No. 685,939. Patented Nov. 5, 1901.

G. & U. PALAZZI & V. PIVETTA.

HYGIENIC SOLDERER.

(Application filed Oct. 17, 1899.)

(No Model.)

Fig: 1.

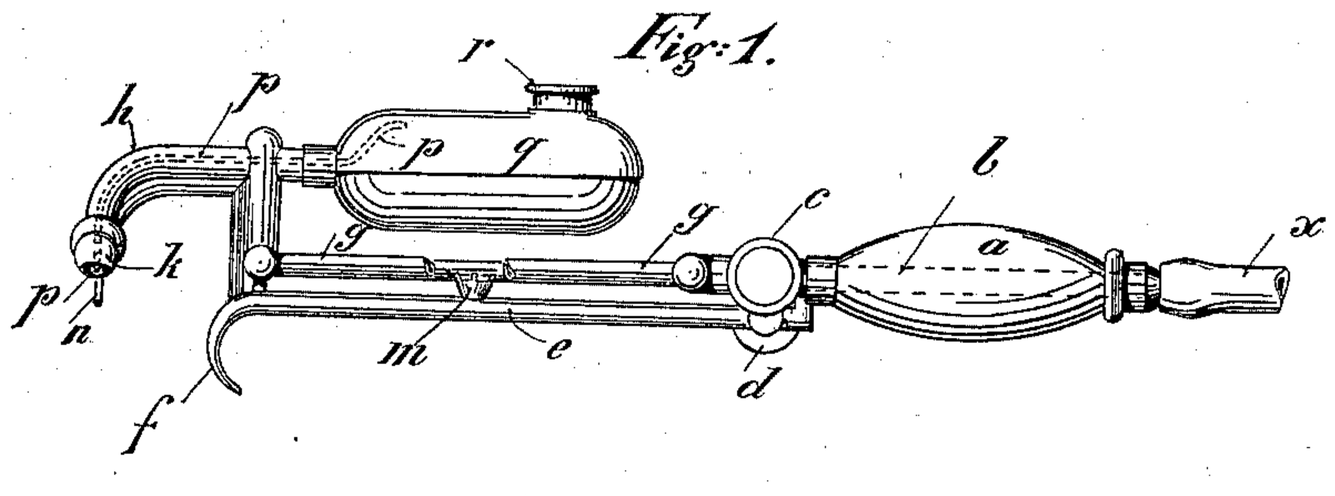


Fig: 2.

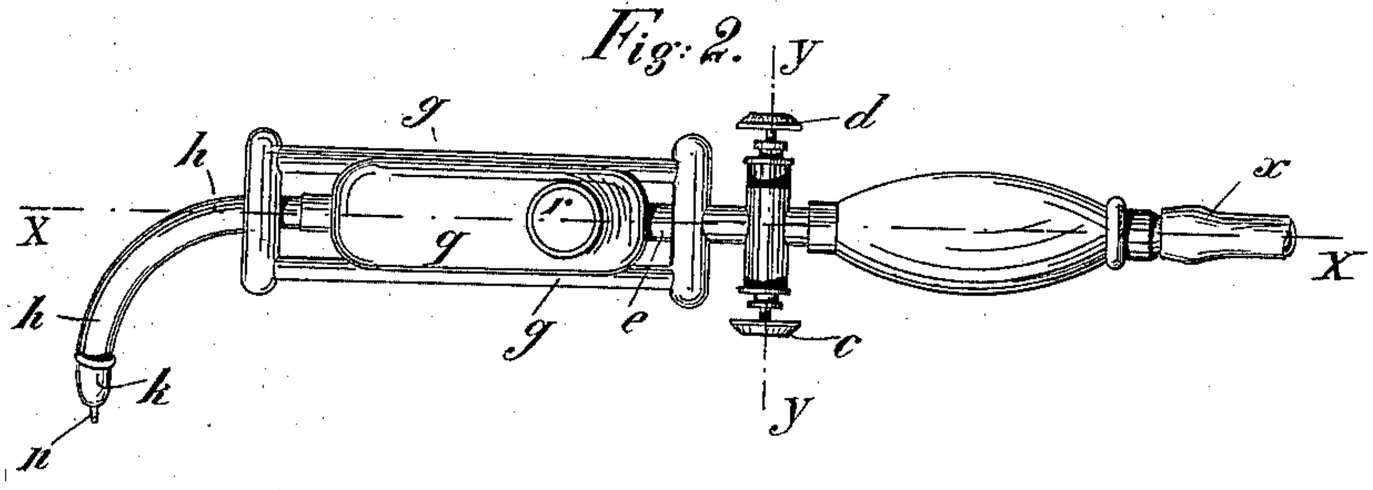


Fig: 3.

