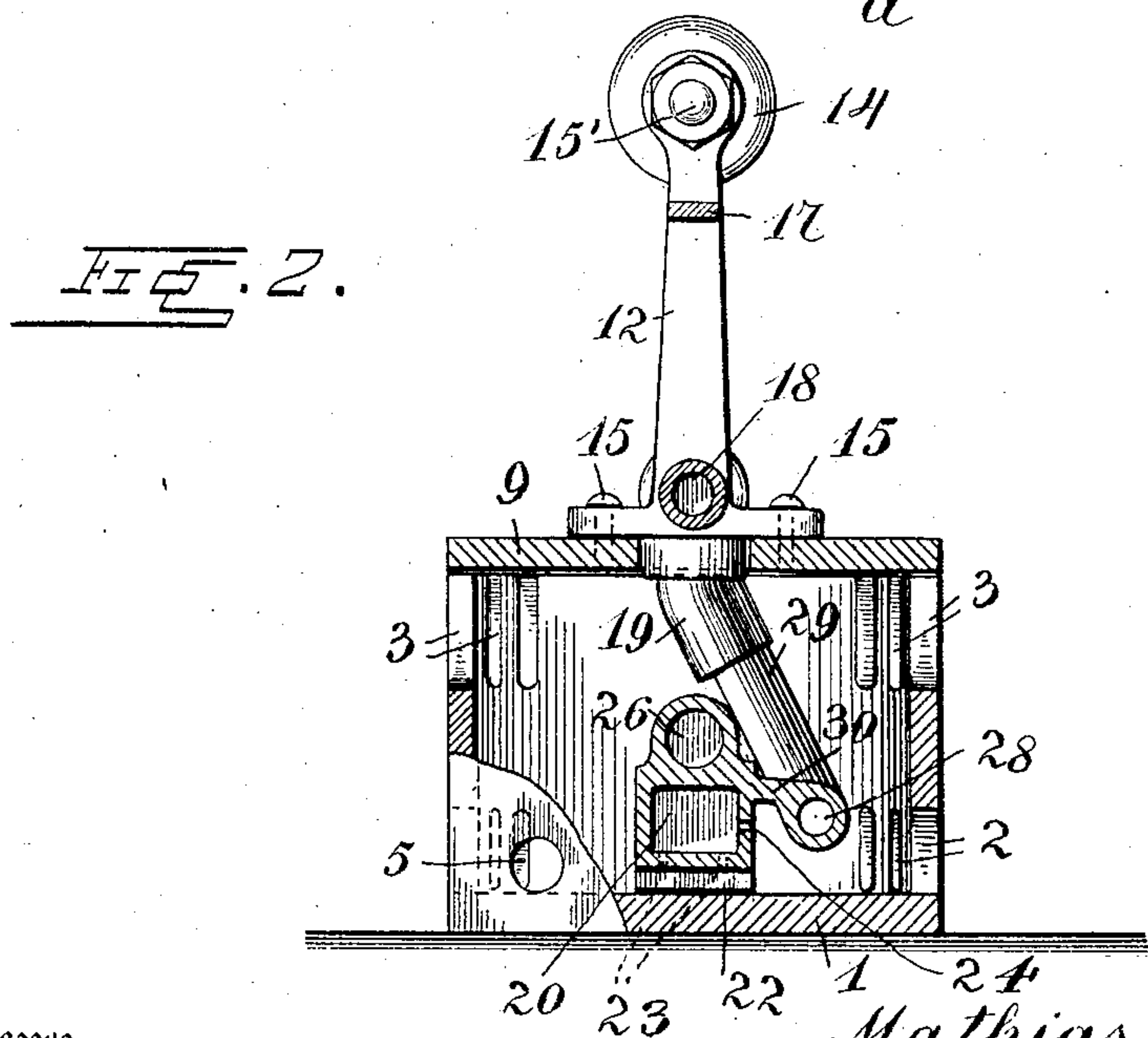
