

A. Burbank,
Soldering Iron.

N^o 27,185.

Patented Feb. 14, 1860.

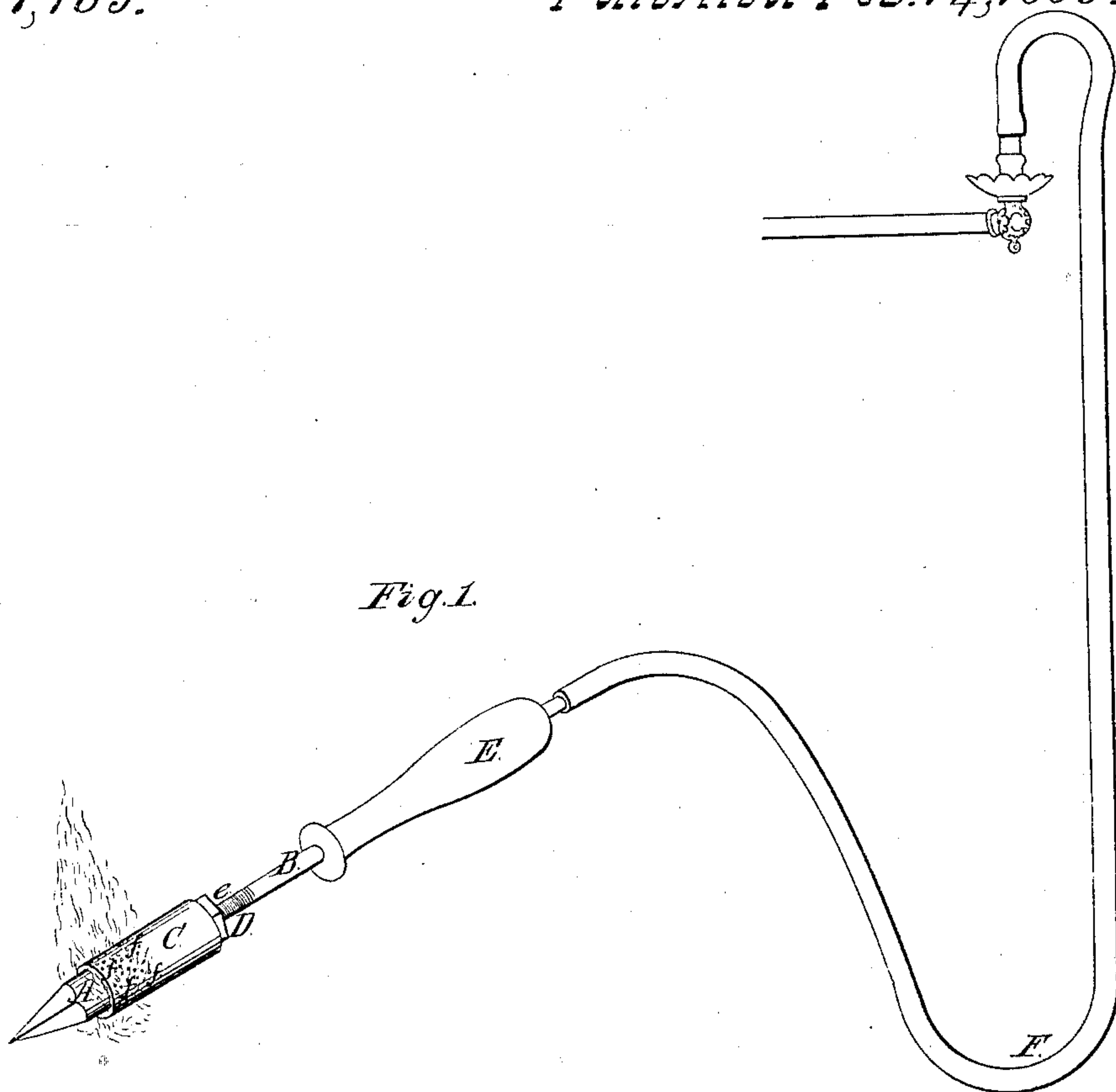


Fig. 1.

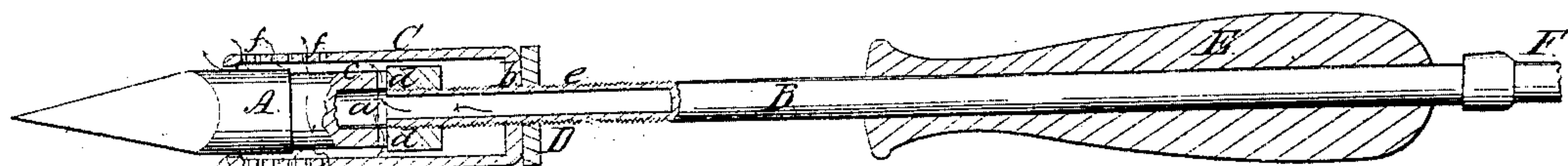


Fig. 2.

