2 Sheets.—

Sheet 1.

JOSEPH WILLIAMS.

Improvement in Soldering Irons.

No. 122,092.

Patented Dec. 19, 1871.

Fig. 1.

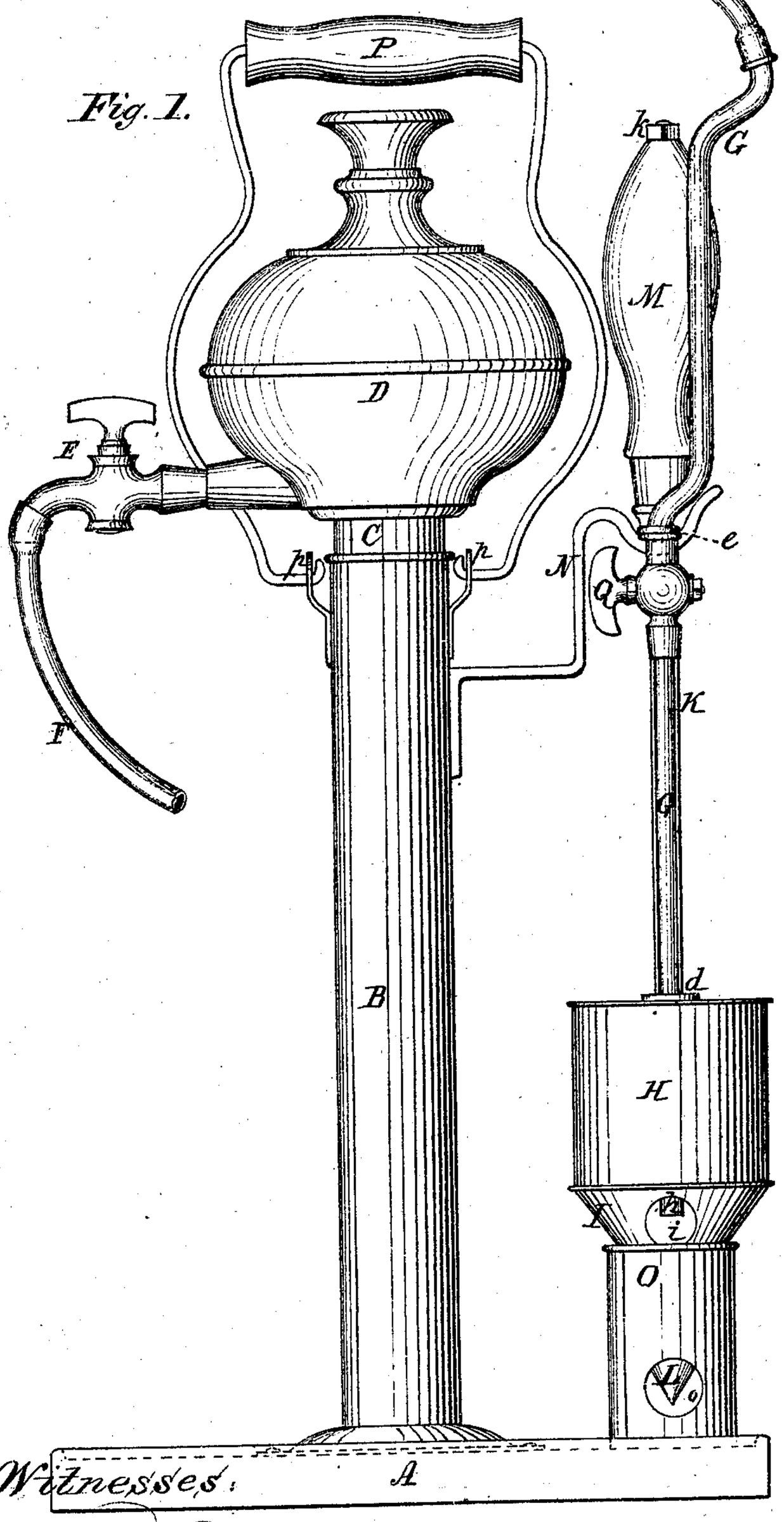

Fig. 5.

