No. 676,697. Patented June 18, 1901.

F. E. RENICK.

SELF HEATING SOLDERING IRON.

(Application filed Apr. 20, 1901.)

(No Model.)

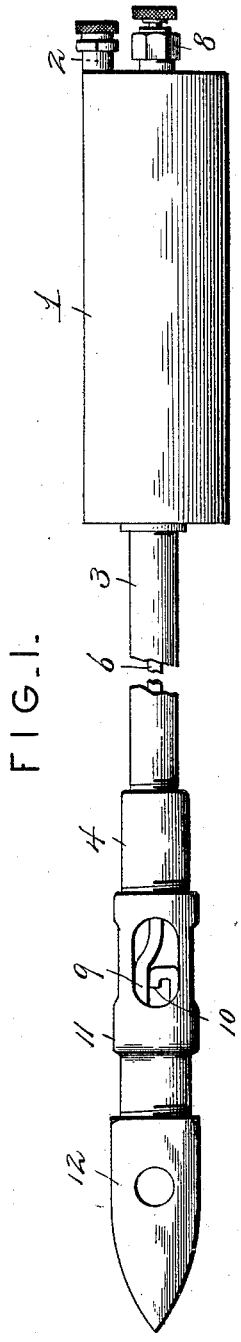

FIG. 1.

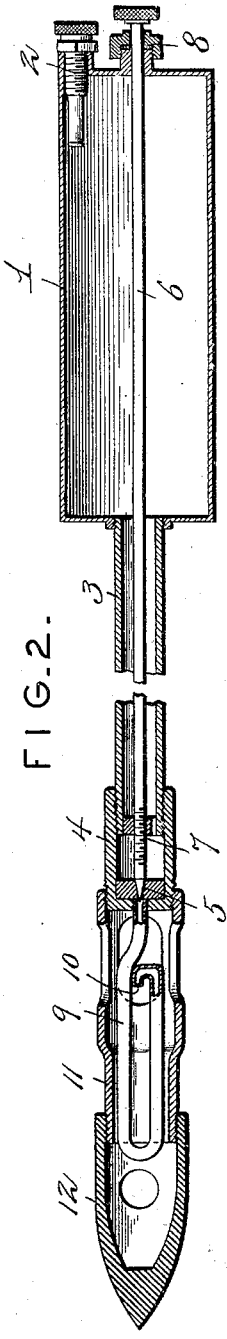

FIG. 2.

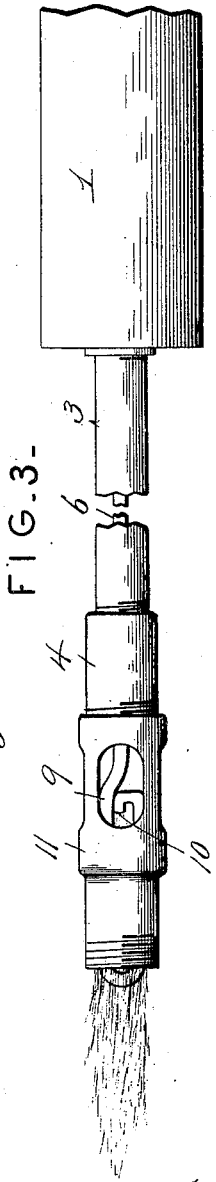

FIG. 3.

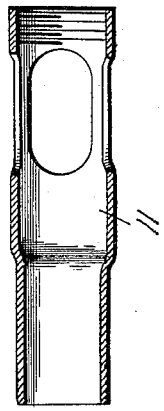

FIG. 5.

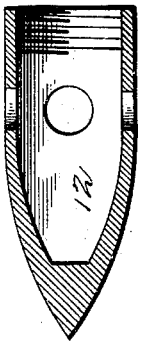

FIG. 4.

WITNESSES

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FREDERICK E. RENICK, OF MAMMOTH SPRING, ARKANSAS.

SELF-HEATING SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 676,697, dated June 18, 1901.

Application filed April 20, 1901. Serial No. 56,709. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. RENICK, a citizen of the United States, residing at Mammoth Spring, in the county of Fulton and State of Arkansas, have invented a certain new and useful Improvement in Self-Heating Soldering-Irons, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to self-heating soldering-irons, a part of the instrument being also adapted for use as a blow-torch.

