No. 610,836. Patented Sept. 13, 1898.

J. D. SULLIVAN.

FLAT IRON HEATER.

(Application filed Mar. 17, 1898.)

(No Model.)

Fig. 1.

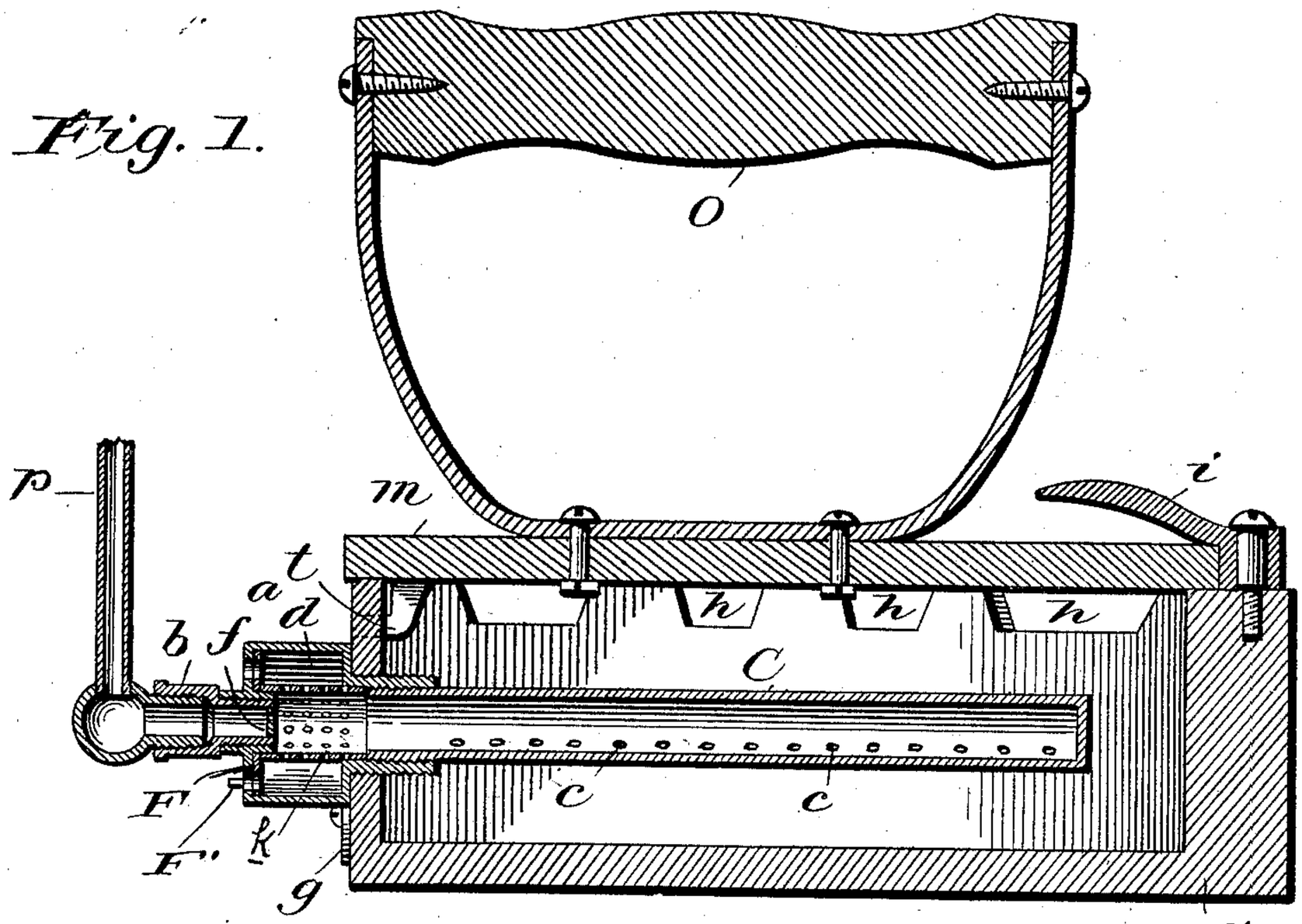


Fig. 2.

