

(No Model.)

T. A. MAYES.
SOLDERING IRON.

No. 309,967.

Patented Dec. 30, 1884.

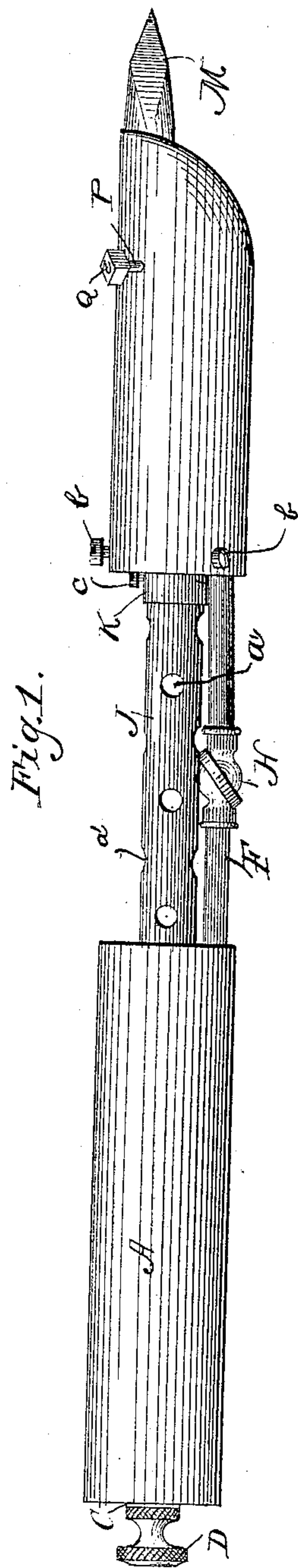


Fig. 1.

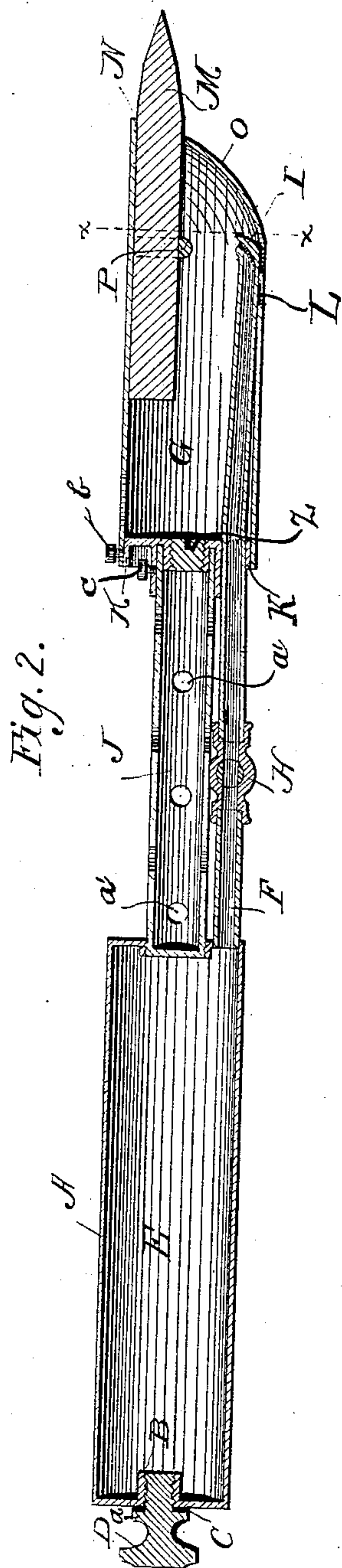


Fig. 2.

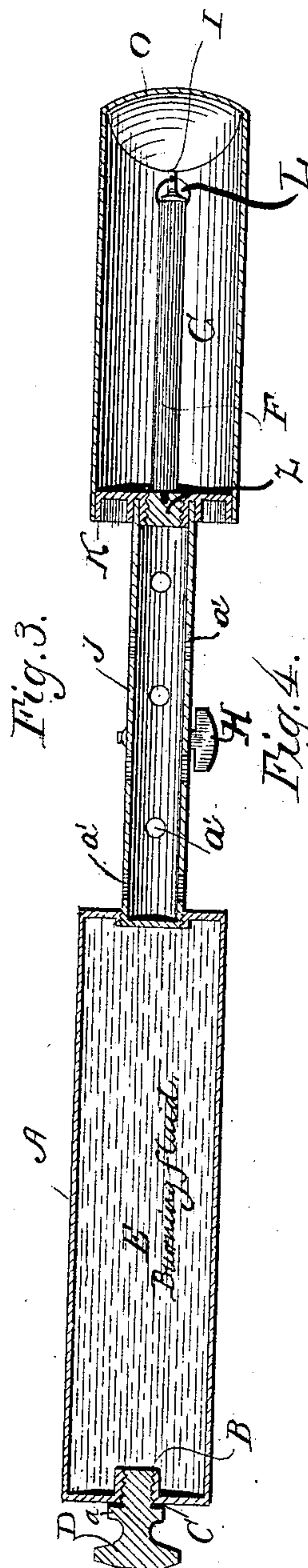


Fig. 3.

