F. W. RUSSELL.

SAD IRON.

APPLICATION FILED SEPT. 3, 1910.

989,877.

Patented Apr. 18, 1911.

2 SHEETS—SHEET 1.

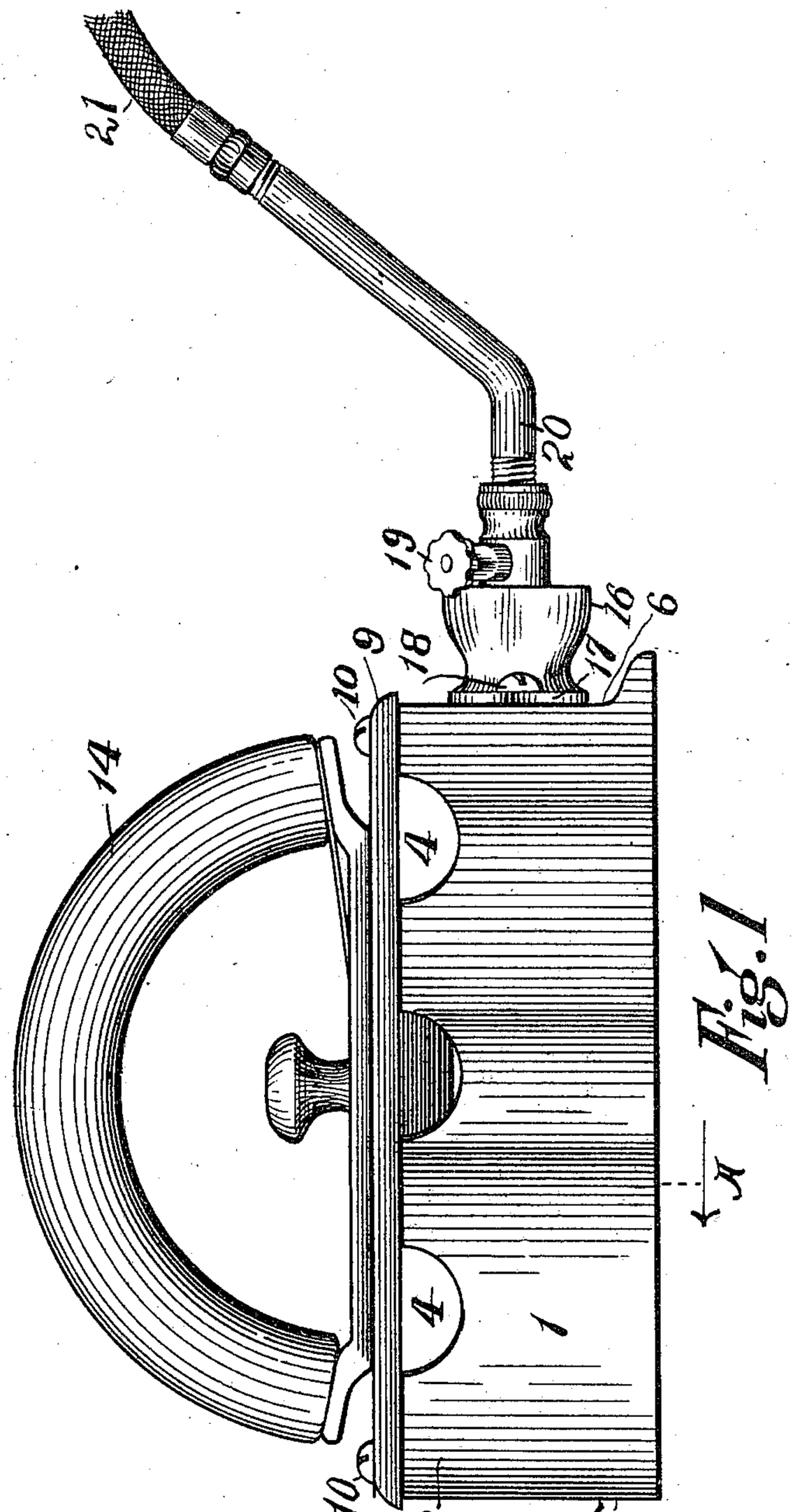

Fig. 1

Witnesses:

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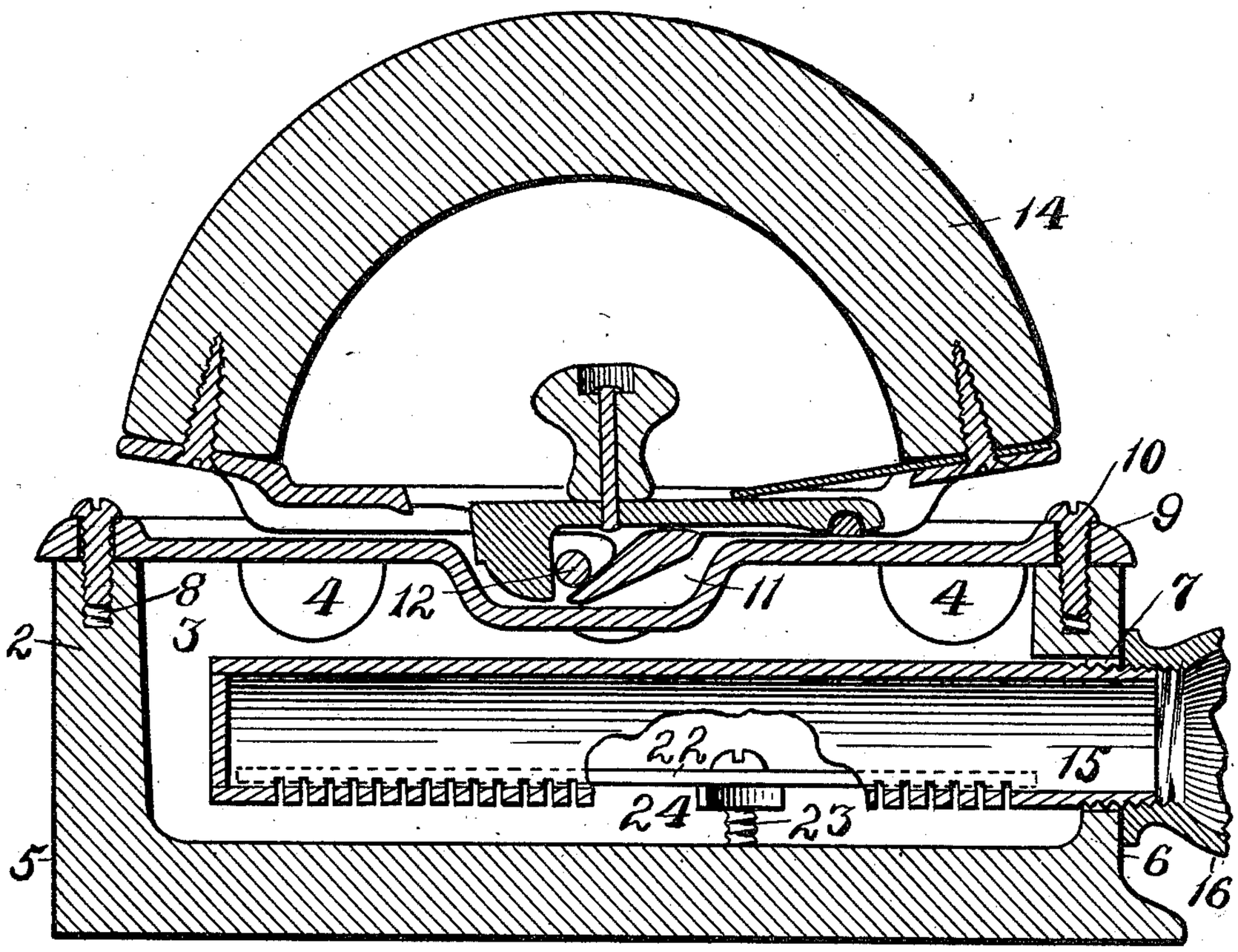

