

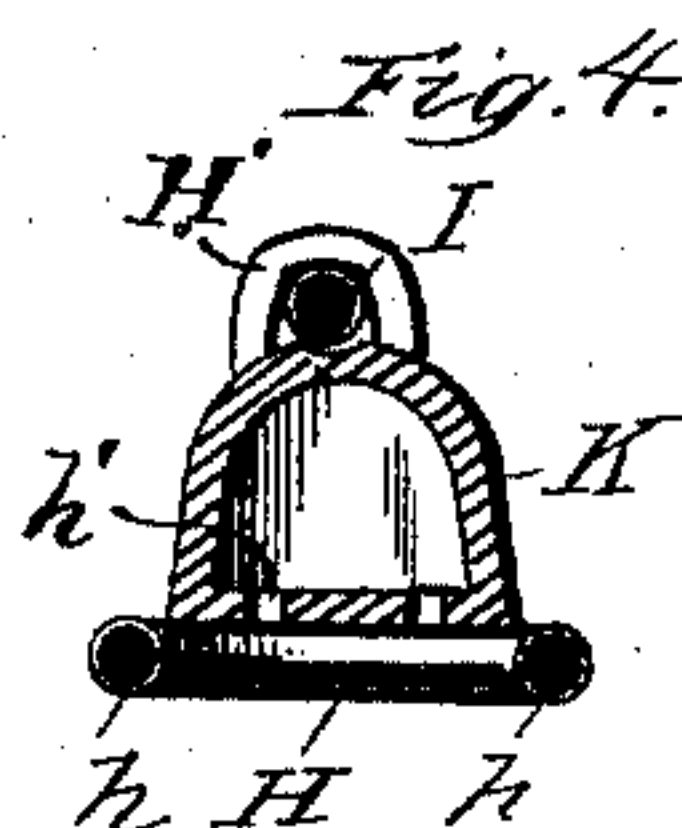
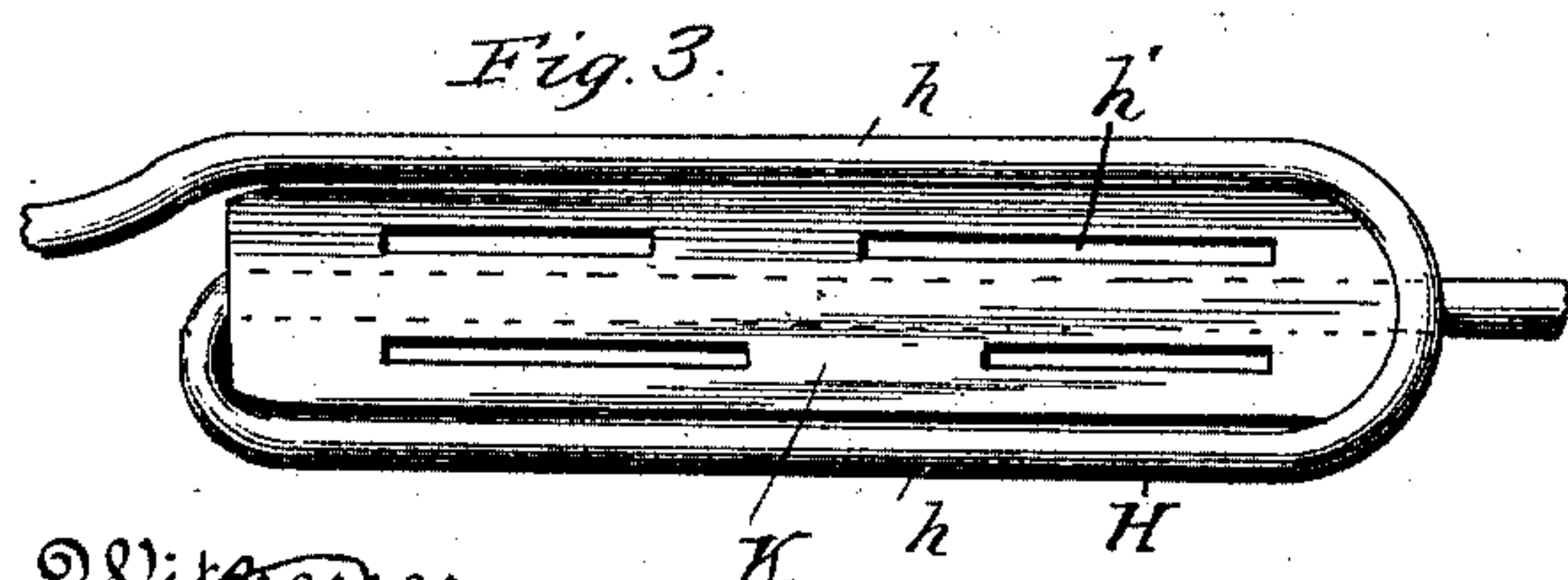
