

Sept. 16, 1947.

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2,427,521

STEAM ELECTRIC SAD IRON

Filed Nov. 13, 1943

2 Sheets-Sheet 1

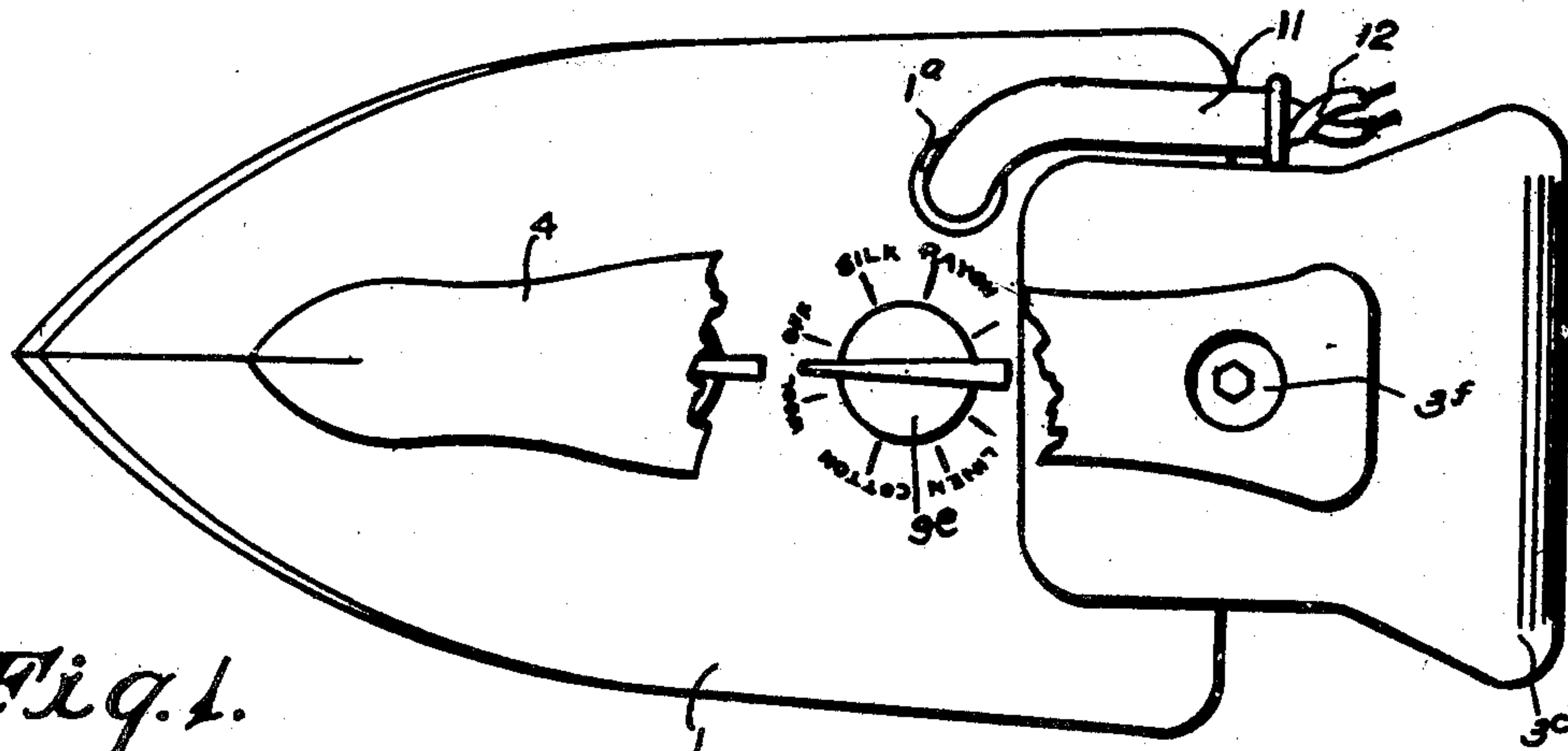


Fig. 1.

