

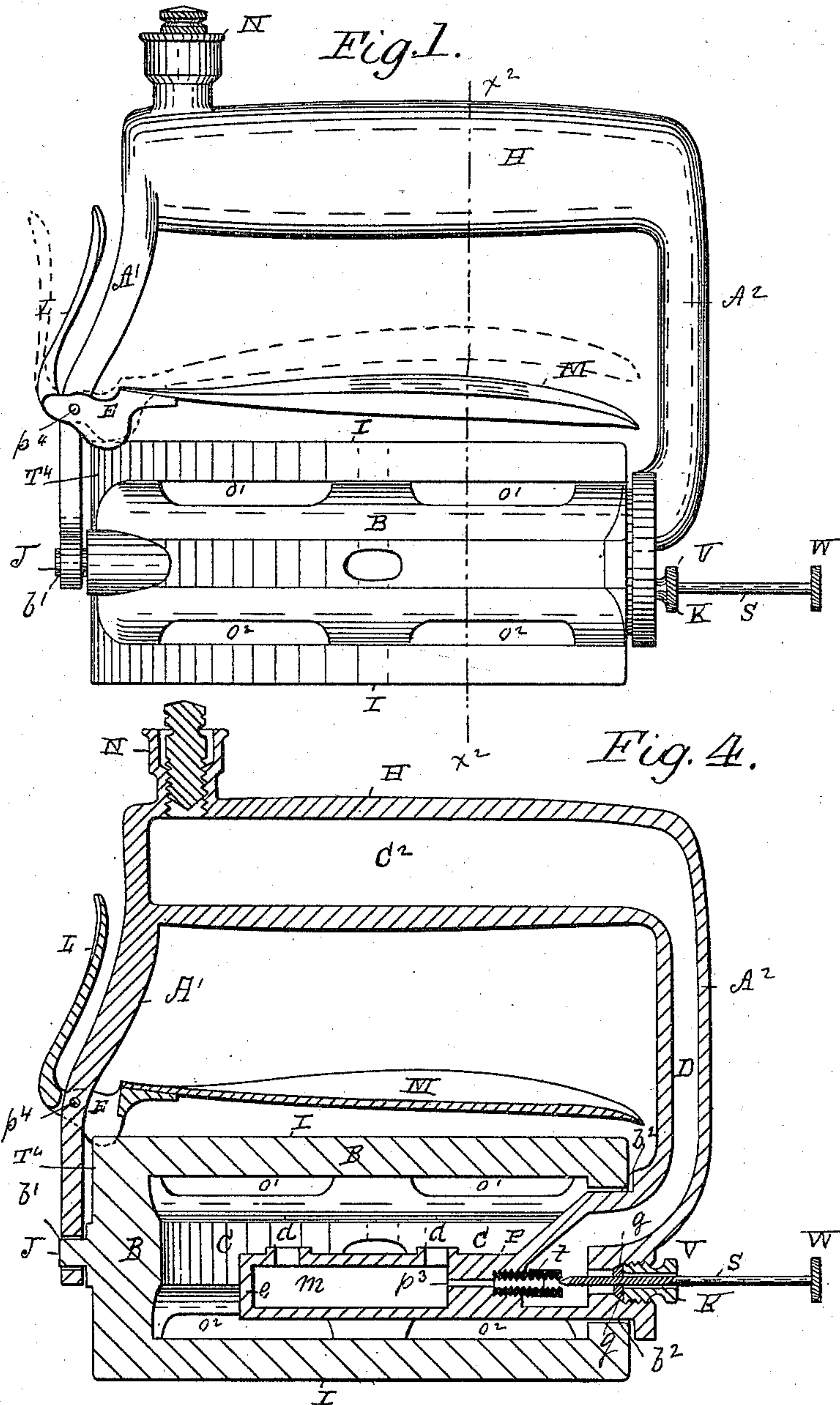
(No Model.)

2 Sheets—Sheet 1.

W. R. SANFORD.
SAD IRON.

No. 470,367.

Patented Mar. 8, 1892.



