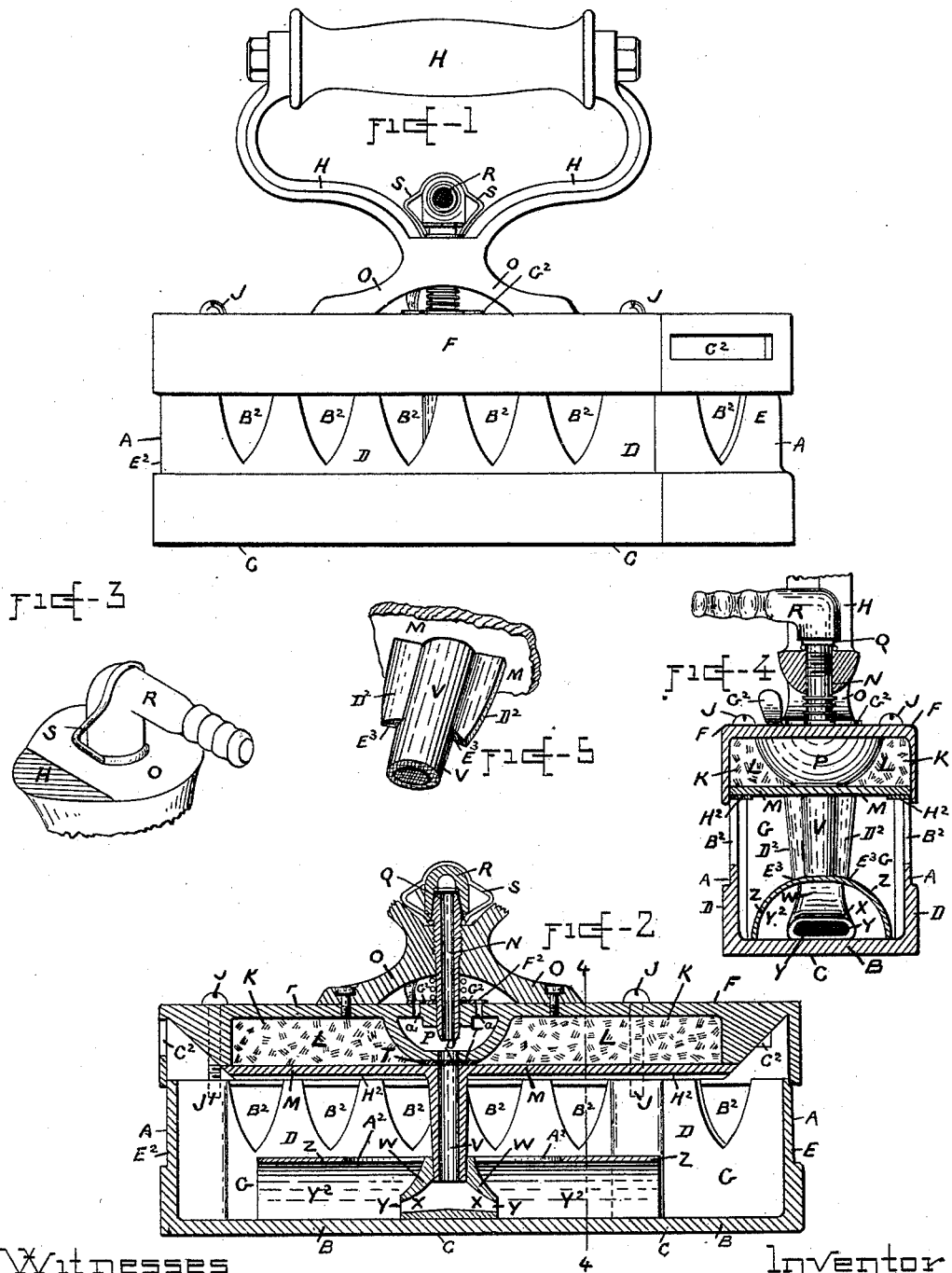


(No Model.)

J. DAVIS.
FLAT IRON.

No. 423,376.

Patented Mar. 11, 1890.



Witnesses

Frances M. Brown,
Geo. C. Bent-

Inventor

John Davis
by his Attorneys
Brown Bros.

UNITED STATES PATENT OFFICE.

JOHN DAVIS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GEORGE H. BAILEY,
OF SAME PLACE.

FLAT-IRON.

SPECIFICATION forming part of Letters Patent No. 423,376, dated March 11, 1890.

Application filed February 18, 1888. Serial No. 264,535. (No model.)

To all whom it may concern:

Be it known that I, JOHN DAVIS, of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Flat-Irons, of which the following is a full, clear, and exact description.

The invention consists of certain features of construction of the flat-iron, all substantially as hereinafter described, and pointed out in the claims.

In the drawings, forming part of this specification, Figure 1 is a side view of the flat-iron. Fig. 2 is a central longitudinal vertical section of Fig. 1. Figs. 3 and 5 are perspective views in detail, as will hereinafter appear. Fig. 4 is a transverse vertical section on line 4 4, Fig. 2.

In the drawings, A is the body of the flat-iron of this invention, and this body has a bottom B, provided exteriorly with a smoothing or ironing surface C and sides D D, front and rear ends E E², and a top F, the whole making an inclosed chamber G, having air and gas communications, all substantially as well known and otherwise in accordance with this invention, as hereinafter particularly explained.