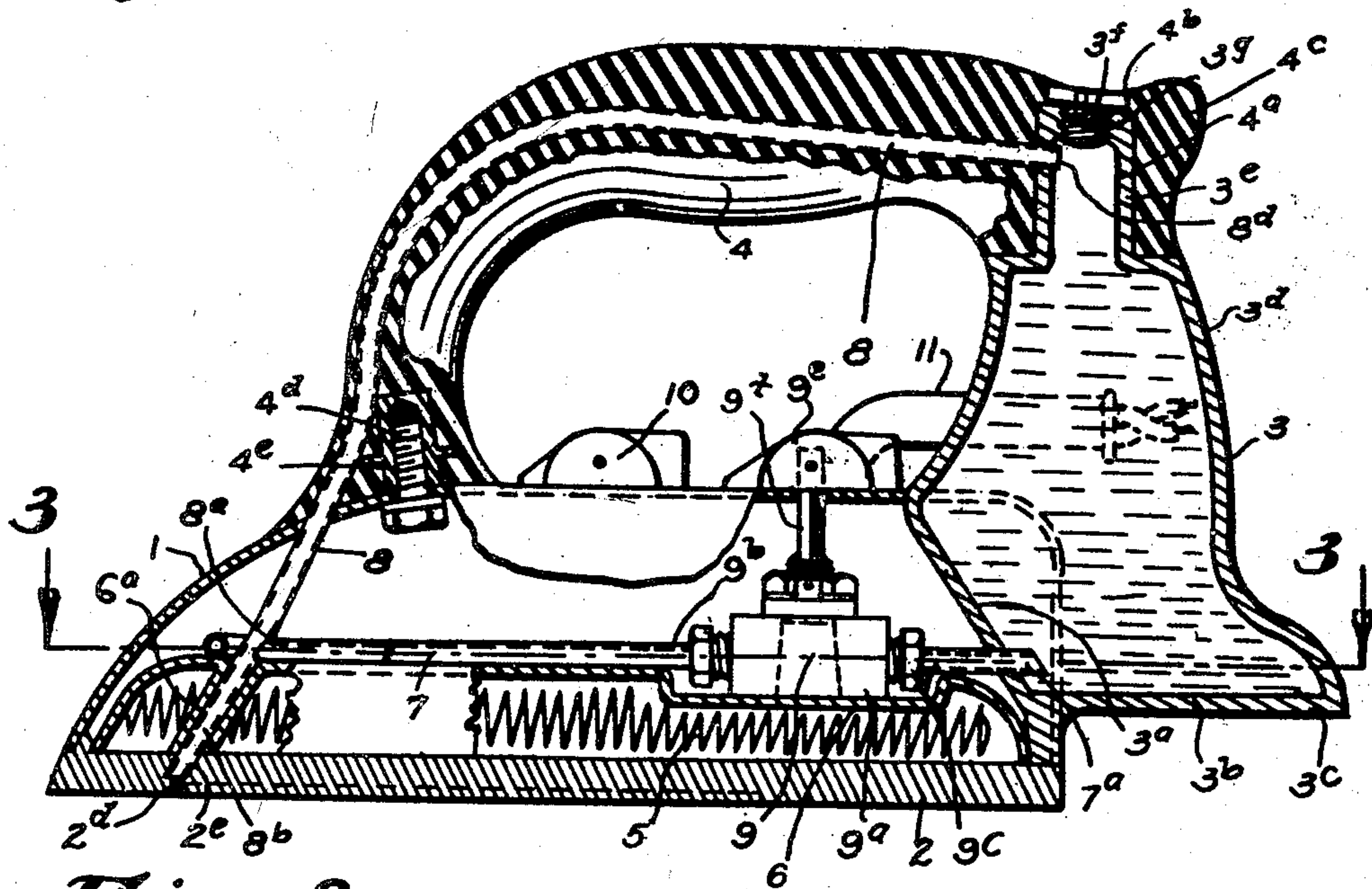


Fig. 2.