WITNESSES

William A. Sweet

Charles S. Buntwell

INVENTOR

William R. Sanford

By W. C. Hagan atty

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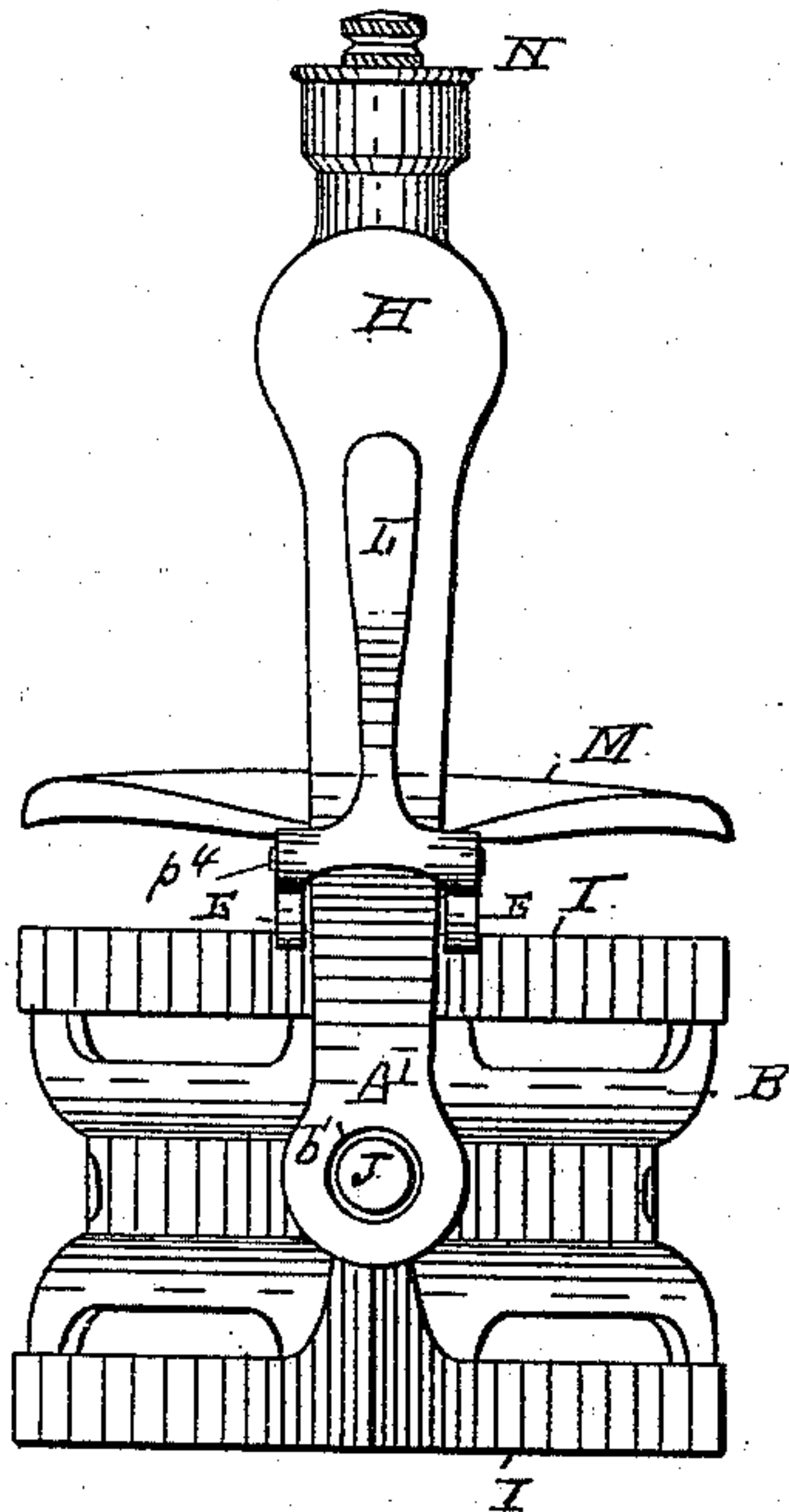