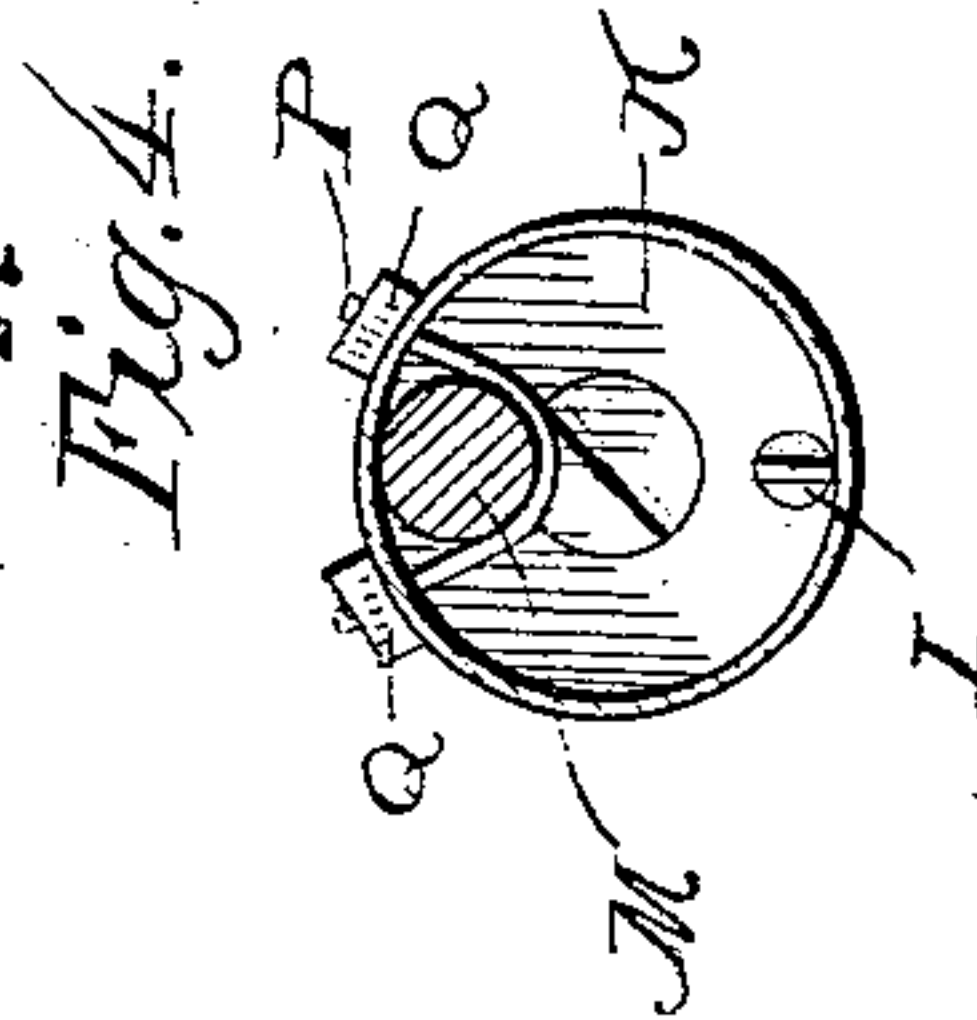


Fig. 4.

Witnesses:

W. W. Mortimer
E. G. Siggers.

Inventor:

J. A. Mayes
by C. A. Snow &
Attys

UNITED STATES PATENT OFFICE.

THOMAS A. MAYES, OF PHILIPSBURG, PENNSYLVANIA.

SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 309,967, dated December 30, 1884.

Application filed May 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. MAYES, a citizen of the United States, residing at Philipsburg, in the county of Centre and State of Pennsylvania, have invented a new and useful Soldering-Iron, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to soldering-irons; and it has for its object to provide a device of this character which will combine a heating device within the same, and thus avoid the use of the ordinary charcoal pot or stove.

A further object of the invention is to provide means whereby the soldering-head may be removed and replaced by one of different size, according to the work required to be done.

With these and other objects in view the said invention consists in certain details of construction and combination of parts, as hereinafter set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of my improved soldering-iron. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a horizontal section. Fig. 4 is a transverse section on the line *x x*, Fig. 2.

Like letters refer to corresponding parts in the several figures.

Referring to the drawings, A designates the hollow handle or reservoir arranged to contain a suitable supply of gasoline or other burning-fluid, and formed at one end with an opening, B, through which the fluid is poured, said opening being closed by a screw-cap, D, a rubber packing-ring, C, being interposed between the flange *a* of the cap and the end of the handle, so as to form a tight joint and thus prevent leakage. The handle A being hollow, as before stated, forms a chamber or reservoir, E, to store the fluid, and in order to prevent the heat conducted from the flame from heating the handle I prefer to construct said handle of some suitable non-conducting material, and cover the same in any manner which may be found desirable. Such changes may be made without departing from the spirit of the invention.

