

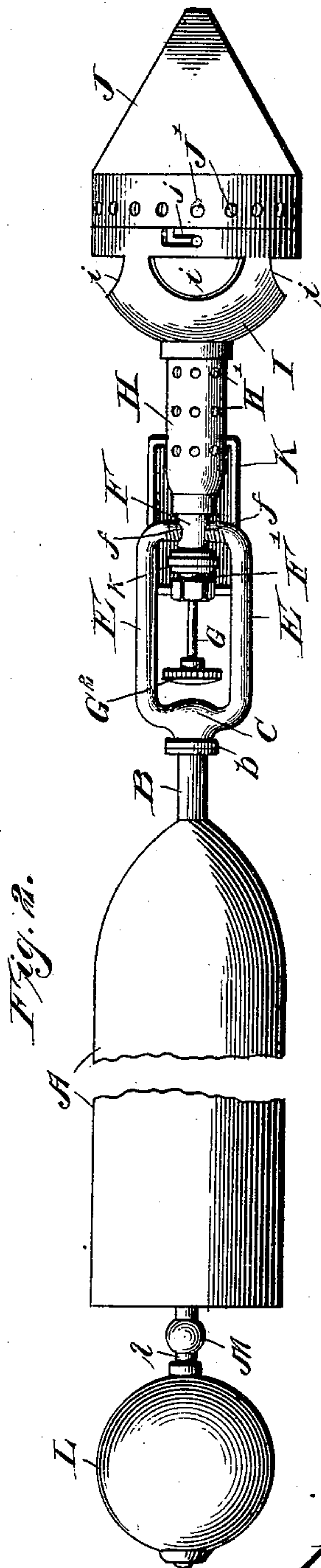
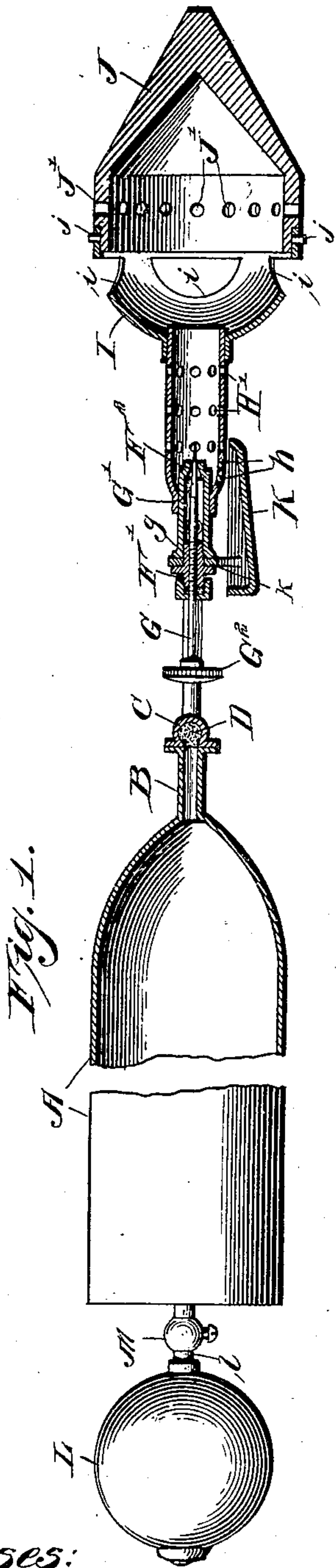
No. 680,519.

Patented Aug. 13, 1901.

G. A. DENIS.
SOLDERING IRON.

(Application filed Oct. 4, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE A. DENIS, OF PHILADELPHIA, PENNSYLVANIA.

SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 680,519, dated August 13, 1901.

Application filed October 4, 1900. Serial No. 31,999. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. DENIS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Soldering-Irons, of which the following is a specification.

My invention relates to new and useful improvements in soldering-irons of the class that are heated by gasoline and the like, and has for its object to provide a heating attachment to the soldering-iron that will give the greatest possible amount of heat at the proper point and having the mechanism so simple in construction and few in parts that the iron itself will not be cumbersome and will be neat in appearance.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal section of the soldering-iron, the lower half of the reservoir and bulb being left in elevation; and Fig. 2 is a side view of the soldering-iron, the view being at right angles to Fig. 1.

In carrying out my invention as here embodied, A represents the reservoir, which is adapted to contain gasoline or other burning fluid. This reservoir A also serves for the handle of the soldering-iron. Leading from the inner end of the reservoir is a pipe B. This pipe B is joined at the point *b* with a filtering-cavity C. This cavity C is adapted to be filled with absorbent cotton or like material, (represented in the drawings at D.) This cotton is for the purpose of filtering the gasoline before it enters the burner.

Leading from each side of the filter C are pipes E. These pipes or ducts E enter the burner F at the point *f*. Passing upward and into the burner through the stuffing-box F' is a screw-rod G. This screw-rod G is threaded at the point *g* in the stuffing-box. The opposite end of the burner from the stuffing-box

is closed, except a small tapering opening F², into which opening is adapted to fit the needle-point G', which is formed on the end of the screw-rod G, thus forming a needle-valve for controlling the flow of gasoline and gas from the burner. The opposite end of the screw-rod G from the needle-point has located thereon means for operating the needle-valve, (here illustrated as a milled head G².) The burner F enters a perforated pipe H. Secured upon the opposite end of this perforated pipe H is the hollow shell I, upon which is secured the soldering-iron proper, J, by means of bayonet-joints *j*. Located beneath the burner is a shallow pan or generating-cup K. This is secured to the burner at the point *k*.

The operation of my improvement is as follows: When it is desired to heat the iron, the needle-valve is opened, and then the bulb L, which communicates with the reservoir by means of the pipe *l* and check-valve, is compressed sufficiently to force a small quantity of gasoline through the burner, which will flow through the tapering opening F² into the perforated pipe H and from there through the small openings *h* into the generating-cup, where it will be lighted, and in burning will heat the burner, so as to generate gas, and when sufficient gas has been generated the flow of the same will be regulated by the needle-valve, and the flame will then flow through the perforated pipe H up into the hollow shell I and soldering-iron proper, J. The cut-away portions *i* in the shell I and the perforations J' in the soldering-iron J will allow the excess heat to escape, as is understood is necessary in the proper heating of the iron. The perforations H' in the pipe H furnish air for the proper burning of the flame.

The advantages of my invention are that the burner is located such a distance from the handle or reservoir A that the heat will not be communicated to the handle, and the parts being few in number and all made interchangeable it would not easily get out of order and could be easily repaired if any portions were broken or damaged.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications might be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

In a soldering-iron, a reservoir, a pipe leading from the reservoir, pipes merging into a
5 filtering-cavity at one end connected to the first-named pipe, a filtering agent in the filtering-cavity, a burner into the sides of which the second-named pipes are tapped, a stuffing-box threaded into the end of the burner,
10 conveying a needle-valve threaded in the stuffing-box, a generator-cup suspended below the burner and having a lug with a cir-

cular opening fitting over the stuffing-box whereby the pan is suspended and suitable supports and connections for the head, as and 15 for the purpose described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

GEORGE A. DENIS.

Witnesses:

GEORGE STINGER,
JAS. P. MONTAGUE.