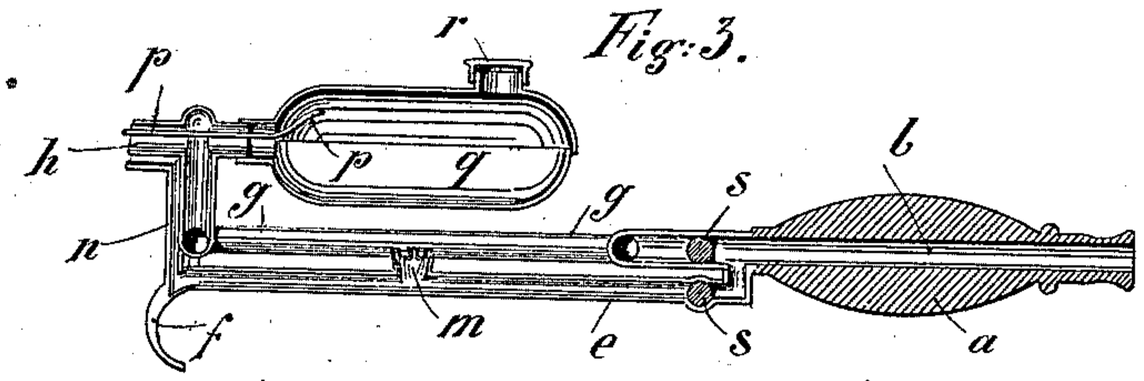
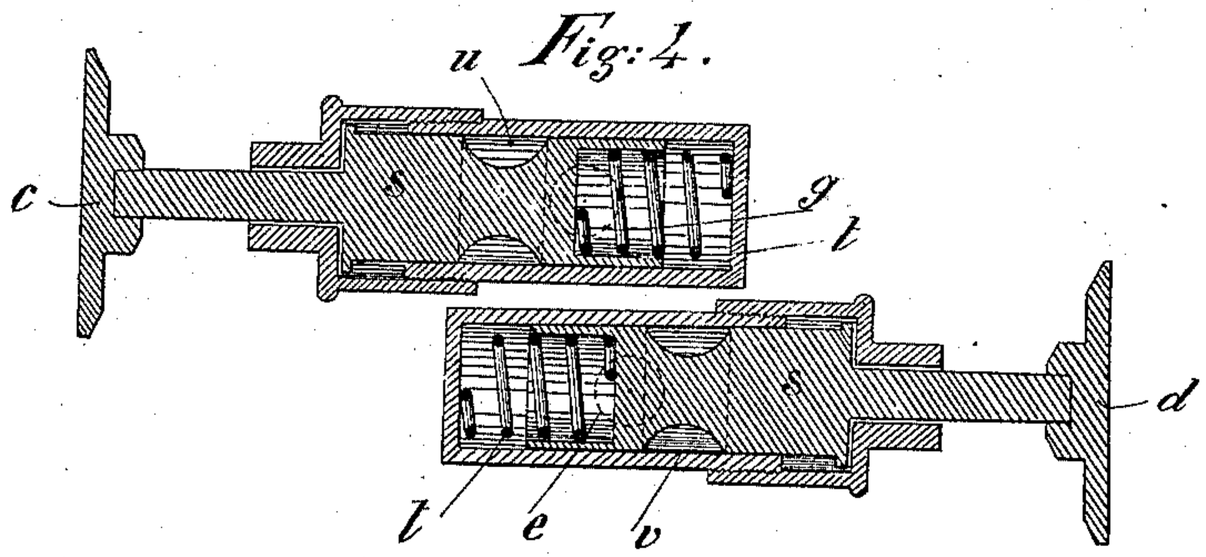


Fig: 4.



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UNITED STATES PATENT OFFICE.

GUIDO PALAZZI, UGO PALAZZI, AND VITTORIO PIVETTA, OF NAPLES, ITALY.

HYGIENIC SOLDERER.

SPECIFICATION forming part of Letters Patent No. 685,939, dated November 5, 1901.