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2 Sheets-Sheet 2

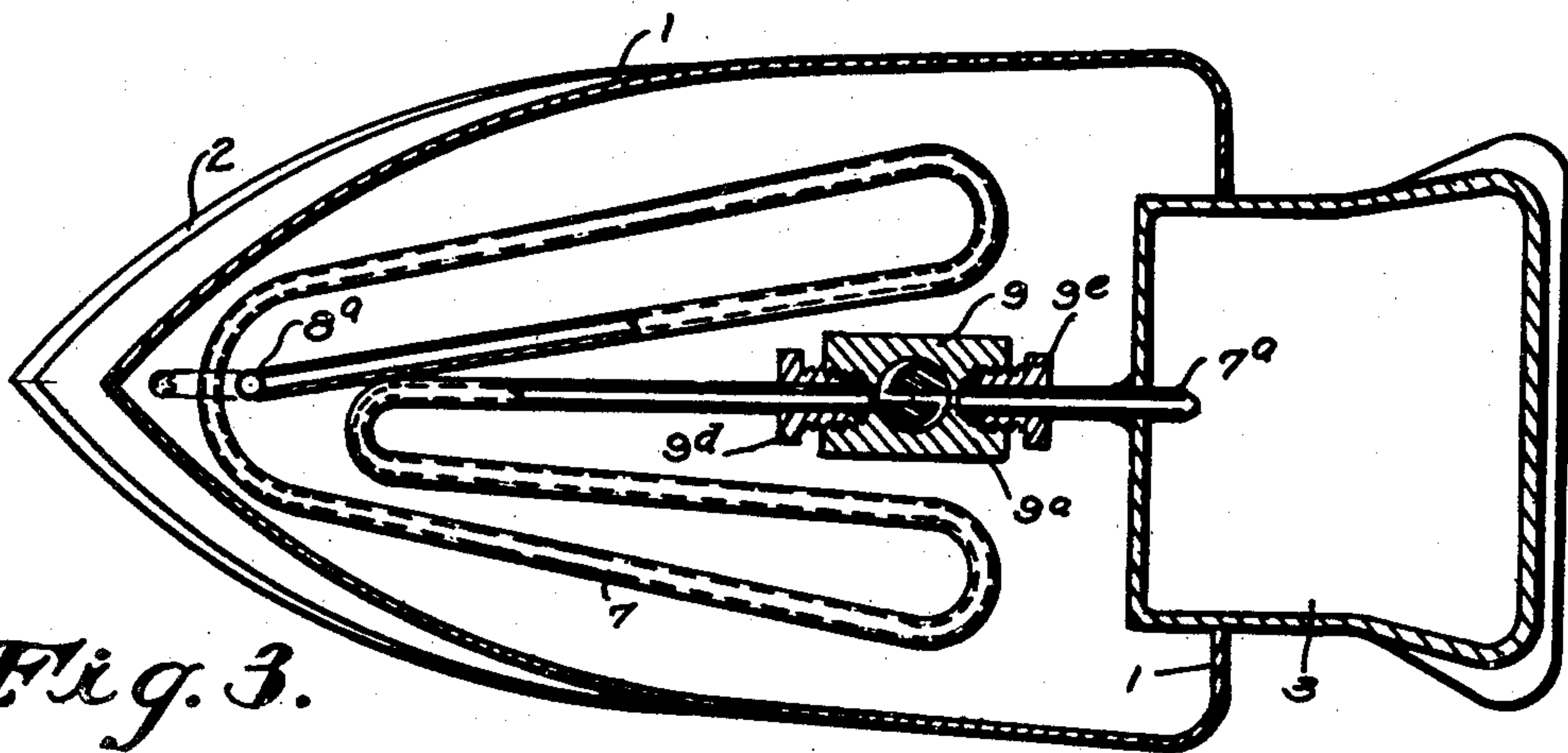


Fig. 3.

