

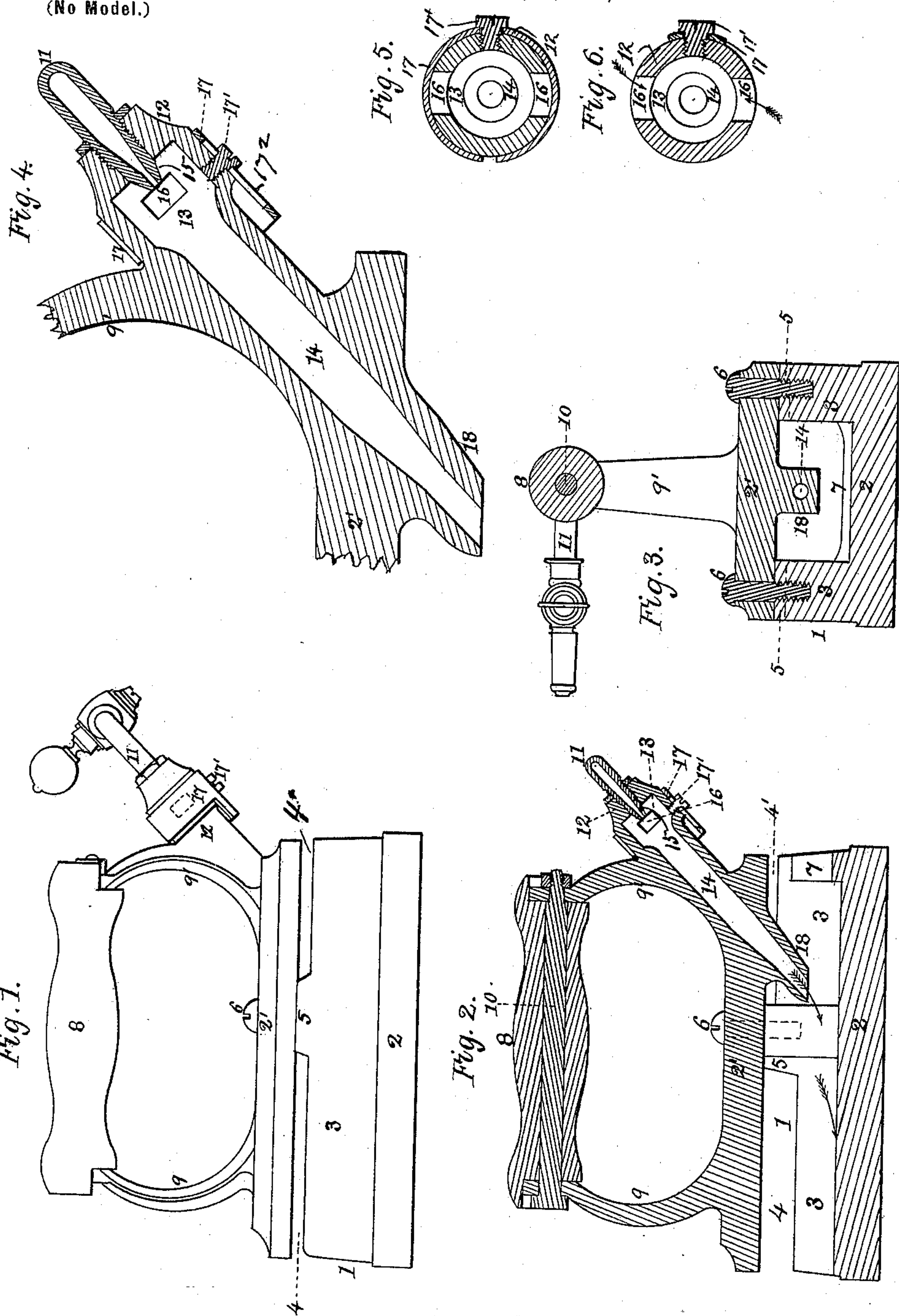
No. 638,405.

Patented Dec. 5, 1899.

E. STERN.
GAS HEATING SAD IRON.

(Application filed May 16, 1899.)

(No Model.)



Witnesses.

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GAS-HEATING SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 638,405, dated December 5, 1899.

Application filed May 16, 1899. Serial No. 716,998. (No model.)

To all whom it may concern:

Be it known that I, EDWARD STERN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Gas-Heating Sad-Irons; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

My present improvements relate to a class of gas-heating sad-irons known as "short irons" or those resembling in size and shape the ordinary "flat-iron" in universal use and as distinguished from the long iron known as a "goose."

The object of this invention is to provide improved means for conducting the current of heated vapor to the point most remote from the gas-burner, for regulating the air-supply, and for insulating the top of the iron.