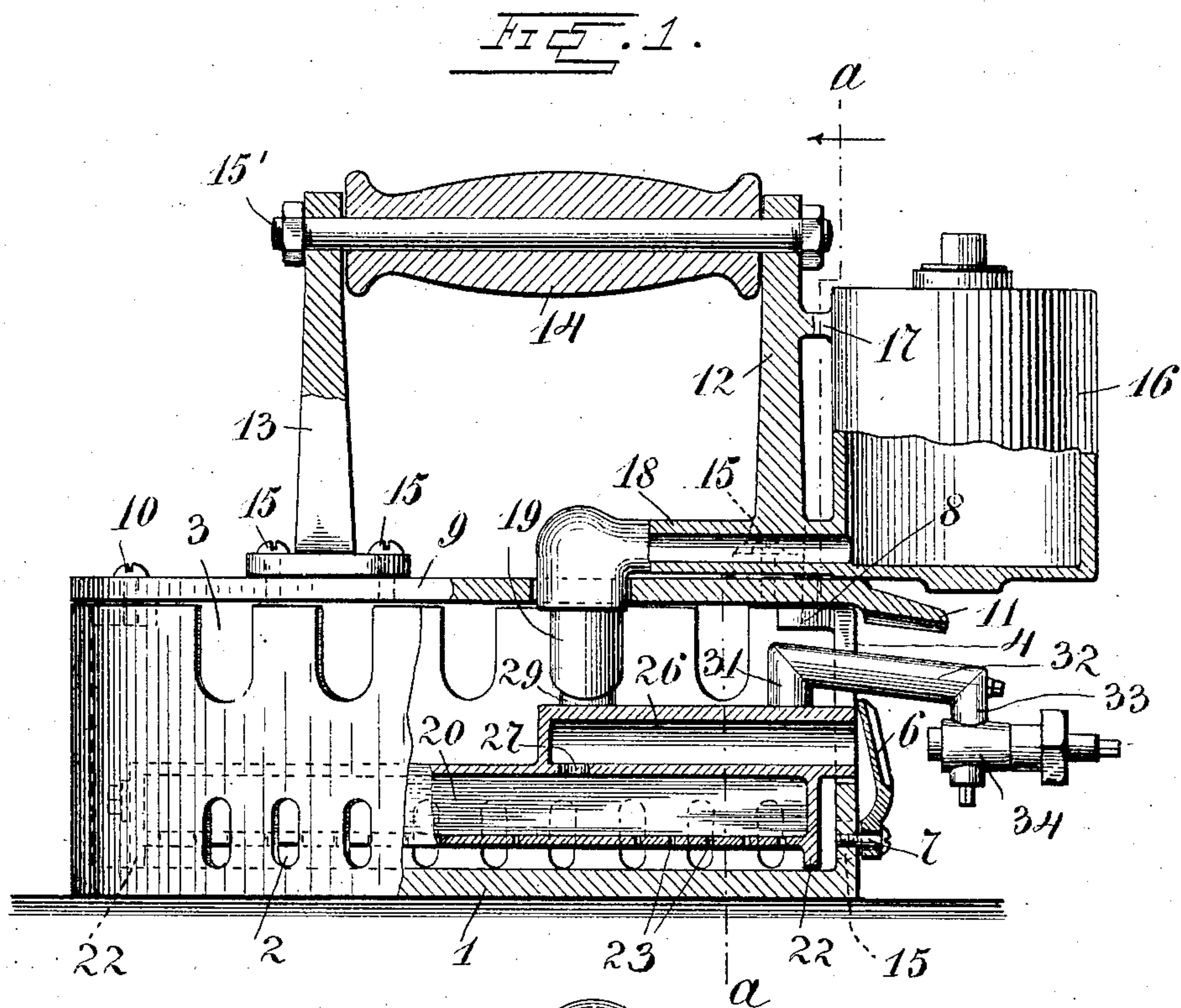