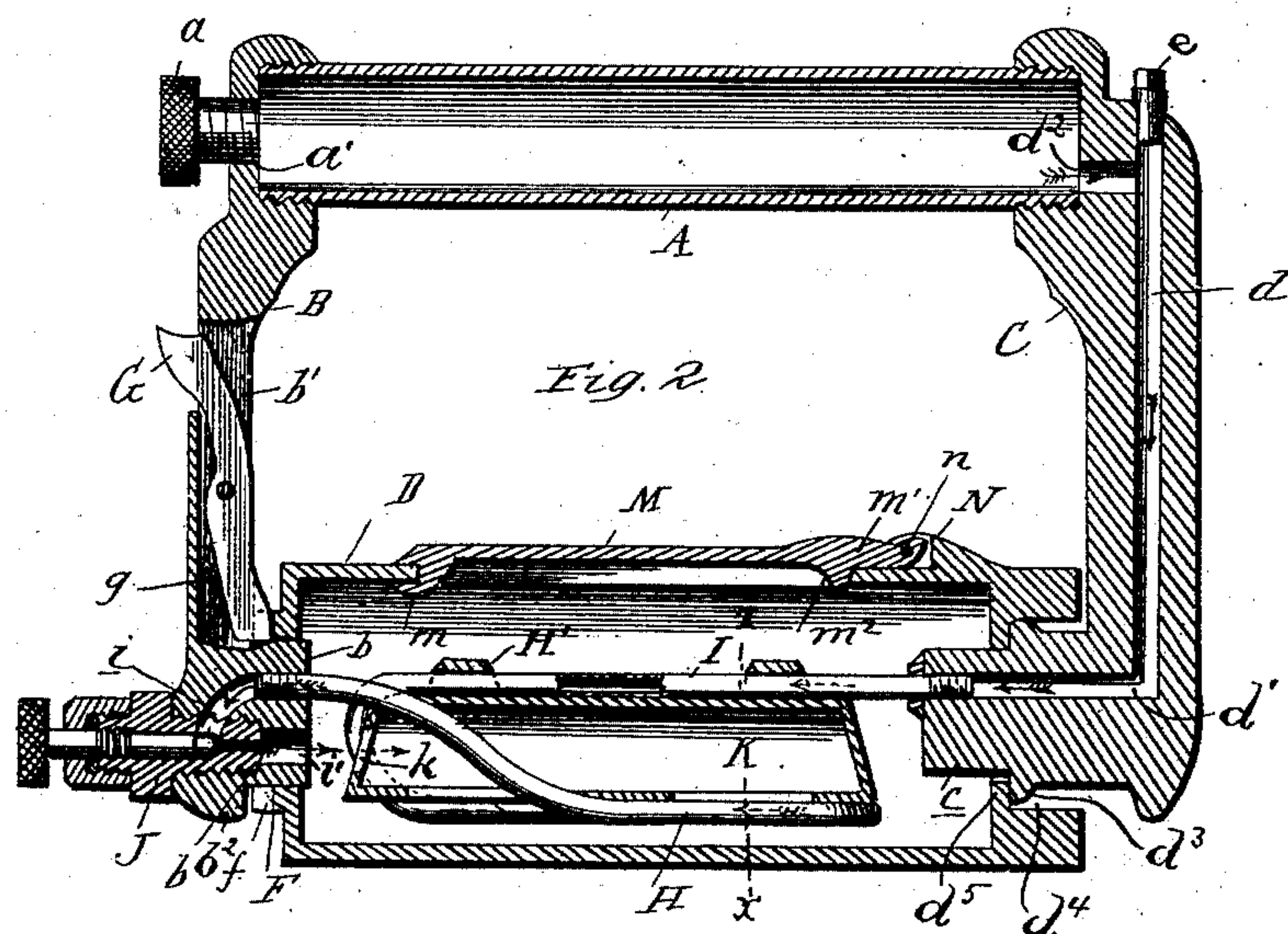
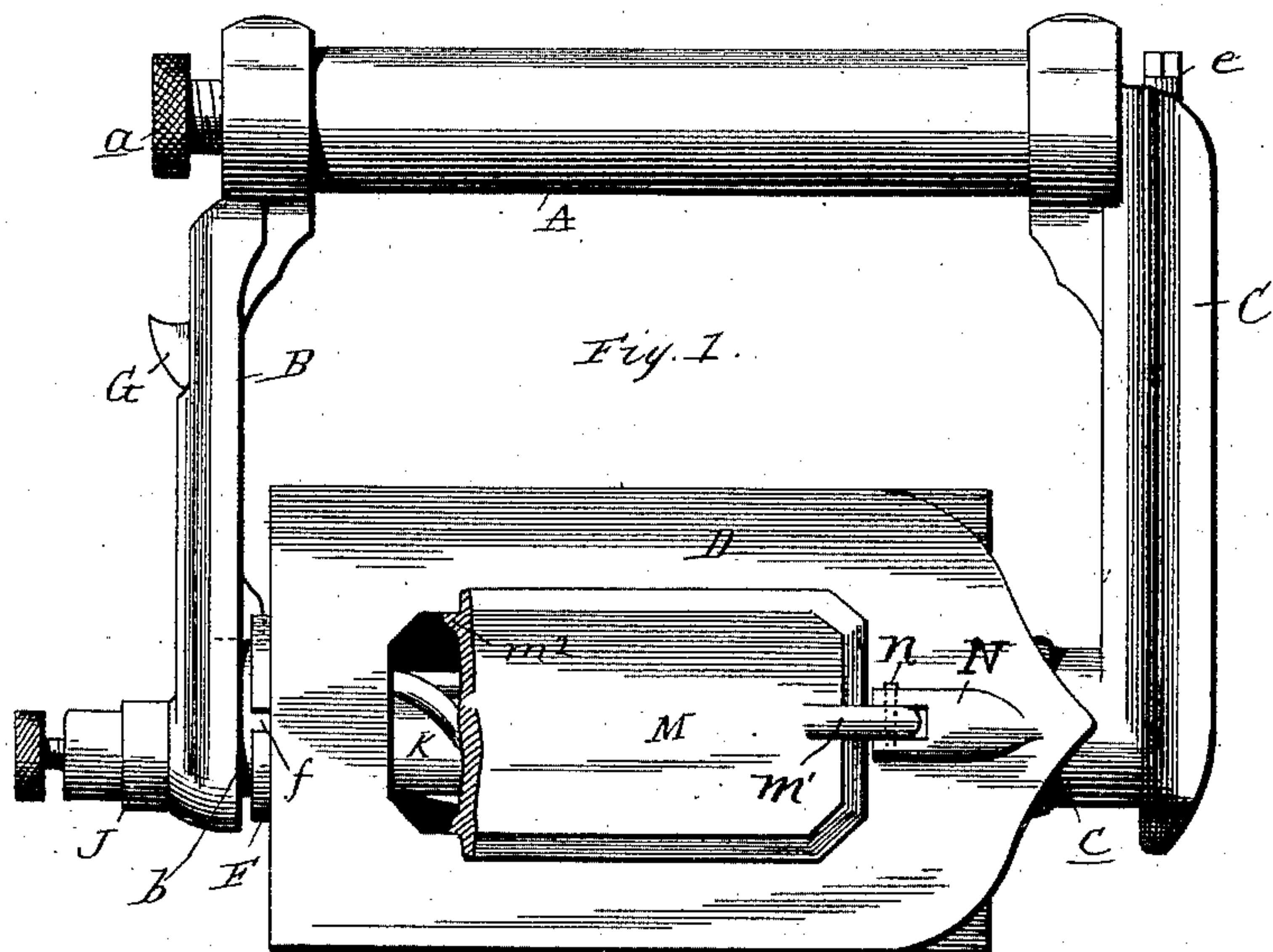
(No Model.)