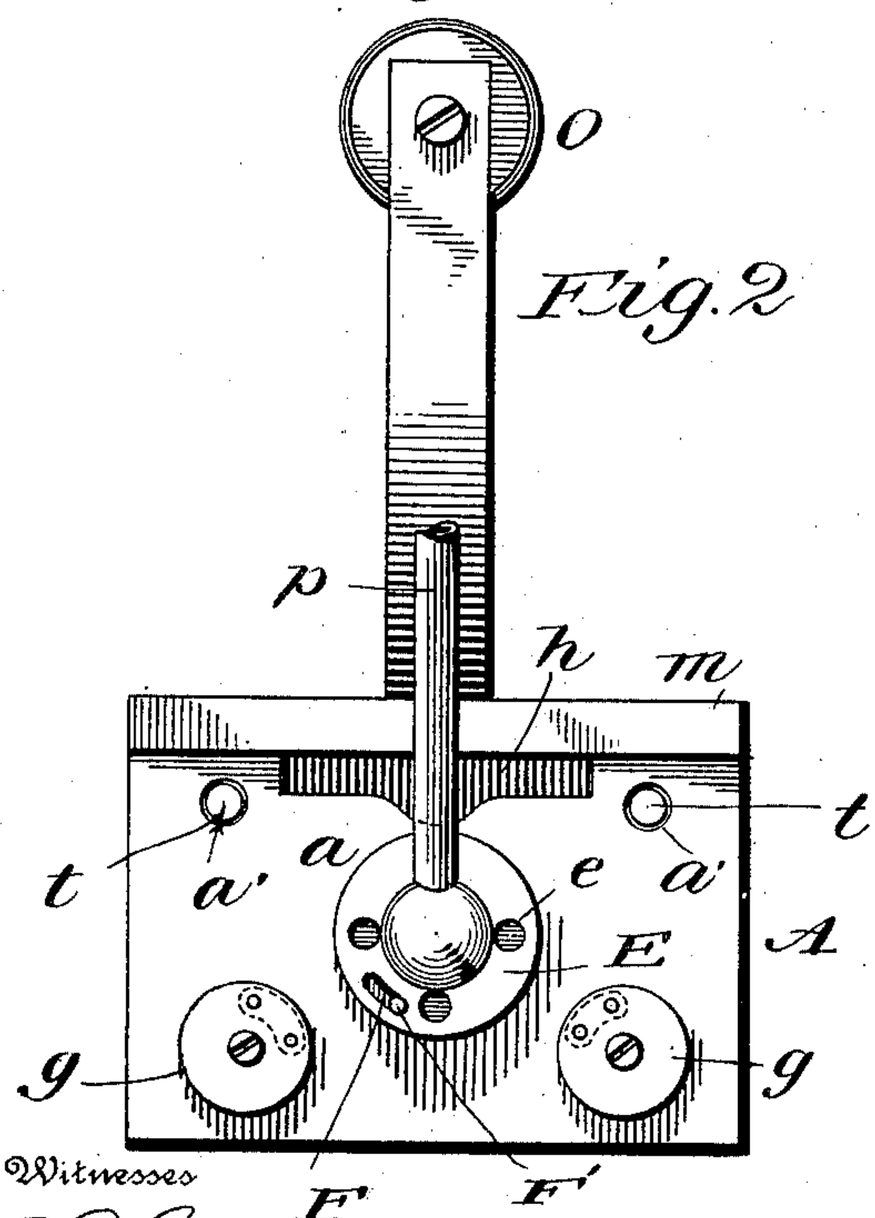


Fig. 3.

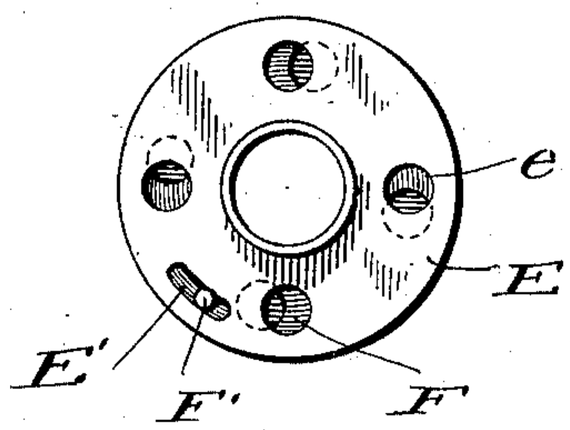
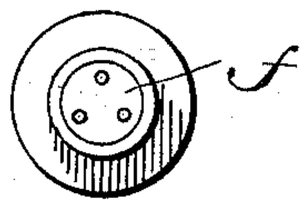


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN DEE SULLIVAN, OF POTSDAM, NEW YORK.