To this end my invention consists in the construction and combination of parts constituting a sad-iron, as hereinafter set forth and claimed.

The drawings accompanying this specification represent, in Figure 1, a side elevation, in Fig. 2 a vertical and longitudinal section, and in Fig. 3 a vertical cross-section, of a gas-heating sad-iron containing my improvements. Fig. 4 is a section, on an enlarged scale, of the "burner" of the gas-pipe and of the adjacent portion of the iron containing the air-mixing chamber, while Figs. 5 and 6 denote transverse sections, also on an enlarged scale, of said chamber.

In the drawings the body of the iron is shown at 1 as of the old-time flat-iron shape and size, the solid bottom thereof being shown at 2, while 3 represents a vertical wall surrounding the greater part of the boundary of the said bottom 2.

The top of the iron is shown at 2' as of practically equal shape and area with the body 1.

The break or omission 4 in the boundary-wall 3 provides ample space for admission of air between the top and bottom of the iron. An additional space 4' of similar utility exists

between the top 2' and the upper edge of the wall 3. Oppositely-disposed spurs 5 5 are formed upon the upper edge of the wall.

The spurs 5 5 constitute the seat or support of the top 2', and to confine such top to them screws 6 6 are employed, the bodies of these screws passing loosely through said top and screwing into the wall 3, while their heads overlap the upper surface of the top. To provide further means for circulation of air between the top and body of the iron, the wall 3 may be partially or entirely omitted at the rear end of such body, as shown at 7.

The wooden portion or hand-grasp of the handle of the iron is shown at 8 and the upright curved arms which support such hand-grasp at 9 9', these arms at their base being cast integral with the top 2' of the iron.

The hand-grasp 8 is secured to the upper parts of the arms 9 9' by a bolt 10 passing through the three, and to protect the user's hand from the hot metal I elongate the hand-grasp and extend its ends over or about the head of the bolt at one end and the nut which screws upon the opposite end of such bolt.

The main purpose of the top 2' is to provide a means of support for the handle and to protect the hand of the user from the heat of the flame. By delivering the flame directly upon the bottom of the iron the comparatively small area of the bottom is quickly and thoroughly heated, while the inclined direction of the flame carries the latter forward toward the point of the iron.

The gas-supply pipe of the iron is shown at 11, the inner end of this pipe being inserted within the upper part of a tubular boss 12, forming part of the rear arm 9' of the handle, the upper part of the interior of this boss constituting a chamber of greater area than the bore of the pipe. The chamber 13 connects at bottom with the space between the top and bottom of the iron by a passage 14, formed in part in the boss 12 and in part in the said top. The inner end of the gas-pipe terminates in a burner 15, which enters the upper part of the chamber 13, and the wall of this chamber is pierced with one or more air-inlet ports 16 16 to admit of influx of air to such chamber and convert the gas issuing from the burner into a vapor of high temperature when ignited.

To govern the amount of air entering the mixing-chamber 13, or, as is sometimes desirable, to entirely shut off the entrance of air, I employ a sleeve or annular gate 17, which fits closely around the inclined boss 12 and is adapted to be moved by hand up or down on said boss in the direction of the length of the latter, so as to cover or uncover at will the ports 16. A slot 17², longitudinal of the said boss, is formed in the said sleeve or annular gate, and a clamping-screw 17' passes through the said slot into the said boss to secure the said sleeve or gate in any position of such adjustment. The said screw always prevents the said sleeve or gate from turning. For adjusting and holding it the screw is first loosened and tightened again after the sleeve has been moved to partly or wholly close the said ports. By raising or lowering the gate 17 the ports 16 may be partially or entirely opened or closed.

To direct the flame issuing from the passage 14 to and upon the bottom of the iron and thence deflect such flame toward the front or point of such iron, I cast a tubular inclined teat 18 upon the under side of the top 2', the bore of this teat constituting the inner termination of the passage 14. It will be seen

that the passage 14 approaches the bottom of the iron at an angle (in present instance forty-five degrees) tending toward the front of such iron, whereby the flame issuing from such passage is directed first upon the bottom and then toward or to the front or point of said iron, thereby securing a uniform temperature of said bottom.

I claim—

In combination with a hollow sad-iron body, a top plate and handle fastened thereto, the said plate being provided with a tubular teat 18 extending obliquely forward and downward, and one of the standards of the said handle being provided with a similarly-directed passage 14 continuous with the bore of the said teat, the wall of the said passage being extended upwardly and rearwardly beyond the rear of the said iron and provided with a lateral opening for air, an inlet at the end of the said passage, and an adjustable ring or sleeve adapted to cover the said air-opening partly or wholly and thus regulate the supply, substantially as set forth.

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Witnesses:

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