H. M. COOLEY.

SAD IRON.

No. 445,927.

Patented Feb. 3, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

HERBERT M. COOLEY, OF ELMO, KANSAS.

SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 445,927, dated February 3, 1891.

Application filed May 10, 1889. Serial No. 310,288. (No model.)

To all whom it may concern:

Be it known that I, HERBERT M. COOLEY, a citizen of the United States, residing at Elmo, in the county of Dickinson and State of Kansas, have invented certain new and useful Improvements in Sad-Irons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to sad-irons which are heated by the burning of the gas or vapor of a hydrocarbon oil, as gasoline, and has for its object to simplify and increase the efficiency of this class of devices and increase the durability of the same. The iron has a series of faces and is journaled at its ends between pendent standards. To distribute the wear and friction over a larger surface and admit of a thin pipe being used for the generator, the gudgeons on which the iron is journaled are made large and cast with the standards, and to simplify the construction these gudgeons have passages which have communication with the reservoir formed in the handle. The passage in one of the gudgeons is controlled by a valve which regulates the flow of gas to the burner. The generator, which is of thin tubing, is bent in return folds, and the ends of the tubing are inserted in the gudgeons and communicate with the passages therein. The burner—an oblong casting—is suspended from an upper member of the generator and is encircled at its lower side by a fold of said generator. The flame opening or slits are formed in the lower side of the burner, and the gas-opening is in the end thereof opposite the gudgeon having the valve. Shoulders or stops are formed on the gudgeons to limit the endwise movement of the iron.