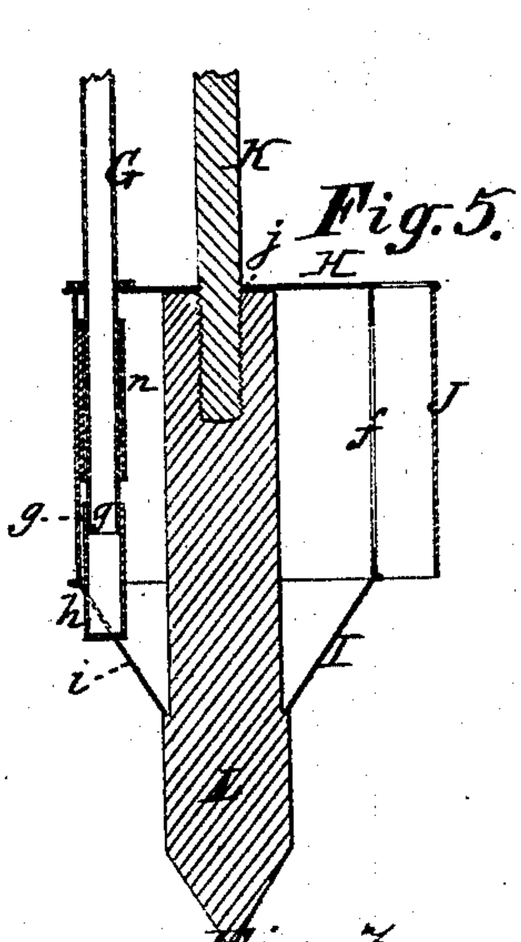

Fig. 3.

Fig. 4.

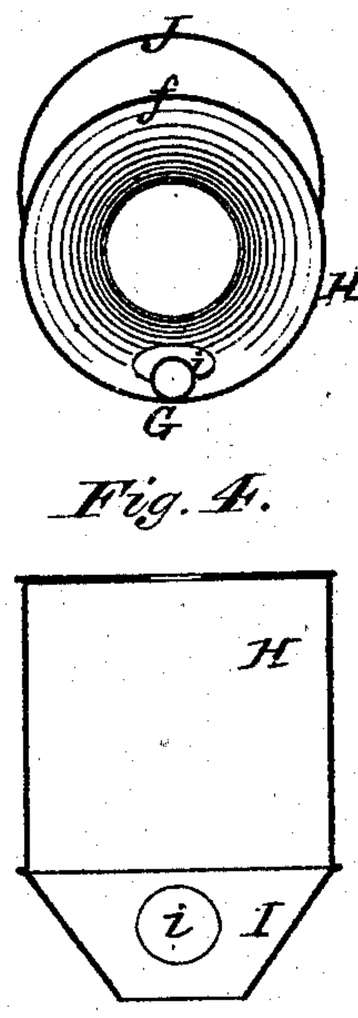

Fig. 2.

Witnesses:

T. C. Brecht.

West Wagner.

Inventor.