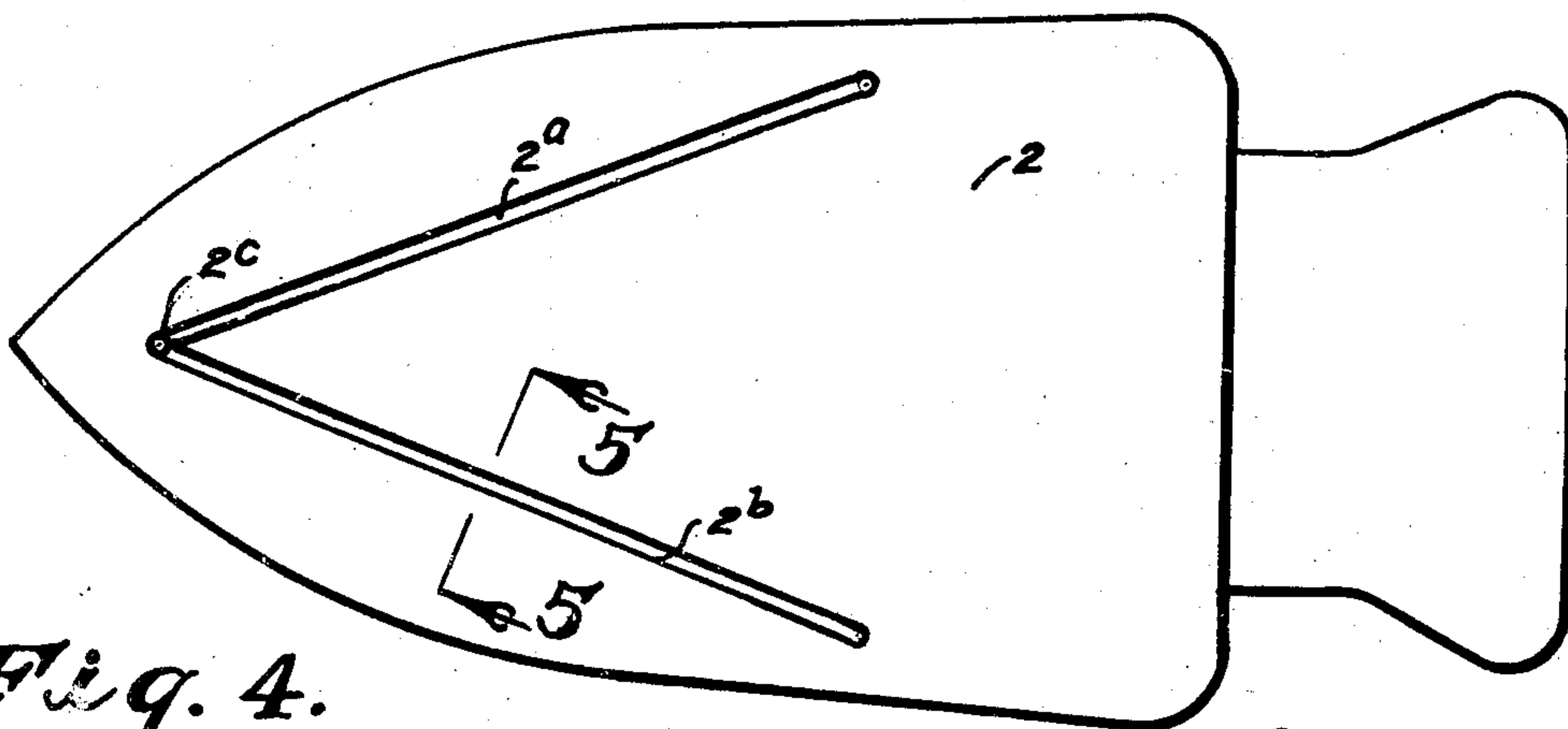


Fig. 4.