The principal object of the invention is to provide a self-heating soldering-iron efficient in operation, while being simple and economical of construction.

The invention consists in the combination of a reservoir which serves as a handle, having means for the introduction of gasolene or other hydrocarbon liquid, a hollow stem extending from said reservoir, a gas-generating tube attached to the extremity of the stem, a Bunsen tube around the generator, and a hollow soldering-point attached to the Bunsen tube.

The invention consists in other combinations hereinafter described, and pointed out in the claims.

In the drawings forming part of this invention, Figure 1 is a side elevation, Fig. 2 is a central section, and Fig. 3 is a side elevation, of my implement with the soldering-tip removed, showing it ready to be used as a blow-torch. Fig. 4 is a section of the soldering-tip. Fig. 5 is also a section of the Bunsen tube.

Similar numerals of reference designate corresponding parts in all figures of the drawings.

1 is a reservoir or receptacle provided at the end with a valve 2 of the character used with pneumatic tires for bicycles. Leading from one end of the reservoir is a hollow stem 3, the reservoir and the stem together forming a handle for my improved implement. For convenience of construction I connect the stem 3 with what I call a "base-fitting" 4. This base-fitting is provided with a valve-seat 5, to which is fitted a needle-valve 6, which extends through the reservoir and hollow stem and is adjusted to or from its seat through the medium of screw 7. The valve-stem extends outside the reservoir through a stuffing-box 8, as shown in the drawings. To the outer or forward end of the fitting 4 is secured a gas-generator 9, which consists of a copper or other like metal tube bent or doubled upon itself and also bent at its extremity to lie alongside the main part of the tube, provided with a pin-hole or vent 10 for the escape of gas or vapor. Connected with the base-fitting and surrounding the generator is a Bunsen tube 11 and to the extremity of the Bunsen tube is a hollow perforated soldering-tip 12.

To prepare the tool or implement for operation, I first close the needle-valve 6, remove the valve-casing 2, partially fill the reservoir with gasolene or like hydrocarbon liquid, insert the valve-casing to its proper position, attach an air pump or bulb to the valve-casing in a manner similar to that of attaching a pump to inflate the tire of a bicycle and force air into the reservoir, afterward disconnect the air-pump, then loosen the needle-valve 6, when the gasolene will be forced by the compressed air through the pin-hole 10. It is then ignited, whereupon the flame projects forward within the Bunsen tube outside the generating-tube into the tip, and thereby heats said tip to any degree desired, the heat being regulated by regulating the flow or volume of gasolene through the medium of the needle-valve 6. By this construction while the tip is highly heated the hollow stem within an inch of the Bunsen tube is sufficiently cool for handling.

As illustrated in Fig. 3, with the tip removed the implement becomes a practical and efficient blow-torch for removing paint and performing other functions of such an implement.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a reservoir, of a hollow stem secured thereto and extending outwardly therefrom, a base-fitting attached to the extremity of said stem, a generator consisting of a tube having one end secured to said base-fitting and bent back upon itself and then forwardly to provide a discharge-orifice in line with and behind the loop therein, a valve-seat carried by said base-fitting and located at the point of attachment of said generator therewith, a Bunsen tube surround-

ing said generator in line with said base-fitting, said stem and said reservoir, and a needle-valve coöperating with said valve and extending through said reservoir and said stem, as and for the purpose set forth.

2. The combination with a reservoir, of a hollow stem secured thereto and extending outwardly therefrom, a base-fitting attached to the extremity of said stem, a generator consisting of a tube having one end secured to said base-fitting and bent back upon itself and then forwardly to provide a discharge-orifice in line with and behind the loop therein, a valve-seat carried by said base-fitting and located at the point of attachment of said generator therewith, a Bunsen tube surrounding said generator in line with said base-fitting, said stem and said reservoir, the rear ends of the openings in said Bunsen tube being located behind the discharge-orifice of said generator, a needle-valve coöperating with said valve-seat and extending through said reservoir and said stem, and a hollow soldering-tip secured to said Bunsen tip, as and for the purpose set forth.

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

FREDERICK E. RENICK.

Witnesses:
GEO. E. FRECH,
V. D. STOCKBRIDGE.