(No Model.)

W. SAMS.

BURNER FOR COMPOUND BLOWPIPES OR BRAZERS.

No. 586,066. Patented July 6, 1897.

Fig. 1.

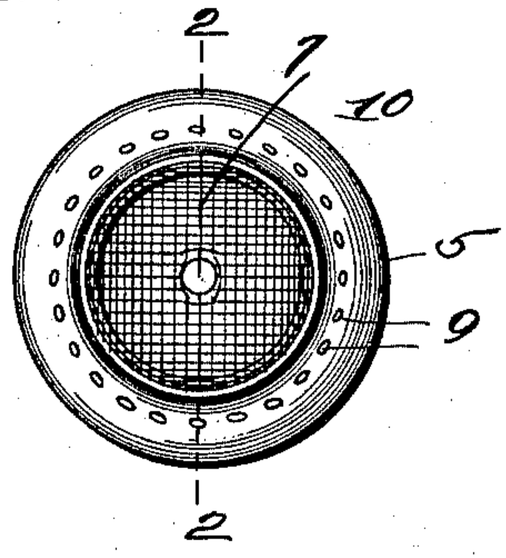


Fig. 2.

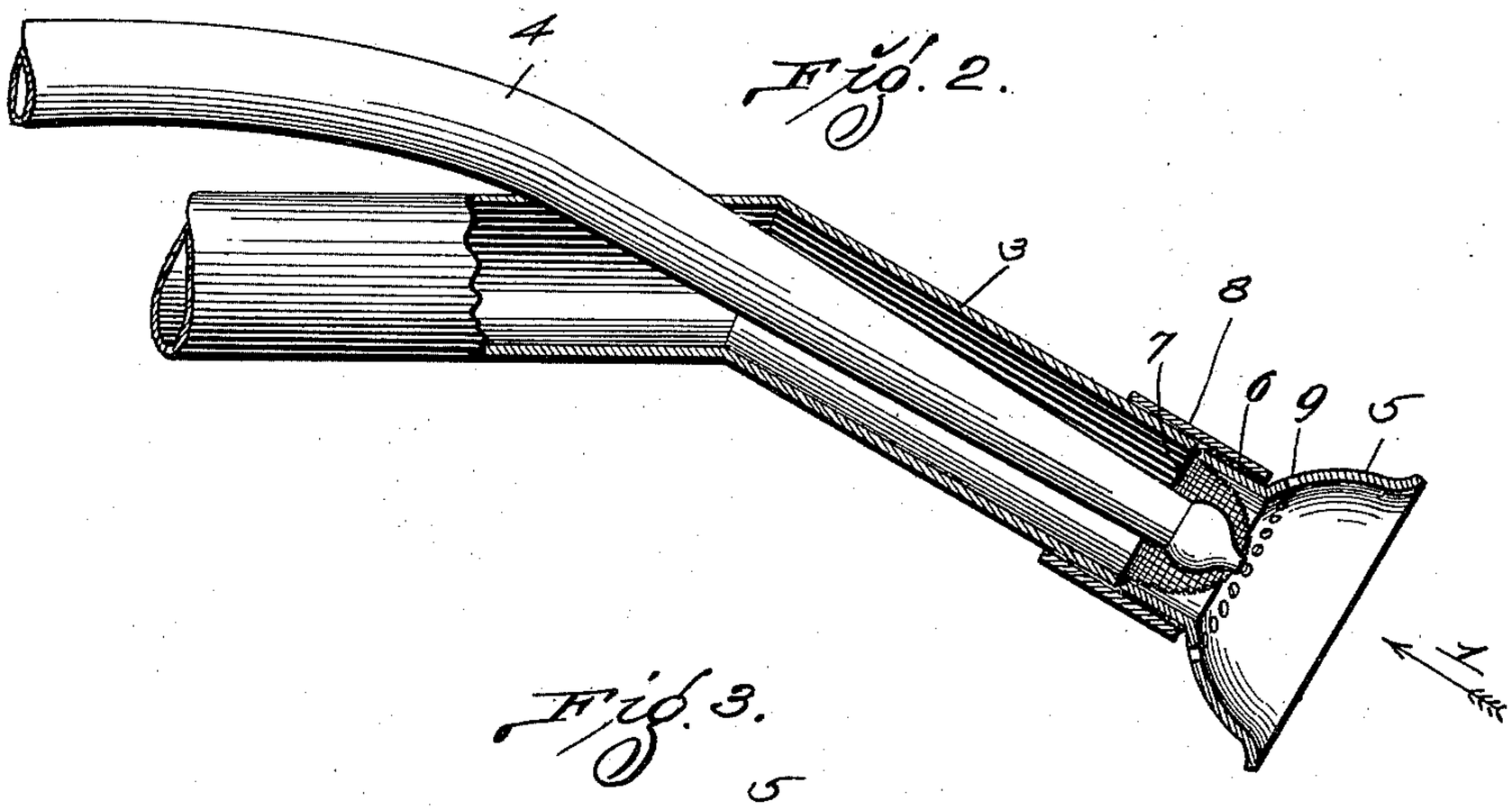
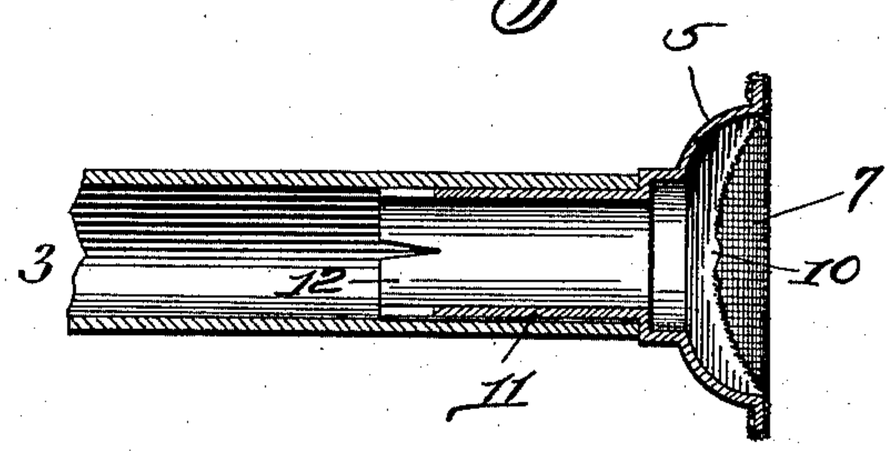


