oxygenic gas substances suspended 55 throughout in the tubes for fuel gas in such manner that the larger main tube for fuel gas carries in its interior the smaller main tube for oxygenic gas, and each one of the terminal branch tubes for oxygenic gas is 60 disposed in the interior of one of the branch tubes for fuel gas, said main tube provided with an anterior lateral wall perforation for the passage of fuel gas and a posterior lateral wall perforation for the passage of oxy- 65 genic gas substances, said sleeve carrying a supply tube for fuel gas and one for oxygenic gas substances, being attached swiveling around the larger main tube in a position in which the opening or closing of the 70 gas ways is effectuated by turning the internal openings of the supply tubes on to or off from the respective wall perforations of the larger main tube.

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Witnesses:

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