Fig. 2

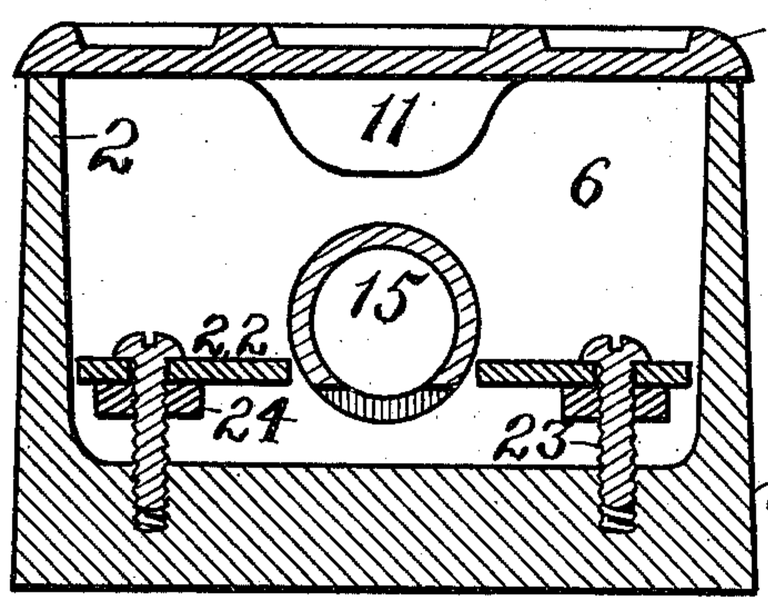

Fig. 3

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UNITED STATES PATENT OFFICE

FLOYD W. RUSSELL, OF AKRON, OHIO.

SAD-IRON.

989,877. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed September 3, 1910. Serial No. 580,411.

To all whom it may concern:

Be it known that I, FLOYD WILLIAM RUSSELL, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Sad-Irons, of which the following is a specification.

This invention relates to sad-irons of that class which are heated by the combustion of a jet of commingled air and gas interiorly applied, and the primary object of the invention is to provide a gas-heated sad-iron comprising the novel features of convenience, durability and general effectiveness, embodying means for evenly heating the iron throughout the entire area of its smoothing surface, while at the same time maintaining the handle portion thereof as cool as possible.

The invention further contemplates providing a sad-iron of the character named having a hollow body portion adapted to contain a fluid-fuel-burner inserted in the body portion through a suitable aperture in one of the closed sides thereof, and it further contemplates providing the upper open portion of the hollow body portion of the iron with a suitable cover containing means to support a handle for the manipulation of the iron.

The invention further and more particularly resides in providing within the body portion of the iron a deflecting element capable of directing the heat and fumes of combustion from the fluid-fuel-burner downwardly against the bottom or working surface of the iron, while at the same time keeping the same as far as possible directed away from the upper part of the body portion of the iron to prevent the handle becoming unduly hot from said combustion.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claim hereunto appended.

In the drawings in which similar reference numerals indicate like parts in the different figures: Figure 1 is a view in side elevation of a fluid-fuel-heated sad-iron embodying this invention. Fig. 2 is a central, longitudinal, sectional view of a fluid-fuel-heated sad-iron embodying this invention; and, Fig. 3 is a transverse sectional view of a fluid-fuel-heated sad-iron as shown in Fig. 1 on line A thereof.

Referring to the drawings, the reference numeral 1 denotes the body portion of the iron having a continuous marginal side wall 2 providing a central cavity or recess 3. The upper portion of this side wall 2 is preferably provided with one or more lateral openings 4 positioned near the upper portion of the iron, for a purpose to be later described.

In practice, I prefer to make the body portion of the iron with one sharpened end 5 and to make the other end 6 blunt and to provide this blunt end with a lower rearwardly-projecting flange to be more readily capable of manipulating the fabric over which the iron is passed. The wall forming the rear or blunt end 6 of the iron is provided with an aperture 7 for a purpose to be later described and I also provide the upper portion of the wall 2 adjacent to the sharpened end 5 with a vertically-extending interiorly-threaded opening 8 and the rear or blunt portion 6 with a similarly-threaded opening. The weight of the iron may be increased or diminished, as desired, by making the walls 2 and bottom of the iron thicker or thinner to increase or reduce the weight thereof.

