A. G. JUDD.

SAD IRON.

APPLICATION FILED AUG. 22, 1910.

994,467. Patented June 6, 1911.

Fig. 1.

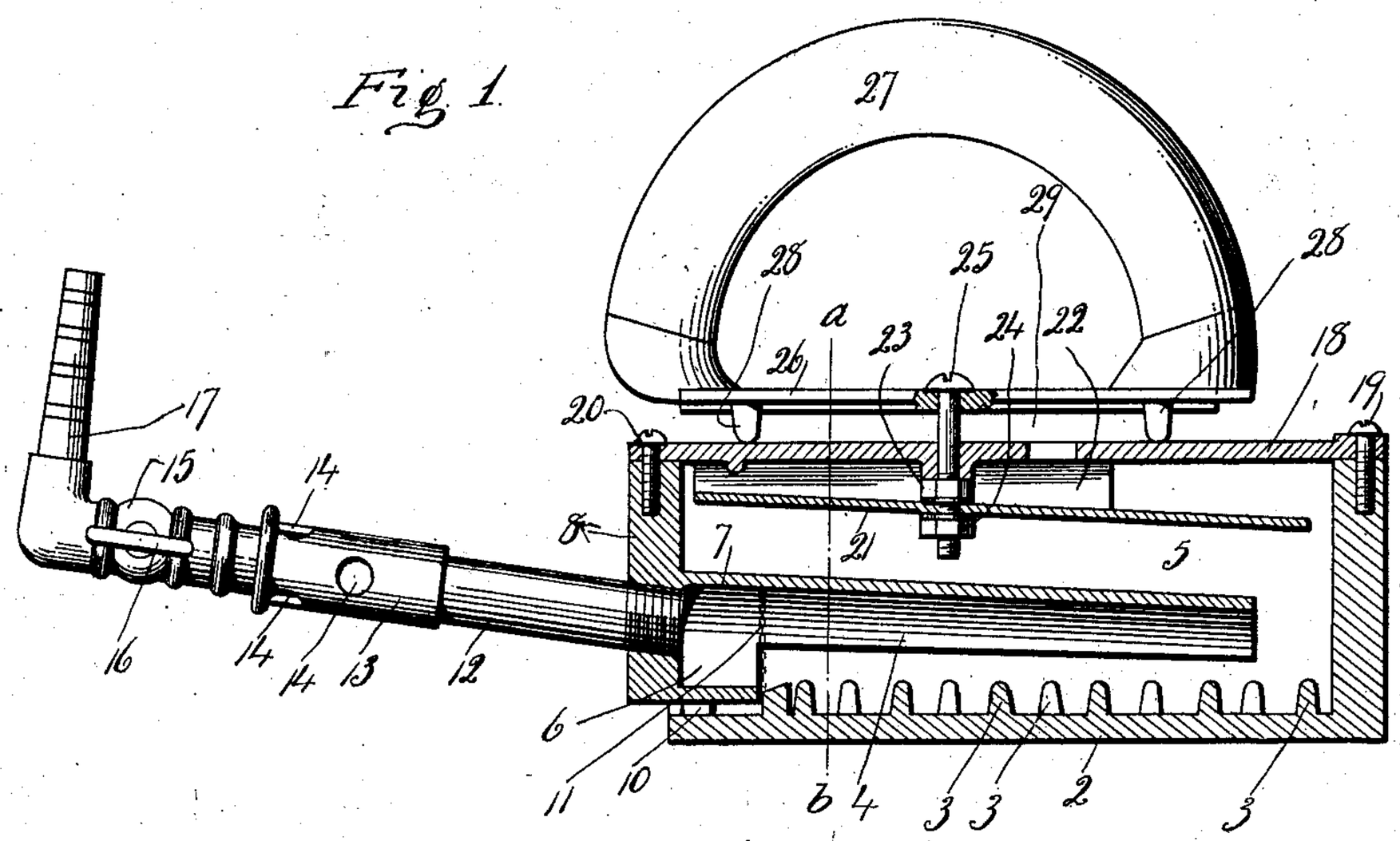


Fig. 2.