No. 786,439.

PATENTED APR. 4, 1905.

M. HOETGER.
SELF HEATING SAD IRON.
APPLICATION FILED MAY 31, 1904.



Witnesses

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UNITED STATES PATENT OFFICE.

MATHIAS HOETGER, OF ELKHART, INDIANA.

SELF-HEATING SAD-IRON.

SPECIFICATION forming part of Letters Patent No. 786,439, dated April 4, 1905.

Application filed May 31, 1904. Serial No. 210,610.

To all whom it may concern:

Be it known that I, MATHIAS HOETGER, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Self-Heating Sad-Irons; and I do 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.

My invention is an improved self-heating sad-iron; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is partly an elevation and partly a vertical longitudinal sectional view of a self-heating sad-iron embodying my improvements. Fig. 2 is a rear elevation of the same, partly in section, on the line *a a* of Fig. 1.

The body 1 of my improved sad-iron is hollow and open on its upper side and is provided in its sides with openings 2 3 at the lower and upper sides thereof, respectively. The openings 3 are larger than the openings 2. At the rear end of the iron is a vertical opening 4, which extends to the upper side thereof. Openings 5 are at the lower corners of the iron in its rear side, and the iron is provided with a fender-arm 6, which is pivoted thereto, as at 7, at its rear end and is adapted to be upturned, so as to partly close the opening 4 and to be turned downwardly, so as to clear the said opening. In the upper side of the iron body, at the front and rear corners of the same, are lugs 8.

The cover 9 of the iron is detachably secured thereto by means of screws 10, which engage threaded openings in the lugs 8. The cover of the iron is formed or provided at its rear end with a downwardly-inclined rearwardly-projecting fender 11, which is preferably curved transversely, as shown, with its concave side lowermost.

On the upper side of the cover 9 are standards or posts 12 13, to which the handle 14 is connected by means of a bolt 15. Each of the said standards or posts is provided at its

lower end with a foot, which is secured to the cover by means of screws 15. Formed integrally with the rear standard or post 12 is a reservoir vessel 16 for gasolene or other liquid hydrocarbon, a bar 17, which connects the upper end of the same to the said post or standard, and a longitudinal forwardly-extending tube 18, which projects from the lower portion of the reservoir, unites the latter to the said post or standard 12, extends forwardly from said post or standard, and is formed with downwardly-extending elbows 19, which pass through an opening in the cover 9 and enters the hollow body of the iron. To the lower end of the said elbow 19 is secured a burner 20, which I will now describe.

The burner-body 21 is tubular in form, is provided at its end with depending flanges 22, and has jet-apertures 23 in its under side. Near the rear end of the burner-body, on one side thereof, are jet-apertures 24. On the upper side of the burner-body, and here shown as formed integrally therewith, is a mixing-tube 26, the rear end of which is open and is adapted to project through the opening 4 in the rear end of the iron, the front end of the mixing tube or chamber being closed. The said mixing tube or chamber communicates at or near the front end thereof with the burner-body through an opening 27. On one side of the mixing tube or chamber 26, and here shown as formed integrally therewith and with the burner-body, is a retort-passage 28, comprising a vertical front arm 29, a horizontal intermediate arm 30, a vertical rear arm 31, and a rearwardly and downwardly extending discharge-arm 32, terminating in an elbow 33, provided with a needle-valve 34. The vertical arms 29 31 are united to one side of the mixing tube or chamber 26, and the intermediate horizontal arm 30 is opposite and spaced from that portion of the burner-body which is provided with the jet-apertures 24. The point of the needle-valve is disposed opposite and is appropriately spaced from the rear end of the mixing tube or chamber 26. The fender-arm 6 may be upturned to cover the rear open end of the mixing tube or chamber and

to lie between the same and the point of the needle-valve. It may be also turned to one side, so as to uncover the rear open end of the mixing tube or chamber.

5 The operation of my invention is as follows: Initially a lighted alcohol-lamp or other suitable device is placed under the needle-valve to heat the elbow 33 and arm 32 of the retort or generator-tube sufficiently to
10 convert gas therein into vapor. The fender 6 is then lowered and the needle-valve opened to cause the vapor to be discharged into the mixing chamber or tube, the latter drawing in a sufficient quantity of air to be mixed
15 with the vapor to render the latter highly combustible. The vapor and air thus commingled are discharged through the jet-orifices of the burner-body into the body of the hollow iron and are ignited and burned there-
20 in, hence heating the iron. The jets which are discharged against the intermediate portion 30 of the generator or retort-passage 28 heat the latter to such an extent as to convert the liquid fed from the reservoir to the
25 needle-valve into vapor. It will be observed that the burner-body extends longitudinally nearly entirely through the iron, so that the latter is heated from end to end.

From the foregoing description, taken in
30 connection with the accompanying drawings, the construction and operation of the inven-

tion will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be 35 resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters 40 Patent, is—

A burner of the class described comprising a tubular body having jet-openings, a mixing-chamber attached to the tubular body and communicating therewith, and a gener- 45 ating or retort passage on one side of the burner-body and of said mixing-chamber and comprising a vertical intake-arm, a horizontal intermediate arm, and a discharge-arm, the horizontal intermediate arm being 50 spaced from one side of the burner-body, the latter having jet-openings to direct flames against said intermediate arm, substantially as described.

In testimony whereof I have hereunto set 55 my hand in presence of two subscribing witnesses.

MATHIAS HOETGER.

Witnesses:

HARRY A. ZOOK,
A. D. JACOBY.