Witnesses, f. f.
M. W. W. W.
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UNITED STATES PATENT OFFICE.

ABNER BURBANK, OF BROOKLYN, ASSIGNOR TO GEO. W. BURBANK, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN SOLDERING-IRONS.

Specification forming part of Letters Patent No. 27,155, dated February 14, 1860.

To all whom it may concern:

Be it known that I, A. BURBANK, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Soldering-Iron, to be heated by gas; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an external view of my invention connected with a gas-tube, as when in use; Fig. 2, an enlarged longitudinal section of the same.

Similar letters of reference indicate corresponding parts in the figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a cylindrical piece of copper, one end of which is pointed, and the other end provided with a hole, *a*, made longitudinally in it to receive the end of a tube, B, which forms the tang of the implement. This tube B is screwed into the hole *a*, as shown clearly in Fig. 2. The hole *a* also serves as a chamber to receive and hold a supply of gas, and give steadiness to that which issues through the apertures *d*, as set forth hereinafter, the action of the gas contained between said apertures and the head of the hole or chamber *a* being analagous to the operation of the air-chamber in a force-pump upon the issuing stream of water.

C is a hollow cylinder open at one end and closed at the opposite end, as shown at *b*, a hole being made at said end *b*, with a screw cut in its side in order to allow the tube B to pass through and work in the hole the same as a screw works in a nut. The hollow cylinder C fits loosely on the copper cylinder A, sufficiently so to admit of a space, *c*, between them. This space may be termed a "gas-chamber," and it communicates with the interior of the tube B by means of passages *d*, which are made in the cylinder A, and communicates with the hole *a*, into which the tube B is screwed a suitable distance, as shown clearly in Fig. 2. The front end of the tube B has a screw-thread, *e*, formed in it for a considerable distance of its length, so as to admit of the hollow cylinder C being adjusted at varying points in it for reasons hereinafter stated.

On the screw-thread *e* a nut, D, is placed. This nut D is directly behind the cylinder C, and it is designed to work sufficiently snug on the screw-thread *e* to form a packing for the inner end of the cylinder C, and prevent the escape of gas therefrom. The front part of the hollow cylinder C is perforated, as shown at *f*, to form gas-jets.

On the tube B a wooden handle, E, is placed, the tube B projecting through the outer end of the handle E sufficiently to admit of a flexible tube, F, being fitted thereon. This flexible tube F may be of any proper length, and its outer end is fitted on the burner of a gas-pipe, or made to communicate with a gas-pipe in any suitable way.

In country places or where no ready supply of gas like that afforded by the gas-pipes in the city can be had, a reservoir consisting of a portable rubber bag filled with gas may be employed, and the soldering-iron may be connected therewith in any suitable manner. But in cities the implement may be connected with any supply or gas pipe without removing the burner, as stated.

When the implement is in use, the gas is permitted to pass through the flexible tube F and through the tube B into the gas-chamber *c*, and issuing through the perforations *f* it is consumed at their orifices. The burning of the gas at these points soon heats the cylinder A, and the cylinder is manipulated in the usual way. As the point of cylinder A is blunted by use, it is of course sharpened, and the cylinder C is adjusted relatively therewith by turning it on the tube B, the screw-thread *e* on D and the internal screw-thread in the hole of the bottom *b* permitting such result.

This implement has been practically tested and has been found to operate well. The expense of heating is less than by the usual charcoal-fires, while the tinned end of the implement is not injured by friction as hitherto in passing it into and withdrawing it from the fire. When work is done at evening, the heating-flame serves also for an illuminating one, no other lights being required, and in case of soldering in tubes or places where some light would be desirable and where a lamp or light could not be admitted in connection with an ordinary soldering-iron, my invention possesses a great advantage, for the necessary

light goes with it and illuminates all parts accessible to the implement.

The common method of heating soldering irons or tools requires that the workman shall carry along with him a small furnace, to build and maintain a fire of charcoal. But in the use of my implement any ordinary illuminating gas-burner in the room or building where the work is to be done will instantly furnish the desired fuel.

The implement is capable of use upon the tops of buildings, and the gas may be conducted thither by a flexible or other temporary pipe.

I do not claim, broadly, the employment of gas for heating soldering-irons, nor the invention of the perforated cylinder placed around the "copper," nor the use of a hollow handle for the admission of the gas, but—

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

1. The combination of the soldering tool or

iron with any suitable gas-supply when the arrangement is such that the soldering-tool may be constantly supplied with gas and the copper maintained in a heated state while the tool is being used by the workman, substantially as herein shown and described.

2. The combination of a gas-light with a soldering tool or iron to illuminate the interior and other parts of the work to which the tool may be applied, substantially as herein shown and described.

3. The employment of a chamber, *a*, in the base of the copper A, as and for the purposes herein shown and described.

4. The employment of a tubular screw, B, in combination with the copper A and cylinder C, as and for the purposes herein shown and described.

ABNER BURBANK.

Witnesses:

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