Application filed October 17, 1899. Serial No. 733,871. (No model.)

To all whom it may concern:

Be it known that we, GUIDO PALAZZI, UGO PALAZZI, and VITTORIO PIVETTA, subjects of the King of Italy, residing at the city of Naples, in the Kingdom of Italy, have invented certain new and useful Improvements in Hygienic Solderers, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide a blowpipe-solderer using gas as a fuel in which the line of flame is produced and sustained by the force of a jet of steam, and the same, while not limited thereto, is designed, primarily, for use by jewelers and others who usually use the mouth-blowpipe.

Such invention consists, in substance, of a heating-burner, a gas conduit or pipe leading thereto, a closed vaporizing-chamber above the heating-burner, a soldering-burner in communication with a second gas conduit or pipe, a gas-supply pipe in communication with the gas conduits or pipes, a vapor-blowpipe in communication at one end with the upper part of the vaporizer and at the other with the soldering-burner, and a spring-valve for regulating the flow of gas opened by finger-pressure, located in each of the gas-pipes leading to the burners.

Such invention is fully shown in the following specification, of which the accompanying drawings form a part, wherein similar letters of reference designate like or equivalent parts wherever found throughout the several views, and in which—

Figure 1 is a side view of the apparatus. Fig. 2 is a top view thereof. Fig. 3 is a vertical sectional view of the same on the line X X of Fig. 2. Fig. 4 is a sectional view in detail, on an enlarged scale, of the valves on the line Y Y of Fig. 2.

Referring to the drawings, the reference-letter *a* indicates the handle of the solderer, and through its hollow interior passes the gas-pipe *b*. This pipe divides into two branches where it leaves the handle and immediately before the main valves *c d*. The valve *d* is placed in the lower pipe *e* and the valve *c* in the upper pipe, which beyond such valve *c* also divides into two parallel branches *g g*, which each communicate at the front of the apparatus with a single pipe *h*, which is bent downward, so as to give a convenient direction to the flame, the burner *k* being located at the end thereof. The regulating-valves *c* and *d* consist of a piston S, having annular gas-grooves *u* and *v*, which pistons are forced outward by a spiral spring T and inward by finger-pressure exerted upon the head or finger pieces. The two valves differ in that in its normal position the valve *c* fully closes its conduit or pipe, so as to absolutely stop the flow of gas therethrough, while the valve *d* in this position allows a little passage to remain always open to the gas-stream in the pipe or conduit *e*, the groove *v* being arranged in such a way that a small portion of it always forms a free communication between the conduit or pipe *e* and its branch of the pipe *b*.

The pipe *e* extends to the front of the apparatus and turns down in a hook *f*, by which the device may be hung up. At about the middle of the pipe *e* and immediately under the water-reservoir *q* is a burner or burners *m*. The pipe *e* ends in a finely-pointed tube or pipe *n*, which runs along the tube *h* and terminates with a very small hole under the burner *k*, acting as a pilot-light therefor.

Inside the tube *h* or pipe is another smaller pipe or tube *p*, with open ends terminating in the interior of the burner *k* at one end and at the other in the upper part of the small reservoir or boiler *q*, which forms the vapor or blowing pipe of the device. This boiler is usually of cylindrical form, with rounded ends, having at its upper part an aperture *r*, with a screwed cover, through which the water or alcohol to be vaporized may be poured.

To operate the device, the reservoir or boiler *q* is filled about half-full of water or alcohol and the top screw *r* screwed tightly down, so as to make such boiler air-tight, save through the vapor or blowing pipe *p*. The tube *b* is then connected to the gas-pipe *x*, Figs. 1 and 2, and when the gas-cock has been opened the gas passes through the small passage, which the groove *v* of the valve *d* always leaves free, and flows from the burner *m* and from the small pipe *n* at the burner *k*, and these being lighted the solderer is ready to be put to use. To use it, the valve *d* is pressed inward in

such a way as to bring the groove *v* in registry with the opening of the conduit or pipe *e* in order to allow the greatest possible quantity of gas to flow through such pipe *e* to the burner *m*, which raises the water in *q* to the boiling-point, and as soon as the jet of steam flowing from the blowing-pipe *p* is of sufficient force the valve *c* is pressed inward until the groove *u* comes in registry with the opening of its conduit or pipe and allows free passage of the gas through the tubes *g* and *g* to the pipe *h*, and at the aperture of the burner *k* the gas meets the pilot-flame *n* and is thus lighted, whereupon the apparatus is ready for working by directing the pencil of flame upon the article to be soldered or heated.

