J. H. FLOWER.

BLOWPIPE.

APPLICATION FILED SEPT. 9, 1909.

972,759. **Patented Oct. 11, 1910.**

2 SHEETS—SHEET 1.

Fig. 1.

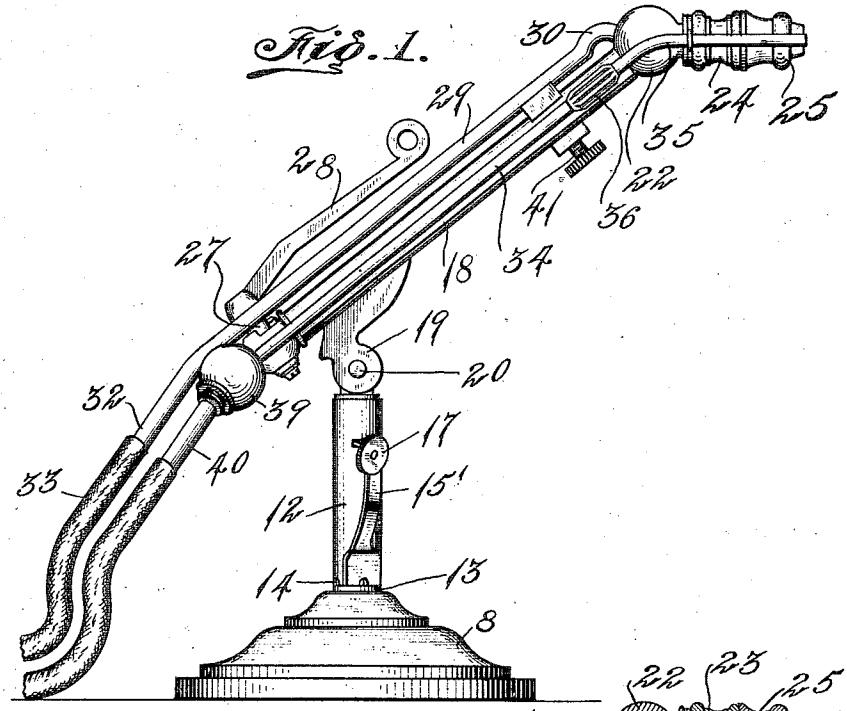
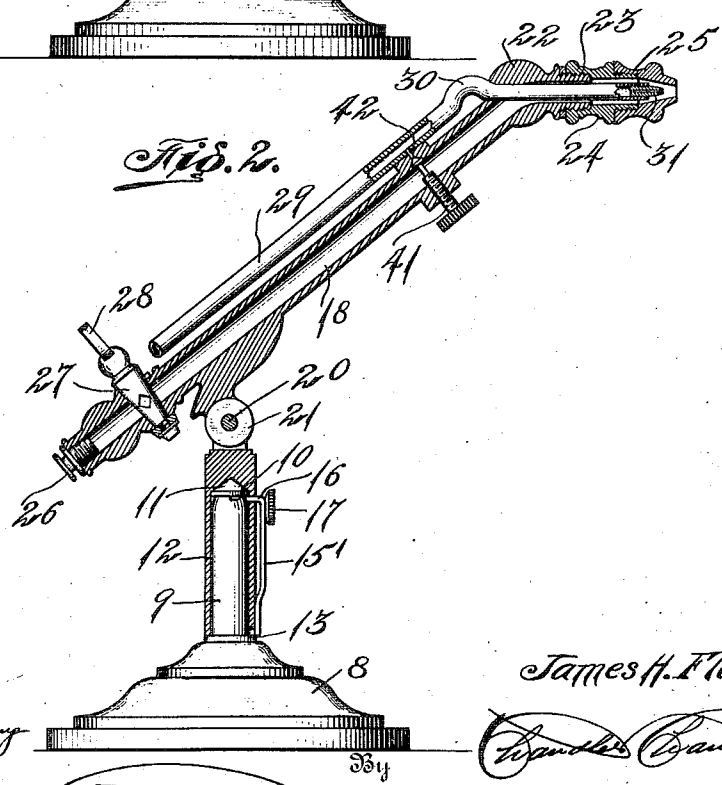


Fig. 2.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

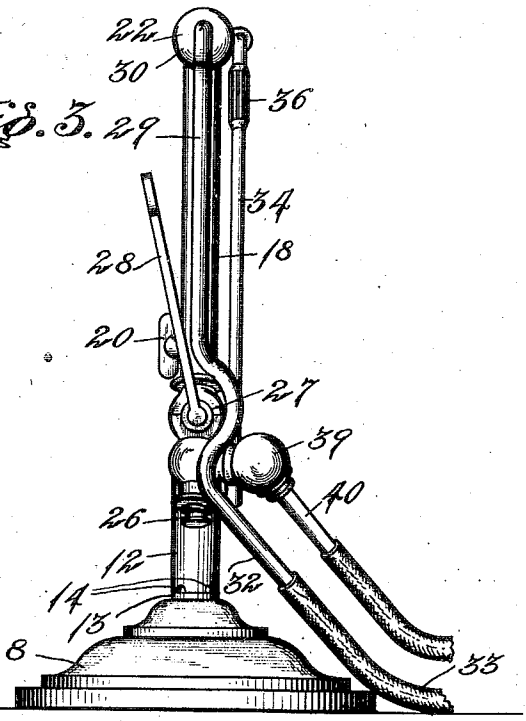

Fig. 4.