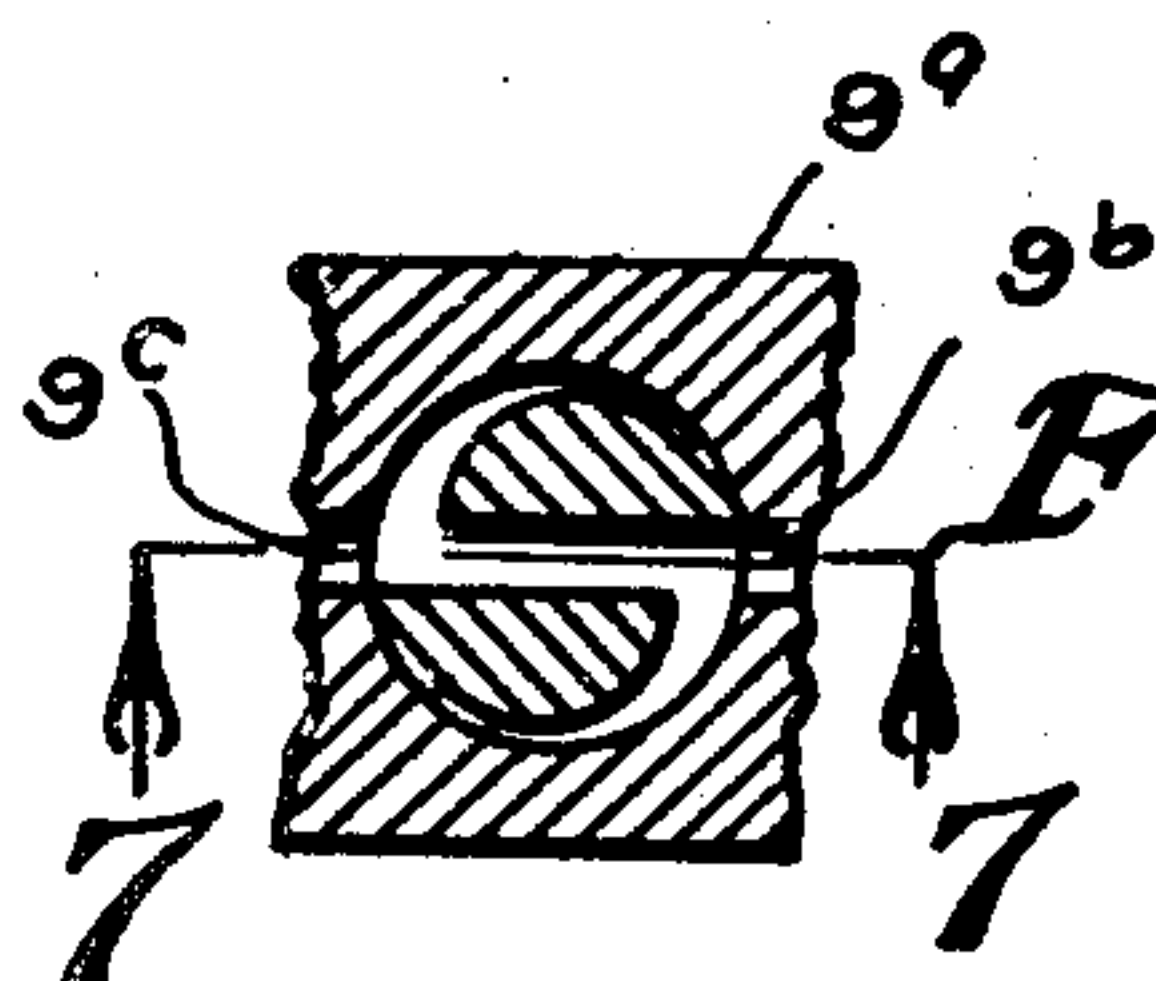


Fig. 6.

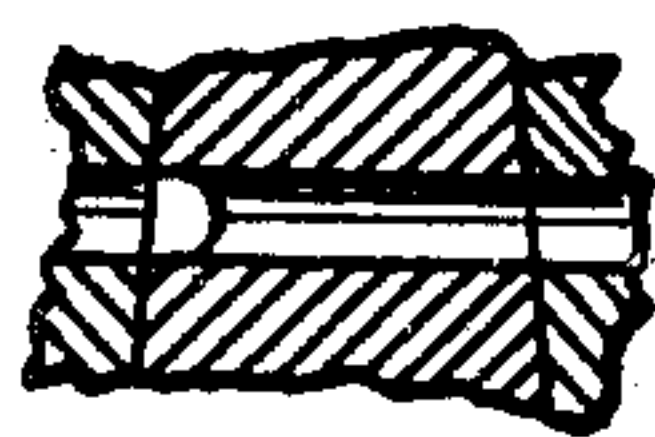


Fig. 7.

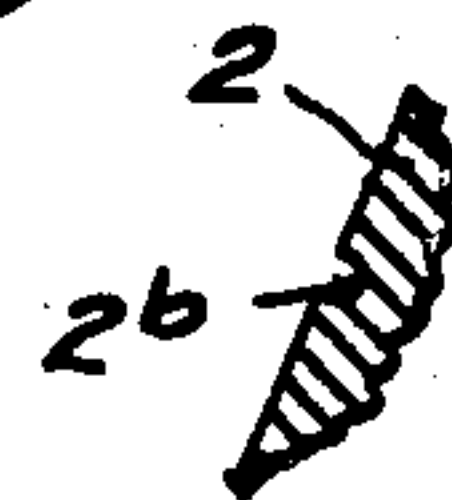


Fig. 5.