The jet or pencil of flame may be regulated by pressing upon the valves *c* and *d*. The greater the pressure on *c* the greater the flame of the burner *m*, and consequently the stronger the blast, and the greater that on *d* the greater the flame of the burner *k*.

When the soldering is terminated, the valves *c* and *d* are released from finger-pressure, whereby the flame of the burner *k* is extinguished, and at the same time the flames of the burner *m* and of the small pilot-light *n* are diminished.

What we claim, and desire to secure by Letters Patent, is—

1. In a gas-solderer, the combination with a boiler of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a regulating-valve normally slightly open leading to the heating-burner, a gas-pipe with a normally closed regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and a gas-supply pipe in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

2. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a finger-actuated spring regulating-valve normally slightly open leading to the heating-burner, a gas-pipe with a normally closed finger-actuated spring regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and gas-supply pipe in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

3. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a regulating-valve normally slightly open leading to the heating-burner, a gas-pipe with a normally closed regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and a handle having a gas-passage in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

4. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a finger-actuated spring regulating-valve normally slightly open leading to the heating-burner, a gas-pipe having a normally closed finger-actuated spring regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and a handle having a gas-passage in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

5. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a regulating-valve normally slightly open leading to the heating-burner, a pilot-light pipe leading from the pipe *e* to the soldering-burner, a gas-pipe with a normally closed regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and a gas-supply pipe in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

6. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a finger-actuated spring regulating-valve normally slightly open leading to the heating-burner, a pilot-light pipe leading from the pipe *e* to the soldering-burner, a gas-pipe with a normally closed finger-actuated spring regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and a gas-supply pipe in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

7. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a regulating-valve normally slightly open leading to the heating-burner, a pilot-light pipe leading from the pipe *e* to the soldering-burner, a gas-pipe with a normally closed regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading from the boiler to the soldering-burner, and a handle having a gas-passage in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

8. In a gas-solderer, the combination with a boiler, of a heating-burner beneath the boiler, a soldering-burner adjacent to the boiler, a gas-pipe having a finger-actuated spring regulating-valve normally slightly open leading to the heating-burner, a pilot-light pipe leading from the pipe *e* to the soldering-burner, a gas-pipe having a normally closed finger-actuated spring regulating-valve leading to the soldering-burner, a vapor-blowing pipe leading

from the boiler to the soldering-burner, and a handle having a gas-passage in communication with the gas-pipes of the soldering and heating burners, substantially as shown and described.

9. In a gas-solderer, the combination with a handle *a* having a gas-passage *b* divided into two branches at the forward end, of a finger-actuated normally closed spring regulating-valve *c* located in the upper branch of the pipe *b*, a pipe *h*, provided with a soldering-burner *k*, two pipes *g* in communication with the valve *c* at one end and with the pipe *h* at the other, a boiler *q* located above the pipes *g*, a vapor-blowing pipe *p* in communication at one end with the boiler *q* and at the other with the soldering-burner, a valve *d* normally slightly open in the lower branch of the gas-passage *b*, a gas-pipe *e* in communication with the valve *d*, a heating-burner *m* in communication with the pipe *e* between the pipes *g* and beneath the boiler *q*, and a pilot-light pipe *n* in communication at one end with the pipe *e* and at the other with the burner *k*, substantially as shown and described.

10. In a gas-solderer, the combination with a handle *a* having a gas-passage *b* divided into two branches at the forward end, of a finger-actuated normally closed spring regulating-valve *c* located in the upper branch of the pipe *b*, a pipe *h*, provided with a soldering-burner *k*, two pipes *g* in communication with the valve *c* at one end and with the pipe *h* at the other, a boiler *q* located above the pipes *g*, a vapor-blowing pipe *p* in communication at one end with the boiler *q*, and at the other with the soldering-burner, a valve *d* normally slightly open in the lower branch of the gas-passage *b*, a gas-pipe *e* in communication with the valve *d*, and a heating-burner *m* in communication with the pipe *e* between the pipes *g* and beneath the boiler *q*, substantially as shown and described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

GUIDO PALAZZI.
UGO PALAZZI.
VITTORIO PIVETTA.

Witnesses:
LETTERIO LABOCCETTA,
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