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his attorneys

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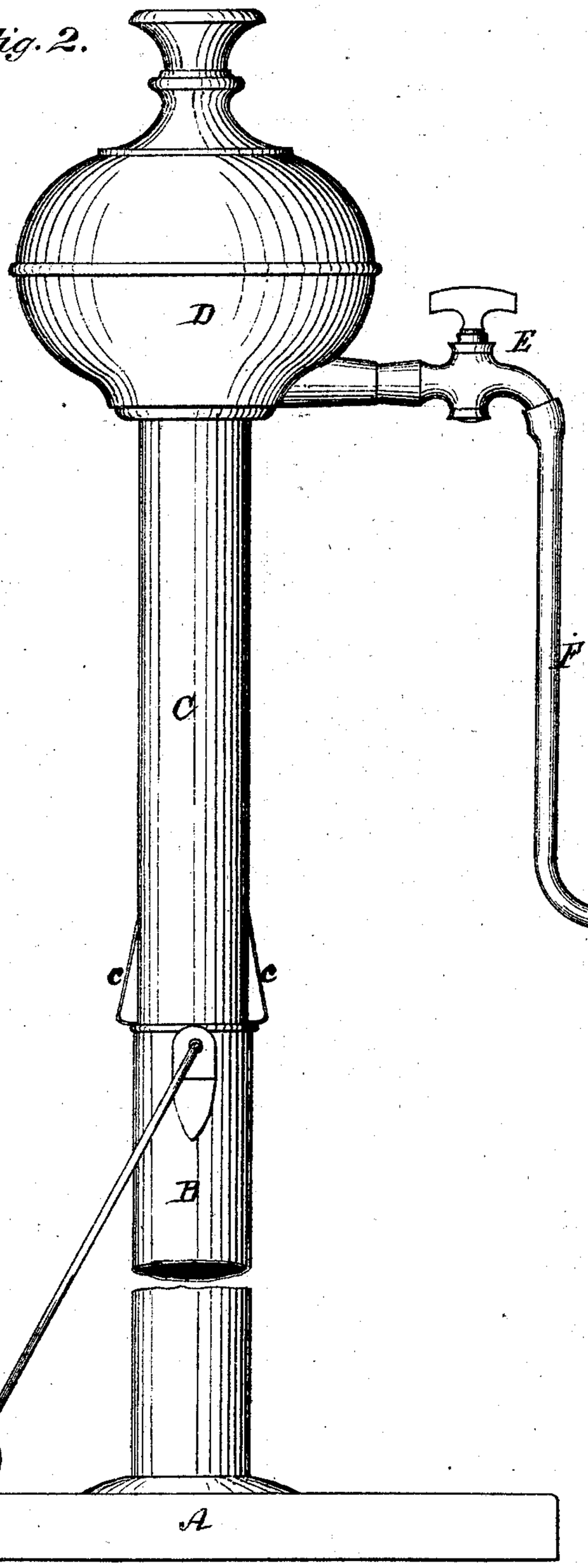
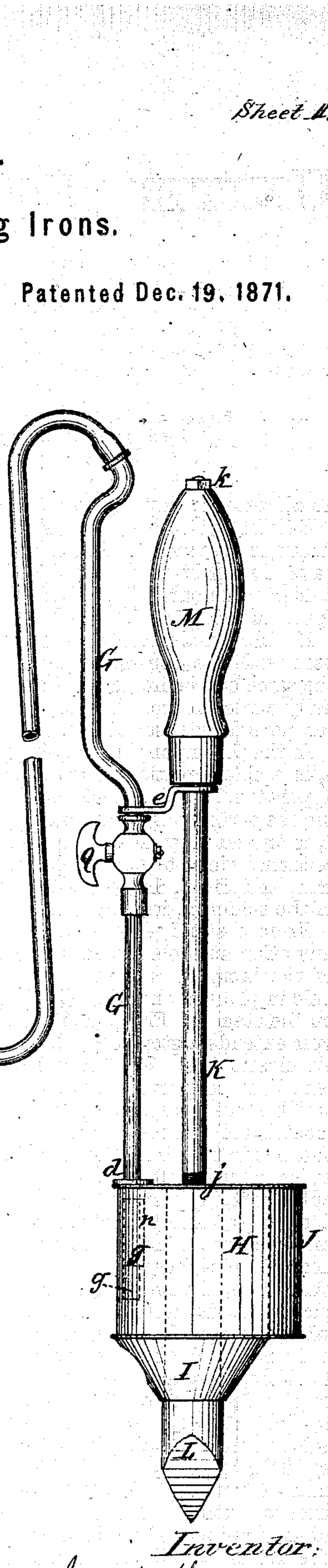


Fig. 6



Witnesses:
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J. Wm. Wagner.

Inventor:
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his attorneys

UNITED STATES PATENT OFFICE.

JOSEPH WILLIAMS, OF JEFFERSON, TEXAS.

IMPROVEMENT IN SOLDERING-IRONS.

Specification forming part of Letters Patent No. 122,092, dated December 19, 1871.

To all whom it may concern:

Be it known that I, JOSEPH WILLIAMS, of Jefferson, in the county of Marion and State of Texas, have invented a new and useful Improvement in Soldering Apparatus, of which the following is a specification:

My invention consists of an apparatus to be used with the common soldering-iron, whereby the same can be heated and kept heated continually while the iron is used, as will be hereinafter more fully described.

In the accompanying drawing, Figure 1, Sheet 1, is a side elevation of my improved soldering apparatus. Fig. 2, Sheet 2, is a similar view, showing the parts in different positions. Fig. 3, Sheet 1, is an end view, and Figs. 4 and 5, Sheet 1, are sectional views of the shield for the soldering-iron, and Fig. 6, Sheet 2, is a detached elevation of the soldering-iron without its handle.