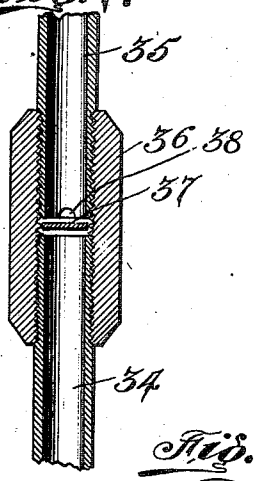

Fig. 6.

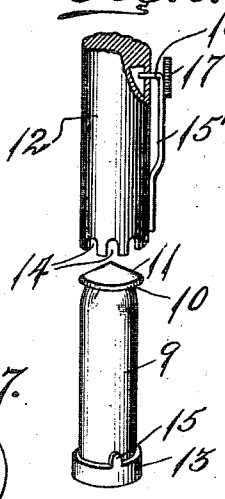

Fig. 5.

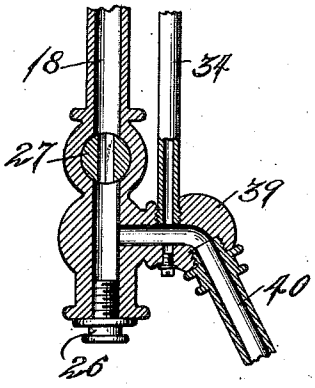

Fig. 7.

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UNITED STATES PATENT OFFICE.

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BLOWPIPE.

972,759. Specification of Letters Patent. Patented Oct. 11, 1910.

Application filed September 9, 1909. Serial No. 516,828.

To all whom it may concern:

Be it known that I, JAMES H. FLOWER, a citizen of the United States, residing at Ashtabula, in the county of Ashtabula, State of Ohio, 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.

The invention relates to a blow pipe and more particularly to the class of blow pipes especially adapted for use by dentists, jewelers or other skilled workmen.

The primary object of the invention is the provision of a blow pipe in which the gas supply may be controlled at will and which is normally cut off so that no gas can gain access to the main tube of the blow pipe while a pilot tube constantly furnishes a flame which latter is regulated or controlled by valve means disposed within said pilot tube and by this pilot flame the blow pipe may be quickly brought into service.

Another object of the invention is the provision of a blow pipe of this character in which a supply of air is delivered through the medium of an air tube to the main gas tube so as to intensify and give force to the flame issuing from the blow pipe, and this air supply tube is provided with a removable nozzle which may be readily removed for cleaning purposes and also replaced when unfit for use.

A further object of the invention is the provision of a blow pipe that may be readily and easily adjusted to direct the flame as desired, and which is simple in construction, thoroughly efficient in operation, and inexpensive in the manufacture.

In the drawings accompanying and forming part of this specification is illustrated the preferred form of embodiment of the invention, which to enable those skilled in the art to carry the invention into practice, will be set forth at length in the following description, while the novelty of the invention will be pointed out in the claims hereunto appended.

In the drawings Figure 1 is a side elevation of the invention. Fig. 2 is a vertical sectional view. Fig. 3 is a rear elevation. Fig. 4 is an enlarged detail sectional view through a portion of the pilot light tube showing the valve arrangement therein. Fig. 5 is a fragmentary sectional elevation. Fig. 6 is a fragmentary view showing the device removed from the base and partly in section. Fig. 7 is a plan view of the valve disk.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, the numeral 8 designates a base which may be of any desirable shape and constructed of any suitable material having rising centrally therefrom a vertical standard or stem 9, with a circumferential groove 10, adjacent to its upper end. The extreme upper end of the standard or stem 9, is tapered as at 11 and loosely surrounding the said standard is a shell 12, which is adapted to telescope thereover and the inner end of this shell is conical shaped and adapted to rest upon the upper tapering end of the standard or stem 9, while the lower end of said shell rests upon a shoulder 13 formed circumferentially of the standard. The lower end of the shell 12, is provided with a series of notches 14, any one of which is adapted to engage a lug 15, projecting from the shoulder 13, on said standard so that this shell when in normal engagement with the standard will be prevented from rotation on the latter.

Secured exteriorly to the shell 12, is a depressible spring 15′, having its upper free end bent inwardly to form a right angular tongue 16, the latter adapted to work through a suitable opening in the shell to engage the groove 10, in the standard 9, for attaching the shell to said standard when pressure is applied to a thumb button on the spring 17, and thereby enable the shell and the standard to be raised together as the occasion may demand.