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## UNITED STATES PATENT OFFICE

2,427,521

STEAM ELECTRIC SADIRON

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Application November 13, 1943, Serial No. 510,109

3 Claims. (Cl. 38—77)

1

My invention relates to steam electric sad irons, more particularly to steam electric sad irons in which steam is generated in the iron and applied to the goods while the ironing process is going on and the principal object of my invention is improvements over the invention set forth in my patent dated January 1, 1929, Patent No. 1,697,224, and the objects of the improvements are:

First, to provide a more simplified construction of sad iron of this class;

Second, to provide a structure of this class wherein the reservoir provides a support for the handle, as well as a stand for the iron when in upright and out of operating position;

Third, to provide a simple means of controlling the steam generated by the electric element in the iron;

Fourth, to provide a more efficient distribution of the water in the iron relatively to the heating element for producing steam;

Fifth, to provide a novel means of conducting steam from the reservoir to the base of the iron;

Sixth, to provide a sad iron of this class which is very simple and economical of construction, easy to operate, easy to regulate, efficient in its action and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application in which:

Figure 1 is a top or plan view of my sad iron showing portions broken away to facilitate the illustration; Fig. 2 is a side elevational view of the iron showing portions broken away and in section to facilitate the illustration; Fig. 3 is a sectional view taken from the line 3—3 of Fig. 2; Fig. 4 is a bottom view of the iron; Fig. 5 is a fragmentary sectional view taken from the line 5—5 of Fig. 4; Fig. 6 is an enlarged sectional view of the valve 9 taken along the line 3—3 of Fig. 2 and Fig. 7 is a sectional view taken from the line 7—7 of Fig. 6.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings:

The iron body 1, iron body base 2, reservoir 3, handle 4, heating element 5, heating element casing 6, steam generator and conductor 7, pressure equalizing conductor 8, steam control valve 9, heat control 10 and electric conductor shield 11 constitute the principal parts and portions of my sad iron.

The iron body base 2 is substantially of conven-

2

tional shape and form, as shown in the drawings, except that it is provided with a V-shaped groove formed of grooves 2a and 2b which join at point 2c near the front point of the base at the lower side. They are substantially semi-circular; as shown in Fig. 5 of the drawings. At the junction 2c is provided a small hole 2d, shown best in Fig. 2 of the drawings, which extends upwardly slightly above the bottom of the grooves 2a and 2b at the junction. Secured to the upper side of the base 2 is the iron body 1 which is substantially conventional in form and shape. Positioned on this base 1 inwardly from the body a slight distance and spaced from the upper surface of said base is the heating element casing 6 which forms a space in which the heating element 5 is positioned in any conventional manner for heating the base 2. The body 1 is provided with an open portion centrally at its back side in which is mounted the front side portion of the reservoir 3 which is shaped as shown best in Figs. 2 and 3 of the drawings and forms a portion of the handle and serves as a portion of a stand as well as a water reservoir. It is provided with a forwardly and upwardly inclined side portion 3a with a substantially horizontal bottom portion 3b with an extended stand portion 3c with a gradually reduced upwardly extending curved portion 3d and with a reduced annular portion 3e at its upper end, all as shown best in Fig. 2 of the drawings. This reduced portion 3e forms a support for the back portion of the handle 4, the handle 4 being provided with a conforming annular recess 4a adapted to receive this reduced portion 3e. The handle is also provided with an opening 4b in which is mounted a plug member 3f which is screw-threaded into a hole 3g in the upper end of the reduced portion 3e which provides a filler opening for the reservoir 3. The handle 4 is provided with an extended portion 4c which is slightly broadened as shown best in Fig. 1 of the drawings and hinged together with the stand member 3c which is also broadened as shown in Fig. 1 of the drawings and forms a stand for the iron when it is not in use. The front end of the handle is provided with a curved portion conforming with the curved portion of the body 1 and is secured to the body 1 by means of a screw member 4d screw-threaded into a bushing 4e anchored in the front lower end of the handle 4, as shown best in Fig. 2 of the drawings. Positioned over the heating element casing 6 adjacent thereto so as to receive heat from the heating element 5 by conduction through the casing 6 is the steam generator and conductor 7, which is shaped as shown best in Fig. 3 of the drawings to provide length for heat conduction from the heating element 5 for reducing water from the reservoir 3 to steam for use for dampening the clothes. The one end 7a is positioned through the wall portion