FIG 3

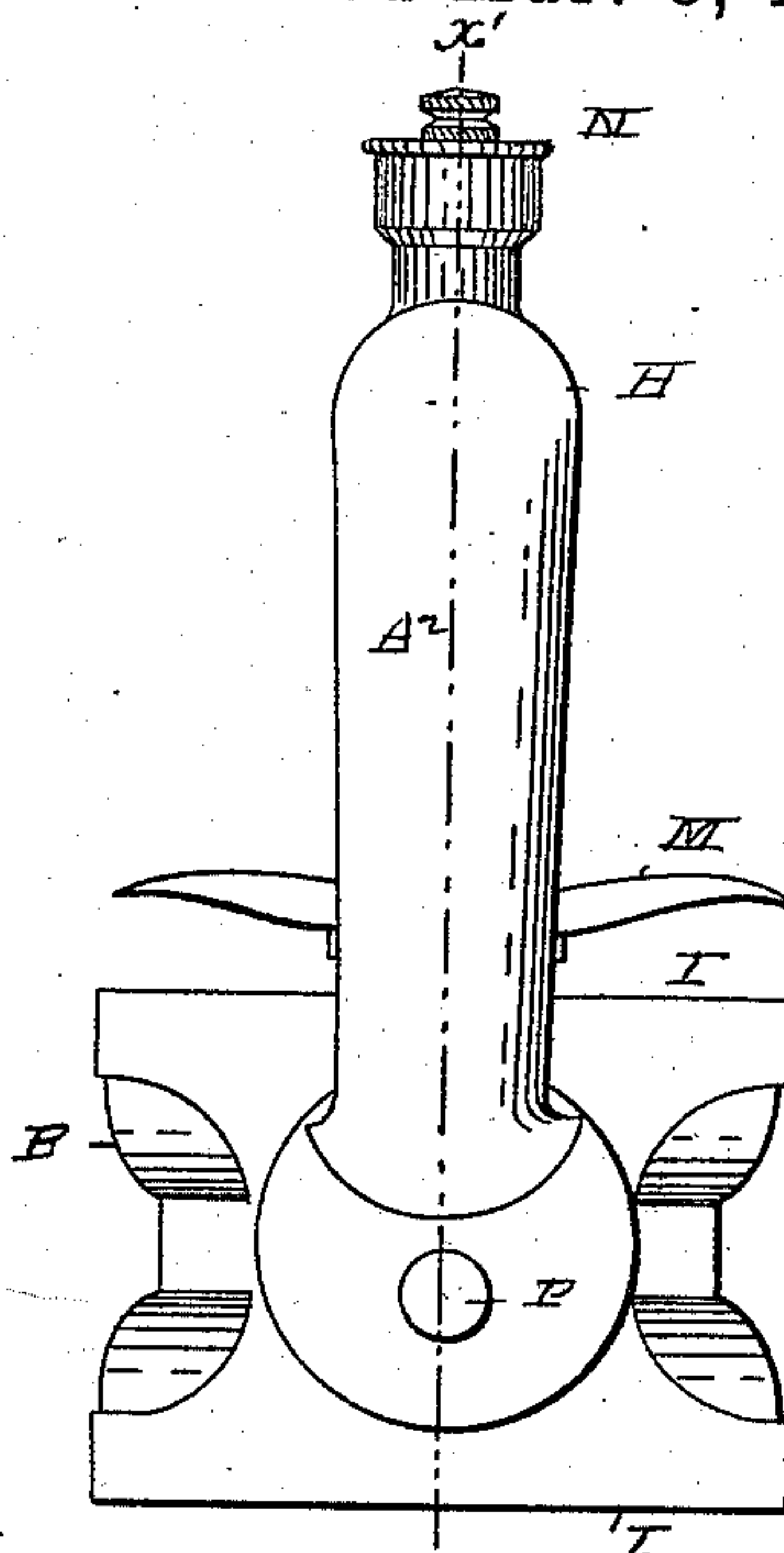


FIG 2

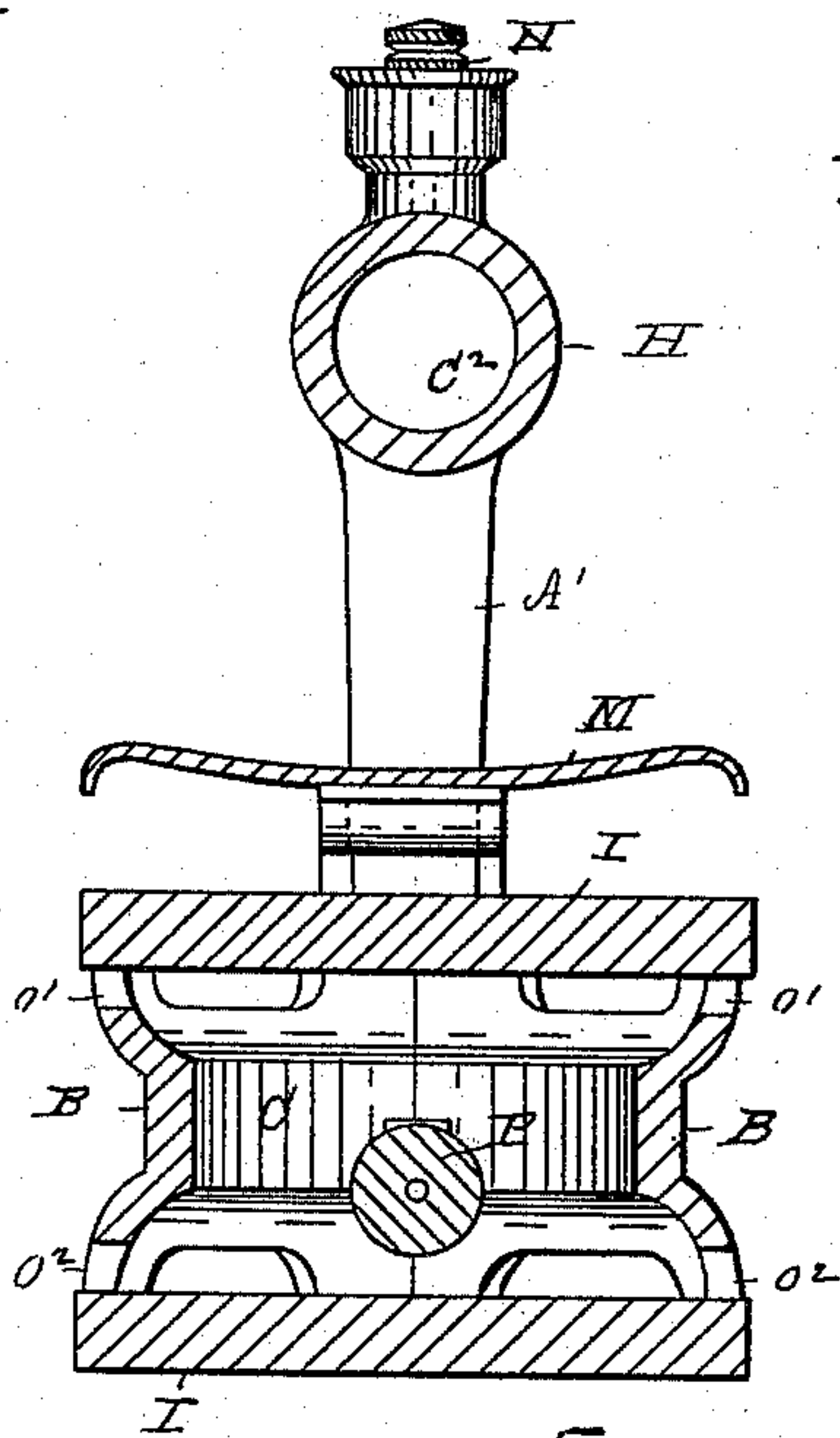


FIG 5

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM R. SANFORD, OF NORTH ADAMS, MASSACHUSETTS.

SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 470,367, dated March 8, 1892.

Application filed September 19, 1889. Serial No. 324,423. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. SANFORD, of North Adams, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Sad-Irons, of which the following is a specification.

My invention relates to improvements in that class of sad-irons in which the handle parts are made to contain oil, naphtha, or other burning-fluid, and in which the body part or sad-iron proper is made with an interiorly-placed combustion-chamber having two oppositely and exteriorly placed ironing-faces with the body part journaled to the handle-arms, so that it may be turned to reverse the position of the ironing-surfaces.

Accompanying this specification to form a part of it there are two plates of drawings containing five figures illustrating my invention, with the same designation of parts by letter reference used in all of them.

Of the illustrations, Figure 1 is a side elevation of a sad-iron containing my invention and improvement. Fig. 2 is a rear end elevation of the same device. Fig. 3 is a front end elevation; Fig. 4, a section taken on the line $x' x'$ of Fig. 2, and Fig. 5 is a section taken on the line $x^2 x^2$ of Fig. 1.

The several parts of the mechanism thus illustrated are designated by letter reference, and the function of the parts is described as follows:

The letter B designates the body of the sad-iron, which is made with an interiorly-arranged combustion-chamber C, that is provided with ingress and egress passages $o' o^2$ at the side thereof, and two reversible ironing-faces I I, one of the latter being upon each of its opposite sides.

The letter H designates the handle which is made with the downwardly-projected arms $A' A^2$, to the lower ends of which the body of the iron is pivoted, so that the body B may be turned so as to bring either of its opposite ironing-faces into use.