Adjustably connected to the shell 12, is a blow pipe comprising a main gas tube 18, having projecting therefrom near its lower extremity a pair of spaced parallel ears 19, containing registering openings one of which is provided with threads engaged by an adjustable thumb screw 20, the latter also passed through a circular-shaped apertured ear 21, formed at the upper end of the shell 12, and in this manner the tube may be adjusted at any desired angle. Formed at the upper end of the main gas tube 18, is a ball terminal 22, formed with a threaded nipple 23, angularly disposed with respect to the gas tube and this nipple has detach-

ably connected thereto a nozzle formed of two sections 24 and 25, one threaded upon the other, to connect the same. The opposite end of the main gas tube 18 is closed by a threaded plug 26, which latter may be removed to permit the connection of a nipple as will be hereinafter described.

Rotatably mounted within and intersecting the gas tube 18 is a valve plug 27 formed with a hand lever 28, which will permit the valve to be turned so as to regulate and cut off the supply of gas through the gas tube.

Suitably mounted upon the gas tube 18 and extending in parallel relation thereto for a greater portion of its length is an air tube 29 the upper extremity of which is bent as at 30, and passed through the ball terminal 22, into the nipple 23 and terminates a distance beyond the same, and in this end of the air tube is detachably threaded a jet nozzle 31, which latter may be readily removed to permit cleaning thereof and also permit it to be replaced by a new one should the same become unfit for use. The opposite end of the air tube 29, is formed with an angularly disposed nipple terminal 32 to which latter is adapted to be connected a pipe 33, having communication with any suitable source of air supply.

At one side of the main gas tube 18, and extending longitudinally in parallelism therewith is a pilot flame tube formed of sections 34 and 35, the latter of which has its upper end arranged in proximity to the double nozzles 24 and 25 and extends slightly beyond the nozzle 25 so as to furnish a lighting flame to the burner. The mutually adjacent ends of the sections 34 and 35 are provided with screw threads, the thread on one section being of a different size than the thread on the other section, and both of these threads engage a correspondingly threaded coupler forming a turning sleeve 36, in which is loosely disposed a flat disk 37, forming a valve, and this disk is adapted to be locked between the ends of the sections 34 and 35 upon turning the sleeve 37 in one direction so as to shut off the supply of gas through the pilot tube, but upon turning the sleeve 36, in the opposite direction, the disk is freed so that gas will escape about the same following the trend of the thread in the sleeve 36 and passing through notches 38, in the end of the section 35, to this upper section 35 where it is spent for producing a continuous pilot flame for the blow pipe.

Connected to the main gas tube 18 at one side thereof is a chambered bulb 39, into which leads the lower end of the section 34, of the pilot tube and detachably threaded in this bulb 39, is a nipple 40, which latter has connection with a suitable gas supply pipe so that gas will be supplied to both the gas tube 18, and the pilot tube. The detachable nipple 40, may be inserted or attached to the lower end of the main gas tube 18, by removing the plug 26 and inserting the same in the bulb 39, at the point where the nozzle 40 is adapted to connect therewith, and when this latter nozzle is connected with the gas tube 18, it will supply gas directly thereto.

Working transversely through the gas tube 18, is a manually operable adjustable needle valve 41, controlling a bypass 42, establishing communication between the gas tube and air tube so as to regulate the supply of air from said air tube 29, to the gas tube for its mixture with the gas prior to the discharge of the latter from the burner nozzle.

It is obvious that due to the disposition of the lever 28 formed on the valve plug 27, an operator may readily control the latter so as to regulate the gas supply through the gas tube for establishing a needle or brush flame as the occasion may demand.

In operation, the pilot tube with a minute jet flame may be continually burning to avoid the necessity of lighting the main jet any time it is desired to use the device, the flow of gas through the pilot tube being regulated upon manipulation of the turning sleeve 36, and the supply of gas passing through the main gas tube 18, regulated through the valve 27, and in this manner the operator has full control of the device.

From the foregoing, the construction and operation of the invention will be clearly apparent without the necessity of a more extended explanation and therefore the same has been omitted.

What is claimed is:—

1. In a blow pipe, a gas tube, an air tube, a pilot light tube at one side of the gas tube and having upper and lower sections, a turning sleeve connecting the adjacent ends of the sections, and a disk located within the sleeve between the adjacent ends of the sections and adapted to control the gas supply through said pilot tube.

2. In a blow pipe, a main gas tube having a branch at substantially right angles thereto, a pilot tube arranged in parallelism with said main gas tube and in communication with the said branch, the said main gas tube and branch being provided with internally threaded open ends, and an interchangeable plug and nipple adapted to be engaged in either of the internally threaded ends of the main tube and branch.

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

JAMES H. FLOWER.

Witnesses:
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O. B. LAMBERT.