3

3a of the reservoir 3 so as to receive water from the reservoir near its lower side and this conductor is provided with a valve 9 for regulating the flow of the water, which is a substantially tapered valve with openings providing increased volume from the on position, the shape as shown best in Figs. 6 and 7 of the drawings. The valve is positioned in a casing 9a with water passages 9b and 9c therein at opposite sides connected with the conductor 7 by means of packing bushings 9d and 9e, as shown best in Figs. 2 and 3 of the drawings. The opposite end of the conductor 7 from the end 7a connects with pressure equalizing conductor 8 at 8a which is provided with an angularly positioned portion 8b which extends downwardly through a tubular portion 6a of the member 6 and into an opening 2e so that the tube communicates with the hole 2d in the base 2, as shown best in Fig. 2. This conductor 8 extends upwardly then backwardly through the body 1 above the conductor 7 then into the handle 4 and out through said handle portion 4 and extends into the reduced portion 3e of the reservoir 3 and is provided with an extended end portion 8d, all as shown best in Fig. 2 of the drawings. The valve 9d is provided with a shaft portion 9f which extends upwardly through the body 1 and is provided on its upper end with an indicating handle portion 9e which operates in conjunction with an indicator positioned on the upper face of the body 1 surrounding said shaft 9f, all as shown best in Fig. 1 of the drawings. Positioned forwardly of this indicator 9e is another similar indicator 10 in connection with the conventional thermostat. The electrical conductors 12 for furnishing currents for the heating element 5 are positioned in electric conductor shields 11 which enters the body 1 at 1a and connects with the heating element 5 through a thermostat, not shown.

The operation of my sad iron is substantially as follows: The reservoir 3 is filled with water to near the bottom of the reduced portion 3 through the opening in which the plug 3g is mounted and with the plug repositioned the iron may be stood on its end supported on the portions 3c and 4c in which case no water would enter either of the conductors 7 or 8 to pass into the iron. With the electricity turned on the heating element 5 would heat, heating the steam generator and conductor 7 and by turning the valve 9 to the proper position for the kind of clothes to be ironed water would pass from the reservoir through the portions 7a of the conductor 7 through the valve in regulated quantities into the conductor 7 where it is heated by conduction from the heating element 5, filling the conductor 8 in the space above the water in the reservoir, then passing through the portion 8b to the hole 2d and outwardly onto the goods through the grooves 2a and 2b and dampening the goods while the iron is applied for pressing, it being noted that both the iron base as well as the quantity of water is regulated and as indicated. It will be noted that the sad iron is provided with automatic shut offs of the water as well as equalization of the pressure of the steam in the iron.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

4

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

1. In a sad iron of the class described, the combination of an iron body, a base therefor, a water reservoir positioned on the back end of said base and extending into said body portion centrally at the back side and forming a portion of the handle, a steam generating and conducting tube mounted in said body with one end communicating with the lower side of said reservoir and its opposite end communicating with the lower face of said base, a pressure equalizing conductor communicating with said steam generating and conducting tube at the forward portion of said steam generating and conducting tube with its opposite end extending to above the water level in said reservoir.

2. In a sad iron of the class described, the combination of an iron body, a base therefor, a water reservoir positioned on the back end of said base and extending into said body portion centrally at the back side and forming a portion of the handle, a steam generating and conducting tube mounted in said body with one end communicating with the lower side of said reservoir and its opposite end communicating with the lower face of said base, a pressure equalizing conductor communicating with said steam generating and conducting tube at the forward portion of said steam generating and conducting tube with its opposite end extending to above the water level in said reservoir, a regulating valve in said steam generating and conducting tube, steam distributing grooves in the working surface of said base communicating with said steam generating and conducting tube, a handle member secured to said reservoir at one end and to the iron body at its opposite end, said reservoir provided with an extended broadened portion and said handle provided with an extended broadened portion to form a stand for said iron when not in use.

3. In a sad iron of the class described, the combination of an iron body member, a heating means in said body member, steam generating and conducting tubes positioned adjacent said heating means, combined reservoir and handle for said iron to which one end of said steam generating and conducting tube extends, a pressure equalizing conductor communicating with said steam generating conductor tube communicating at one end with said combined reservoir through said handle above the water line therein, and means for conducting steam from said steam generating and conducting tube to the working surface of said iron body.

LOUIS S. BUTMAN.

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