F designates a feed-pipe connected to the other end of the handle and communicating

with the chamber E, extending longitudinally and passing through the heat-generating cylinder G, said feed-pipe being provided with a cut-off, H, and arranged against the inner wall of the cylinder, so that when the burner I has been lighted the flame from the same will not only be directed against the soldering-head, but it will also heat the cylinder itself, which will conduct the heat to the head. A pipe, J, perforated at *a'*, is secured at one end to the handle, and extends longitudinally parallel with the feed-pipe, its other end having a detachable cap-piece, K, secured thereto by screws C, said cap-piece closing the inner end of the cylinder G, and detachably secured thereto by screws *b*. The perforated pipe J provides a firm connection of the handle or reservoir with the heat-generating chamber, so that all the strain will not come upon the feed-pipe. The screw-plug F, formed with the cap K, and extending into the perforated pipe, closes the same, so as to prevent the passage of air from the pipe into the heat-generating chamber, or the passage of heat from the latter toward the handle or reservoir.

It will be observed that by the construction shown the heat-generating chamber may be detached for packing or transportation purposes. The cylinder G is provided with two or more openings, L L, which serve to supply the requisite amount of air to keep up combustion in the heat-generating cylinder, the outer end of which is formed convex, as shown.

M designates the detachable soldering-head, of the usual construction and form, passing through an opening, N, in the outer end, O, of the cylinder, and arranged flat against the inner wall of the same, a bail or yoke, P, being passed around the head, and having its threaded ends passing through the cylinder, nuts Q Q being screwed on said ends so as to allow the bail or yoke to support the soldering-head, and yet permit the detachment of the head, as found desirable.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the annexed drawings. The chamber or reservoir E is filled with gasoline, oil, or other burning-fluid, the screw-cap fitted tightly in place, and the proper-sized head secured to the heat-generating

chamber, when the implement is in condition for use. By lighting the burner of the feed-pipe a sufficient flame is produced, which soon causes the cylinder to be filled with gas or vapor, the flame from the burner being directed against the head, while the gas or vapor within the cylinder serves to heat the same, and permit the conduction of the heat to the head itself. When the head has become properly heated, it can be used in the usual manner, and should it be found desirable to supply a smaller head to the tool, the nuts Q Q are withdrawn from the ends of the bail, so as to permit the withdrawal of the soldering-head, when a new one can be replaced, the bail or yoke adjusted, and the nuts reapplied. In this manner the tinner can regulate his implement to the work by supplying larger or smaller heads to the same. It will be seen that the head rests against the upper inner wall of the cylinder, while the feed-pipe and burner rest against the lower inner wall of the same, and thus the cylinder is kept hot in order to conduct the heat to the head again.

By means of the cut-off the connection between the heat-generating cylinder and the reservoir-chamber may be severed at will—for instance, when the soldering-head has become too hot—and the perforated pipe J allows the circulation of air within the same, so as to lessen as much as possible the conduction of heat.

The implement is light, simple, inexpensive, and may be handled with convenience by any one skilled in the art to which this invention appertains.

By means of the same I obviate the use and trouble of carrying charcoal pots or stoves from place to place, and thus the expense of a tinner's outfit is lessened, while he can carry the soldering-iron, which is in a compact form, without any inconvenience.

Having described my invention, I claim—

1. In a soldering-iron, the combination, with the hollow handle containing the chamber or reservoir for the burning fluid, of the heat-generating cylinder, a perforated pipe connect-

ing the cylinder and chamber, and a feed-pipe communicating with the chamber or reservoir and extending into the cylinder to heat the soldering-head, as set forth.

2. In a soldering-iron, the combination, with the fluid chamber or reservoir, heat-generating cylinder, and a feed-pipe connecting the same, of a soldering-head passing into the cylinder, a bail or yoke fitting around the head, and nuts for holding the bail or yoke in place, as set forth.

3. In a soldering-iron, the combination, with the fluid chamber or reservoir, of the feed-pipe connecting with the same, the heat-generating chamber, a detachable cap fitted to the chamber and allowing the passage of the feed-pipe, and a perforated pipe attached to the reservoir and detachably fitted to the pipe, as and for the purpose set forth.

4. In a soldering-iron, the combination, with the fluid chamber or reservoir, of the heat-generating cylinder, a perforated pipe connecting the chamber and cylinder, a feed-pipe communicating with the chamber and extending into the cylinder against the lower wall of the same, and the soldering-head extending into the cylinder against the upper wall thereof, as set forth.

5. In a soldering-iron, the combination, with the fluid chamber or reservoir, of the heat-generating cylinder, a perforated pipe connecting the chamber and cylinder, a feed-pipe communicating with the chamber and extending parallel with the perforated pipe into the cylinder and against the lower wall of the same, openings in the cylinder, and the soldering-head, also passing through the cylinder against the upper wall thereof, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS A. MAYES.

Witnesses:

EDW. G. SIGGERS,
THEODORE MUNGEN.