The letter J designates a short journal that is formed on and projected laterally from the toe end of the iron-body, and b' a bearing formed in the lower end of the handle-arm A' , the latter and said journal being so constructed that after the other arm of the handle has been connected to the heel of the iron, as will

hereinafter be described, said handle-arm A' may be sprung onto the said journal J.

The letter P designates a pipe that is inwardly projected from the handle-arm A^2 at right angles to the latter, and this pipe connects with the interior of the arm A^2 to convey liquid fuel to the combustion-chamber of the iron proper. The pipe P where entering the heel end of the iron proper journals therein by means of a bearing formed in said heel end of the body or iron proper, and indicated at b^2 , by means of which journaled connection at the toe and heel ends the iron proper may be turned to reverse the faces thereof.

The handle H is made to have a hollow interior C^2 for receiving and containing naphtha or other burning-liquid, and the letter N designates a feed-valve through which when open the naphtha is supplied to the chamber C^2 of the handle, which valve when closed is gas-tight. The arm A^2 has an interior chamber D, which connects interiorly with the chamber C^2 of the handle and with the pipe P. This pipe P has an interiorly-arranged chamber m within the body B, said chamber having a closed outer end e , and the letters $d d$ designate passages or openings from said chamber m , wherefrom the liquid fuel is burned.

The letter V designates a needle-valve made to control the passage of the naphtha from the interior of the arm A^2 to the pipe-chamber m , wherefrom it is burned. This needle-valve is made with a stem S, having a finger-wheel W for operating it. This valve is provided with a gland or packing g and a cap K, which latter is threaded into the lower end of the arm A^2 .

The letter p^3 designates a passage from the chamber m in the pipe P to the chamber D, made in the arm A^2 , which passage-way is threaded at t to receive the threaded end of the stem-rod S of the valve. When the latter is screwed outwardly, naphtha passes from the chamber D to the chamber m , and when this stem is screwed in the passage of the naphtha is stopped.

The letter M designates a shield that at p^4 is pivoted to the front arm A' , and L a lever-arm arranged on the said shield, by which the latter can be raised up to permit the reversal of the iron body, and the function of this shield-plate is to protect the hand of the operator

from the heat and to prevent the two-rapid passage of the heat from the iron. This shield-plate is provided with ears 'E', adjacently to where pivoted, and which ears when the shield is pressed down on its pivoted connection, so as to cause the ears to engage with the rounded toe part T⁴ of the body part at each side; they act to lock and hold the body iron firmly on its journal connection in position, as is shown at Figs. 1 and 4. When the shield-plate is thus arranged to be operated by a lever and to be raised by the latter when turning the iron, it can when down be placed much nearer to the surface of the iron proper and better act to retain the heat within the latter than when located rigidly at a point sufficiently above the iron to allow the latter when being reversed to pass under it.

The operation of the device thus constructed and arranged is as follows: Naphtha having been supplied to fill the handle-chamber C² and the connected arm-chamber D the needle-valve V is opened and the naphtha passing into the chamber m is vaporized to burn from out the passages d or by means of wicks placed therein, air entering through the openings o' or o², either of which may be at the bottom to support combustion; the gases evolved from the flame passing out through either of which openings that may be uppermost. The heat evolved from the burning naphtha acts upon that one of the body-surfaces I which is uppermost, and when this is heated sufficiently then the body part of the iron is reversed on its journals, so as to bring the heated surface I upon the underside of the iron in a position for use. When this has been done and while the iron is being thus used, the other surface I that

is uppermost is being heated and made ready for use and to be brought into action by reversing the iron when the first heated surface has become cooled. The shield-plate performs the useful function of protecting the hand of the operator while the unused surface is being heated and at the same time prevents the too rapid passage of the heat from that face of the iron being heated.

I am aware that a sad-iron having a naphtha-containing chamber that is connected with a burner by means of a pipe having a valve thereon and with said burner arranged between the two reversible faces of the iron proper is, broadly considered, an old construction, and that my invention relates to an improvement in the manner of constructing the aforesaid parts and the combination thereof with of a protecting-shield.

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

In a self-heating sad-iron, the combination, with a body part that is journaled to the handle-arms and having two opposite ironing-surfaces, of a shield-plate pivoted to one of the handle-arms and provided with an operating lever and having ears arranged to engage with the sides of the body iron near its toe end, substantially in the manner as and for the purposes set forth.

Signed at Troy, New York, this 11th day of July, 1889, and in the presence of the two witnesses whose names are hereto written.

WILLIAM R. SANFORD.

Witnesses:

W. E. HAGAN,
CHARLES S. BRINTNALL.