The improvement consists of the novel features which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a side view, parts being broken away, of a sad-iron embodying my invention. Fig. 2 is a vertical central sectional view of the iron, showing the position of the iron

changed to the handle. Fig. 3 is a bottom plan view of the generator. Fig. 4 is a cross-section of the generator and burner on the line X X of Fig. 2.

The handle A is hollow, being a short length of tubing, and forms a reservoir for the oil, which latter is poured into the reservoir through an opening *a'* in one of the standards, as B, which opening is closed by the screw-plug *a*. The standards B and C, depending from the ends of the handle A, have gudgeons *b* and *c* at their lower ends, respectively, on which the iron D is journaled.

The standard C is bored longitudinally to form the passage *d*, which latter extends through the gudgeon *c* at *d'* and communicates with the reservoir in the handle through passage *d''* through the top of the standard C, its upper end being closed by the plug *e*. The thumb-catch G is pivoted midway of its ends in a slot *b'* in the standard, and its lower end is adapted to enter one of a series of notches *f* in the flange F at one end of the iron and hold said iron in the located position. The spring *g* forces the lower end of the catch inward and holds it in said notch. The gudgeons *b* and *c* are integrally cast with their respective standards, and each is provided with a shoulder or stop, which limit movements of the iron. The annular stop or shoulder *d''* on the gudgeon *c* enters a recess *d'''* in the end of the iron and abuts against a flange *d'''*, which obtains a bearing on the gudgeon. The stop *b''* on the gudgeon *b* engages with flange F and limits the movement of the iron.

The generator is composed of a thin pipe or tube, which is bent to form the horizontal coil or fold H and the upper branch I. One end of the pipe is attached to the gudgeon *c* and communicates with the passage *d'*, and the other end is connected with the gudgeon *b* and communicates with the bore or passage *i* in said gudgeon, which passage communicates with the horizontal passage *i'*, also formed in said gudgeon *b*. The valve J, suitably fitted to the lower end of standard B, controls or regulates the flow of oil or gas through the said openings or passages *i i'*.

The burner K—an oblong casting—is suspended from the upper branch I of the generator and hangs between the branches *h h* of

the horizontal coil II. This casting is hollow and closed on all sides, except as hereinafter set forth, being \angle shape in cross-section, the flat side being at the bottom and provided with slits or oblong flame-openings h' , through which the gas escapes and is burned in a sheet of flame. The loops H' , by which the burner is suspended from the generator, are preferably cast with the burner. The opening k in the end of the burner opposite the passage i' in gudgeon b admits the gas into said burner.

The iron is plurally-sided, as shown, each side being designed for a separate use and purpose. The opening in one side of the iron is closed by the cover M , which has a retaining-hook m at one end that engages with the inner side of the iron, and a lug m' at its other end, which fits between lugs N on the iron, being held in place by the pin n . The inner flange m^2 forms a shallow chamber or receptacle on the inner face of the cover. In starting the flame the iron is turned so that the cover M is lowermost and the valve J is opened to permit a proper quantity of oil to enter the chamber on the cover. A light is applied to the oil in the chamber and the burner and generator are heated sufficiently by the burning oil to convert the oil in the generator into gas, which, escaping through the opening i' into the burner K , is ignited and burns. The flame from the burner is forced downward by the pressure of the gas and heats the lower face of the iron and keeps the generator sufficiently hot to convert the oil entering into gas.

The ends of the tubular handle A are threaded and the standards are screwed thereon, being the simplest form of construction.

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

1. The combination of the tubular handle, the standard C , having the gudgeon integrally

formed on its end, and the standard B , formed with the gudgeon and having the passages $i i'$ in the said gudgeon, the iron journaled on the gudgeons of the two standards the generator consisting of a pipe which has its ends connected with the said gudgeons and which is bent between its ends to form the member I and the coil or fold H , and the burner suspended by loops from the said member I and having the members $h h'$ of fold H extending along the lower edges of the said burner, substantially as described.

2. The combination, with the handle having depending standards, the iron journaled between the standards, and the generator comprising an upper member I and a lower member H , of the oblong hollow casting, \angle shape in cross-section, the flat side being down and having flame-openings formed therein, said casting having a gas-entrance in one end and suspended by loops from the member I , substantially as set forth.

3. The combination, with the tubular handle having depending standards at each end and having gudgeons on the said standards, the standard C , having passage $d^2 d d'$, and the standard B , having passages $i i'$ in the gudgeon b thereof, of the valve J , fitted to gudgeon b , for regulating the flow of gas or oil through passages $i i'$, the generator deflected between its ends, which ends are fitted in the said gudgeons, the burner supported by the generator and having flame-openings on its under side and having an opening in its end opposite the passage i' , and the iron journaled at its ends on the said gudgeons, substantially as set forth.

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

HERBERT M. COOLEY.

Witnesses:

THOS. J. CURRY,
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