Fig. 3.



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UNITED STATES PATENT OFFICE.

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BURNER FOR COMPOUND BLOWPIPES OR BRAZERS.

SPECIFICATION forming part of Letters Patent No. 586,066, dated July 6, 1897.

Application filed March 22, 1897. Serial No. 628,760. (No model.)

To all whom it may concern:

Be it known that I, WALTER SAMS, of the city of Warrensburg, Johnson county, State of Missouri, have invented certain new and useful Improvements in Burners for Compound Blowpipes or Brazers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to burners for compound blowpipes and brazers; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a plan view of my improved burner as seen looking in the direction indicated by the arrow 1 in Fig. 2. Fig. 2 is a sectional view taken approximately on the line 2 2 of Fig. 1. Fig. 3 is a modification.

The pipe 3 carries the gas, hydrogen, or hydrocarbon to the burner, and the pipe 4 carries the air or oxygen to the burner, the tip of the pipe 4 being inside of the tip of the pipe 3.

The burner consists of the bell-shaped portion 5, the neck 6, attached to or formed integral with the bell-shaped portion 5, and the foraminous body 7, stretched across the opening in the neck 6 and held in position by the ferrule 8, which ferrule also engages the tip of the pipe 3 and holds the burner in position relative to said pipe. A series of perforations 9 are formed in the bell-shaped portion 5 and extend in a line around said portion 5 at a point near its junction with the neck 6. The bell-shaped portion 5 forms the flaring discharge opening or nozzle for the blowpipe or brazer. The neck 6 is substantially the same diameter as the tip of the pipe 3.

The foraminous body 7 may be formed of fine wire-gauze, or of any suitable material, and said body is placed in position across the inner end of the neck 6, with its edge extending outside of said neck and bent forwardly, and the ferrule 8 is inserted upon the neck 6, thus bringing the edge of the foraminous body 7 inside of the ferrule and outside of the neck and holding said edge securely in position. The neck 6 is thus fixed in position in one end of the ferrule 8, and the tip of the pipe 3 is inserted tightly in the opposite end of said ferrule. A small opening 10 is formed in the center of the foraminous body 7, and the air-pipe 4 discharges through said opening 10.

The burner thus constructed may be attached to any compound blowpipe or compound brazer or to any device using gas and air together or using a mixture of oxygen and hydrogen, and its purpose is to regulate the size and shape of the flame and secure perfect combustion of the gases and prevent the flame from becoming extinguished under a high pressure of gas and to prevent the flame from communicating with and exploding the gases where explosive mixtures are used.

The object of the foraminous body 7 is to form a screen through which the gas, hydrogen, or hydrocarbon must pass, and said foraminous body may be concave, convex, or flat, as desired.

In the modification shown in Fig. 3 the foraminous body 7 is placed in position against the outer edge of the bell-shaped portion 5, and the edge of said foraminous body is turned backwardly and inwardly, forming a connection with said bell-shaped body and said foraminous body 7, and said foraminous body 7 is concaved. The tube 11 is formed integral with the bell-shaped body 5 and projects backwardly, and the rear end of said tube is slotted to form spring-arms 12, the expansive tension of which will hold the burner in position when the tube 11 is inserted in the end of the pipe 3.

I claim—

1. In a burner for compound blowpipes and the like, a bell-shaped body forming a discharge-opening for the gas-pipe, and a foraminous body secured in position between the tip of the blowpipe and the inner surface of said bell-shaped body in such a way that the gas must pass through said foraminous body, said foraminous body having an opening in its center to allow the air from said air-pipe to pass freely through said foraminous body, substantially as specified.

2. In a burner for compound blowpipes and the like, the bell-shaped body forming a discharge-opening for the gas-pipe, and the foraminous body secured in position between the tip of the blowpipe and the inner surface

of said bell-shaped body in such a way that the gas must pass through said foraminous body, substantially as specified.

3. In a burner for compound blowpipes and the like, the bell-shaped body forming a discharge-opening for the gas-pipe and having a series of perforations concentrically arranged relative to the gas-pipe, and the foraminous body secured in position between the tip of the blowpipe and the inner surface of said bell-shaped body in such a way that the gas must pass through said foraminous body, substantially as stated.

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

WALTER SAMS.

Witnesses:
BEN. T. SAMS,
EUGENE S. THURBER.