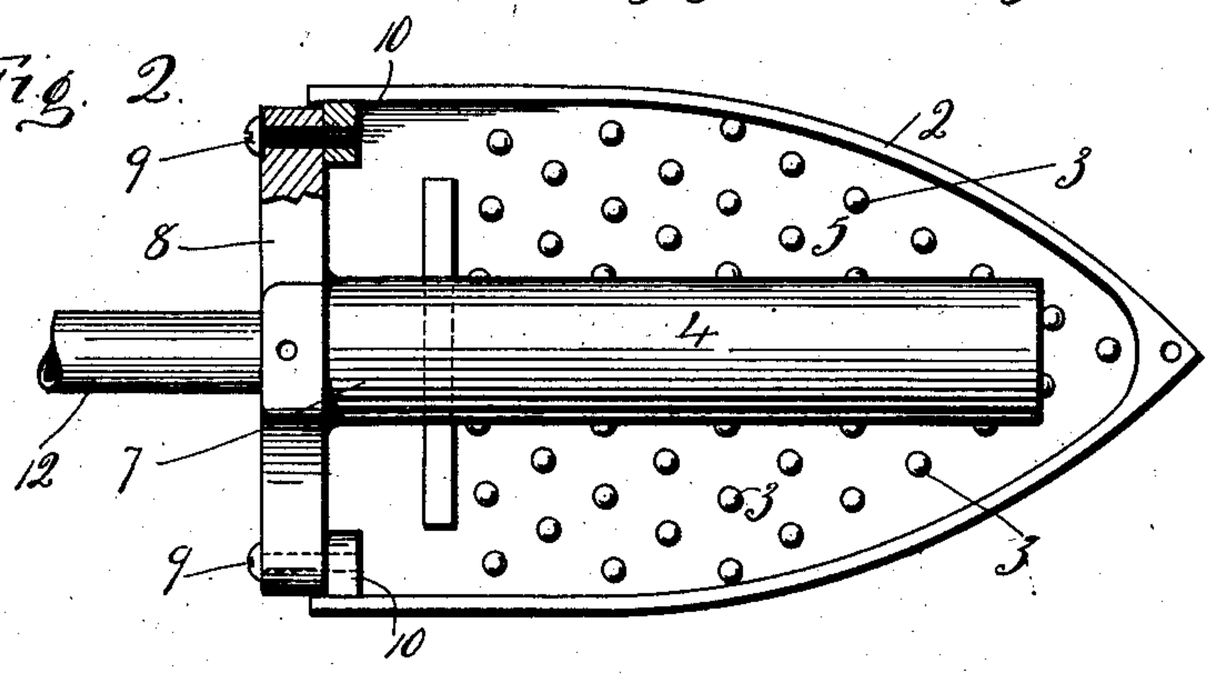
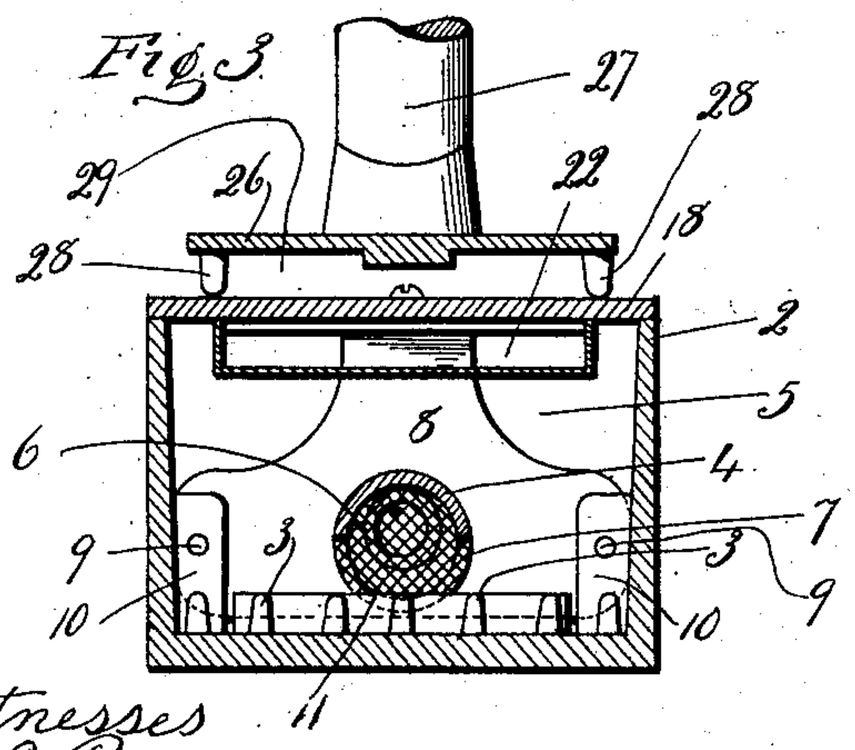


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR G. JUDD, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE BRADLEY & HUBBARD MFG. CO., OF MERIDEN, CONNECTICUT, A CORPORATION.

SAD-IRON.

994,467. Specification of Letters Patent. **Patented June 6, 1911.**

Application filed August 22, 1910. Serial No. 578,420.

To all whom it may concern:

Be it known that I, ARTHUR G. JUDD, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Sad-Irons; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view partly in front elevation and partly in vertical section of a sad-iron constructed in accordance with my invention. Fig. 2 a broken plan view thereof with the handle and top plate removed. Fig. 3 a view of the iron in vertical section on the line *a*—*b* of Fig. 1, and looking rearward.