FLAT-IRON HEATER.

SPECIFICATION forming part of Letters Patent No. 610,836, dated September 13, 1898.

Application filed March 17, 1898. Serial No. 674,254. (No model.)

To all whom it may concern:

Be it known that I, JOHN DEE SULLIVAN, a citizen of the United States, residing at Potsdam, in the county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Flat-Iron Heaters; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in flat-iron heaters, and especially to a heater in which gas is used for fuel; and the objects of the invention are to provide for a thorough mixture of the gas with air before being burned, the provision of means for regulating a draft through valves and vents purposely placed, whereby a free supply of air is fed to the flame; and a still further object of the invention is to reduce to a minimum the consumption of gas required to heat the iron by causing the gas to pass through small perforations in a plate before it rises at the points of combustion.

My invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is a central vertical longitudinal section of my improved form of flat-iron heater. Fig. 2 is an end elevation of the same. Fig. 3 is an end elevation of the disk E, showing the means for regulating the supply of air to the mixing-chamber. Fig. 4 is a like view of the disk *f*.

Reference being had to the details of the drawings by letter, A′ designates the flat-iron, which is hollowed out and provided with a top *m*, which has lugs *t* at one end, which are adapted to be inserted in the apertures *a′*, while the forward end of the said cover is held in place by means of the pivoted lever *i*, which is swung over the edge of the cover when it is desired to lock it to the body of the iron, as is clearly shown in the drawings. Suitable vents *h* are provided about the upper margin of the iron to allow the escape of the heated air, and a handle O is fastened to the cover, whereby the lid may be easily removed or replaced. Mounted in the rear end of the iron is the union *a*, which is hollow, as shown in Fig. 1 of the drawings, and forms a mixing-chamber within which the gas and air are brought together before entering the combustion-chamber. This chamber is held in an aperture in the body of the iron and has connected to its inner end the tube C, having apertures *c* near its under side, through which the gas and air which have been previously mixed are allowed to escape and at which point the combustion takes place. Located in the enlarged end of the said mixing-chamber is the plate E, which is apertured at *e e*, and located immediately inside of the said apertured disk is a valve-disk F, which has secured thereto a lug F′, which may be worked back and forth in the elongated slot E′ in the disk E, whereby the supply of air that it is desired to have enter the mixing-chamber may be regulated by opening or closing the apertures in the disk E. Inside of the said chamber is the hollow perforated cylinder *k*, through which the gas coming from the union *b* passes, where it mixes with the air coming from portion *d*, surrounding the said perforated cylinder. This union *b*, which is connected to the mixing-chamber at one end and to the pipe *p*, which supplies the gas, has mounted therein a disk *f*, which has preferably three small apertures, as illustrated in Fig. 4 of the drawings, and through this plate the gas is caused to pass before entering the mixing-chamber.

Mounted on the rear end of the iron are the valves *g*, which are apertured and through which air is allowed to pass within the chamber of the iron.

If desired, a flexible tube may be connected to the pipe *p*, whereby the supply of gas may be constantly fed to the burner, or, if desired, the pipe may be disconnected should it be desired to carry the iron from place to place.

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

In a heater for flat-irons the combination with the shell of the flat-iron, of the mixing-chamber *a* having a contracted end, mounted

in the apertured end of the flat-iron, and adapted to receive a perforated burner-tube, of the threaded nipple mounted in the end of the enlarged portion of the mixing-chamber, the perforated cylinder *k* about the inner end of said nipple, and extending through into the contracted end of the shell comprising said mixing-chamber, the rotary apertured disk E mounted on said nipple, of the union *b* with contracted threaded end designed to fit in the outer end of the nipple, the apertured disk in the union, and the pipe connection with the enlarged threaded end of said union, as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN DEE SULLIVAN.

Witnesses:

ROBERT H. FENN,

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