From a stand, A, rises a tube, B, of metal or any other suitable material, in which the stem C of the lamp or reservoir D slides freely, being held in place at any desired height by springs *c c* on the stem C. From the lower end of the reservoir extends a stop-cock, E, which, by means of an elastic tube, F, of any suitable or desired length, is connected to a tube, G, the end *g* of which serves as a burner, containing wick, which is saturated with the burning fluid flowing through the elastic tube from the reservoir. This burner end *g* extends into a cap, which consists of a circular part, H, provided with a cone-shaped end, I, through which the soldering-iron L protrudes; and the burner enters the same through its end near its periphery, an opening, *i*, in the cone-shaped end I admitting of the withdrawal or replacement through the same of a tubular cap, *h*, which covers the wick in the burner *g*. This burner extends into the cap a sufficient distance to allow the flame, when the burner is ignited, to play on one side of or around the thick end of the soldering-iron inside of the cap, the heat and smoke escaping through an opening, *f*, in the cap H, over which a shield, J, extends in such a manner as to keep the heat around the soldering-iron as much as possible and yet allow the exit of the products of combustion. In the center of the end of cap H is an opening, *j*, through which the stem K of the soldering-iron L extends, passing through a loop, *e*, which is rigidly secured on the tube G, and against which the handle M is fitted upon the stem K, and is secured by a nut, *k*, screwing over the end of the stem. The tube G is bent so as to conform to the shape of the handle and allow the passage between it and the handle of the hand of the operator. Below the loop *e* the tube G may be provided with a stop-cock, Q, to regulate the flow of the burning fluid to the burner. From the tube B, near its upper end, extends a hook, N, so arranged as regards height that when the operator desires to lay aside the hot iron for a moment he can pass the loop *e* over the hook so as to hang the iron with its attached parts to the hook, while the cone-shaped end I of the cap rests on a metal rim, O, suitably arranged on the stand A, and provided with openings *o* to allow the heat of the iron thus inclosed by the rim O to escape without overheating the rim. The entire apparatus being in position as shown in Fig. 1, may be carried about by means of a handle, P, swinging freely in ears *p* on the tube B. The soldering-iron is attached to the apparatus by taking off the handle M, then passing the stem K of the soldering-iron through the central opening of the cone-shaped end I, through opening *j* in the end of cap H, and through the loop *e*, and then replacing the handle M and securing it by the nut *k*. The burner *g* is held in place by means of a plate, *d*, bearing against the end of cap H and an interior or guide-tube, *n*. Any suitable or desirable burning fluid may be used for this apparatus, which, flowing through the elastic tube F and metallic tube G to the burner, keeps the flame alive, and thus continually heats the soldering-iron. The burner, being connected to the reservoir by means of an elastic tube of any desirable length, allows the soldering-iron to be used freely without interfering with the reservoir, care being taken that the latter be always elevated above the burner, so as not to stop the flow of the burning fluid. For this purpose the reservoir is adjustable in the tube B, and can be moved up and down, being always held in proper position by the springs *c c* on the stem C. The stop-cocks E and Q serve to regulate the flow of the fluid or to shut it off entirely.

By my improvement I furnish an apparatus which is always complete in itself; does away with the necessity of a charcoal or other fire and stove, which are now required to heat the rest while one is being used, for I can make an attach-

ment to regulate the length of the burning part of the wick, so as to produce a larger or smaller flame at pleasure, and thus produce a greater or lesser heat of the iron. The size of the apparatus is immaterial.

Having described my invention, I claim—

1. The cap H with its cone-shaped end I and shield J arranged on the soldering-iron to act as a heating-chamber for the same, as described.

2. In combination with the cap H, constructed substantially as described, and the soldering-iron, the burner *g*, tubes F G, and reservoir D, operating as described.

3. In combination with the cap H, the soldering-iron, burner *g*, and tube G, the loop *e*, plate *d*, and handle M, as described.

4. In combination with the burner *g* and tubes F G, the reservoir D on its stem C, with springs *c c*, and adjustable in the tube B, as described.

5. In combination, with the cap H, tube G, loop *e*, and the soldering-iron, the hook N and metal rim O, operating as described.

The above specification of my improvement in soldering-irons signed this 12th day of August, 1871.

JQS. WILLIAMS.

Witnesses:

J. D. TODD,

H. REICHENBACH.

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