My invention relates to an improvement in sad-irons, the object being to produce a simple, compact and convenient device constructed with particular reference to a superior combustion of the gas and to heating the bottom of the iron.

With these ends in view my invention consists in a sad-iron having certain details of construction as will be hereinafter described and pointed out in the claim.

In carrying out my invention, the hollow wedge-shaped body 2 of the iron is cast in one piece and provided upon the upper face of its bottom with a plurality of vertical peg-like fingers 3 designed to expose a large area for the absorption of the heat of the burning gas which is deflected directly downward upon the said fingers by means of a cast-metal half-round tube-like deflector 4 pitched downward from rear to front, and extending nearly to the front of the heat-chamber 5 of the said body 2. The said deflector 4 is cast integral with, and extends downward and forward as described, from the upper half of a cast-metal circular mixing-chamber 6 formed by a sleeve 7 made integral with and projecting forward from the center of the lower edge of an end-plate 8 applied to the rear end of the body 2, to which it is secured by horizontal screws 9 entering vertical lugs 10 projecting inward from the rear ends of the side walls of the said body 2. The chamber 6 and deflector 4 are relatively small in curvature so as to permit the deflector to be extended forward well into the front end of the heat-chamber 5, insuring the carrying of the flame to the front or nose of the body. As shown, the chamber 6 is closed at its forward end by a disk of wire-gauze 11 which prevents the flame from flashing back into the mixing-chamber 6. Mixed gas and air are supplied to the chamber 6 aforesaid by a pipe 12 having its inner end threaded and screwed into the said end-plate 8 as to which it is upwardly inclined. At its outer end the said pipe 12 is furnished with an air-regulating sleeve 13 having air-holes 14 arranged to be registered with corresponding holes, not shown, but formed in the outer end of the pipe 12 in which the gas and air are initially mixed. The extreme outer end of the said pipe 12 receives an elbow 15 having a gas-key 16, and a tapered nipple 17 for the application of a flexible gas pipe which is not shown.

The hollow body 2 is furnished with a wedge-shaped cover 18 secured in place at its forward end by a screw 19 entering the forward end of the body and having its rear end secured by a screw 20 to the end-plate 8. A sheet-metal fender 21 applied to the lower face of the cover 18 incloses an air-space 22 and assists in preventing the cover from getting too hot, this fender being secured between nuts 23, 24, mounted upon the lower end of a screw 25 passing downward into the cover 18 from the handle-plate 26 to the ends of which the bow-shaped wooden handle 27 is attached. The handle-plate 26 is formed with depending spacing-lugs 28 resting upon the upper face of the cover and securing an air-space 29 between the cover 18 and the handle-plate 26.

It is the design of my improved construction to focus the frame of the burning mixture of gas and air as much as possible upon the bottom of the body, and this end I secure by the employment of the deflector 4 and the heat-absorbing fingers 3. It will be noticed that the complete mixing of the partially mixed gas and air takes place within the mixing chamber 6 which is located entirely within the body 2 of the iron.

The burning of the mixture begins upon the forward face of the disk of wire gauze 11. At this point and for some distance forward from it, the body of flame has a tubular form due to the combined agency of the circular mixing-chamber, the circular form

of the gauze and the semi-circular form of the deflector. As the flame moves forward, however, it somewhat loses its tubular form, but is caused to retain an arch-like form due to the continued influence upon it of the deflector which is semi-circular or arch-like. Now for the reason that I preferably pitch the deflector downward from rear to front, the flame is thrown not only forward but downward so that the greatest heat is focused upon the bottom of the forward end of the iron where the greatest heat is required, since it is plain that the point or nose of the iron meets the fabric where it contains the most moisture. Furthermore for the reason that the mixing-chamber 6 and deflector 4 are made of heavy cast-iron rather than sheet-iron, they are particularly well adapted to downwardly deflect the heat as cast-metal in this situation is not raised to incandescence as sheet-metal is known to be.

I claim:—

In a sad iron, the combination with a body open at its top and at its rear end, and having the upper face of its bottom provided with a plurality of heat-gathering fingers, of a cover made independent of the said body and adapted to be secured thereto, a cast-metal end-plate secured to the open rear end of the body and provided upon its inner face with a forwardly projecting mixing-chamber from the upper portion of the forward end of which a half-round tube-like deflector pitched from rear to front extends forward nearly to the front end of the said body and deflects the flame of the burning gas downward upon the said heat-gathering fingers, means interposed between the said mixing chamber and deflector for preventing the flame from flashing back into the said mixing-chamber, and a fender suspended within the said body from the said cover and extending over the said deflector to prevent the cover from getting too hot.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ARTHUR G. JUDD.

Witnesses:
ELMER R. LEWIS,
L. G. PENFIELD.