The recess 3 in the iron is closed by means of a cover 9 secured to the upper face of the walls 2 by means of holdfast devices 10 passed through the cover 9 into the interiorly-threaded vertical openings 8. The cover 9 is preferably although not necessarily provided with a central longitudinal recess 11 extending across which is a cross-bar 12 arranged centrally thereof and preferably integral with the cover. This iron is provided with a heat insulating handle 14 of ordinary construction and said handle is provided at its lower end with means as a spring hook for engaging the cross-bar 12 within the recess 11; or the handle may, if desired, be secured permanently to the cover 9, the construction of the handle being somewhat immaterial to the scope of this invention.

Mounted in the aperture 7 is a fluid-fuel-burner 15 usually consisting of a short piece of pipe with the under side thereof cus-

tomarily provided with transverse slits or cuts through which the gas may escape. The outer or projecting end of the burner 15 is exteriorly-threaded and on which is mounted a mixing-chamber 16 interiorly-threaded to receive the threads of the burner 15 and to abut against the outer face of the wall of the end 6 of the iron. The mixing-chamber is provided with laterally-extending ears 17 with the ends thereof provided with apertures through which may be passed holdfast devices 18 extending into and engaging suitably-threaded openings in the wall 2 of the end 6 of the burner, thereby securely holding the burner in position and slightly spaced from the floor of the recess 3, and at the same time the projecting portions of the mixing-chamber cover all portions of the aperture 7 which are not occupied by the burner 15. The rear portion of the mixing-chamber is provided with an adjusting valve 19 for limiting the amount of gas fed to said mixing-chamber. Secured to the rear end of the mixing-chamber is a pipe 20 preferably bent as shown in Fig. 1 and connecting at one end with the mixing-chamber and at the other end with a flexible fluid-fuel-supply-pipe 21.

In order to deflect the heat and fumes caused by the combustion of the commingled supply of air and gas emerging from the burner downwardly, there is placed on both sides of the burner and extending approximately the entire length longitudinally of the recess 3, deflecting plates 22 which are held in position by holdfast devices 23 which engage in suitably-threaded apertures in the floor of the recess 3; and in order to maintain these deflecting plates in proper position, there may be interposed between them and the floor of the recess 3 one or more spacing members 24 to serve to hold said deflecting plates slightly above the outer orifices of the burner 15, so that the flames from the burner will always pass below the deflecting plates and impinge against the floor of the recess from whence the heat generated by said flames is communicated to the under or smoothing surface of the iron and the products of combustion passing outwardly from the burner escape upwardly between the outer edges of the deflecting plates 22 and the inner faces of the side walls 2 escaping through the openings 4 as hereinbefore mentioned, thus keeping the heat generated by the burner in constant circulation and in contact at all times with the floor of the recess 3 and the products of combustion are permitted to escape as stated through the openings 4 to prevent the cover 9 and handle 14 from becoming over heated. The circulation within the recess being downwardly between the deflecting plates 22 and the lateral portions of the burner 15 above the outlets thereof, and from thence under the deflecting plates 22 and upwardly as described to the openings 4.

I claim:

A sad-iron comprising a body-portion having the side and end walls thereof fashioned to provide a central recess, said side walls provided at the top with an opening, a cover mounted on said walls to form a closure member for said recess, a handle mounted on said cover, a fluid-fuel-burner provided with outlet openings in its lower portion and extending into said recess through one of the walls of said body-portion, a mixing chamber and a fluid-fuel supply pipe connected with said burner, and a pair of deflecting plates positioned on opposite sides of said burner above the outlet-openings therein and spaced from said burner and said side walls to provide a passage for the entrance of air to the space below said deflecting plates adjacent to said burner and for the escape of the products of combustion through the space between said deflecting plates and the side walls of said body-portion to provide a constant circulation of heated air impinging against the floor of said recess.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FLOYD W. RUSSELL.

Witnesses:
C. E. HUMPHREY,
GLENARA FOX.