H is the handle suitably secured to the top F, and the top is made separate from the sides and ends of the flat-iron and secured thereto by screws J, entered through it and screwing into the side walls, two screws on each side. Again the top has a chamber K on its under side extending along its width and length and lying above the chamber G of the flat-iron. This chamber K is closed on all sides, and is filled with asbestos L, or other suitable non-conductor of heat, which prevents the conduction of heat through the top of the flat-iron to the hand of the user. The bottom plate M of this asbestos-filled chamber K of the top F is detachably attached—as, for instance, by means of screws, (not shown,) so that it may be readily removed.

N is a nipple screwed into and through the central part of the base-plate O of the handle H, and projected into an inclosed chamber P of the top, having holes *a* for the admission of air thereto. The base-plate O is open on its opposite sides (see Figs. 1, 2, and 4) and

the air-holes *a* communicate with the open sides of the base-plate. This chamber P is the air and gas mixing chamber, and over the outer projecting end Q of the nipple N is an elbow gas-pipe fitting R, connected by elastic tubing (not shown) to the gas-supply. This elbow-fitting R is confined on the nipple N against accidental detachment by a stirrup-shaped wire spring S, having its legs pressing on and against the nipple at its opposite sides and passing over the top of the elbow-fitting R, (see Figs. 1, 2, and 3;) but the elbow-fitting may be confined on the nipple in any other well-known way, the way particularly described forming no part of this invention. The air-mixing chamber is at the central part of the asbestos-filled chamber K, but closed therefrom, and it bears on the detachable plate M of said chamber, and the bearing is packed with asbestos, as at T, or other suitable non-conductor of heat and its so-bearing portions. Said asbestos packing and said detachable plate M have a coincident passage U through them continued with a tube V, preferably integral with said plate. This tube V at its lower end communicates with a block-tip W, resting on the inside of the bottom of the iron, and having opposite projecting arms X in the direction of the length of the iron, and each of which has an opening Y, elongated in the direction of the width of the bottom. The gas from the gas-supply passes first into and through the gas and air mixing chamber P, and thence into the tube V and out through the openings Y. This block-tip W is within a horizontal chamber Y² at and along the bottom of the flat-iron, and having an arch-shaped top Z of nearly the full width of and resting on the bottom of the flat-iron. This arch-shaped top Z extends partially along the length of the bottom, and the chamber made by it at each end is open to the inclosed chamber G of the flat-iron as also at the top through an opening A² in its central portion. B² B² are apertures in the side walls of the flat-iron for the admission of air to its inclosed chamber G, and C² C² are apertures at each end of the top, also making communication with said inclosed chamber.

In the flat-iron described the gas supplied is mixed with air in the gas and air mixing

chamber P, and thence passes and is consumed at the elongated openings Y of the tip-block, which, acting in conjunction with the arched top, spreads its flames over the inner surface of the bottom of the iron, the vapors therefrom escaping at the open ends of said arched top Z.

As the combustion above stated goes on, the air passing in through the openings in the sides of the flat-iron furnishes a draft of air through the openings A² of the arched top to the gas-burning chamber thereunder, which increases the attenuation of the gas-flames and gives increased action thereto on the inner surface of the bottom of the iron to heat the same.

The tube V, leading from the gas and air mixing chamber P to the gas-burning chamber Y², has side wings D², Fig. 5, the ends E³ of which abut against the top of the arched top of said chamber, and when the flat-iron top F is attached by the screws J, as has been described, said arched top is consequently bound and held firm against the bottom of the flat-iron, and all parts of the iron body are thus made fast and firm—plainly a most simple and efficient construction and arrangement.

The air-ports *a* of the air and gas mixing chamber P are regulated in size and opened and closed by means of a rotating register-plate G², having corresponding ports suitably applied for that purpose and which constitutes no part of this invention.

The detachable top F overlaps the sides and ends of the body A, and rests by its inner detachable plate M on the upper edges of the sides, with a packing of asbestos H² or other suitable non-conductor of heat interposed between said plate and said edges.

The flat-iron described is most simple, and in its use secures the greatest amount of heat to its bottom with a minimum consumption of gas. Again the gas-flames are most efficiently spread over the inner surface of the bottom of the iron and the radiation of heat through the top of the iron practically reduced to the minimum.

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

1. The combination, with a flat-iron body having a chamber G, with openings B² on its opposite sides, of a handle H, having a central base O, with side openings and secured to central portion of flat-iron top F, an inclosed chamber P at central portion of said top F, ports *a*, making air communication with chamber P and side openings of said handle-base O, a tubular nipple N, open at its opposite ends and passed through and held in handle-base O and flat-iron top F and entered into chamber P, an elbow-fitting R, held on outer end Q of nipple N and to be connected by pipe with a gas-supply, a chamber Y² within chamber G of flat-iron body, and having an arched top Z, extending lengthwise of and held on the flat-iron bottom and open at its opposite ends and along its top, a tube V, leading from chamber P into chamber Y², and a tip-block W of said tube V, and within chamber Y², and having elongated openings Y on its opposite sides and toward the opposite open ends of chamber Y², as described, for the purpose specified.

2. The combination, with a flat-iron body A, having a chamber G, with openings B² on its opposite sides, of a removable top F for body A, screws J, attaching top to body A, a chamber Y², within said chamber G and along and lengthwise of the bottom of the flat-iron, an arched top Z for said chamber Y² open at its opposite ends, a gas-tube V, held by and entered through the flat-iron top F, the tube V passing through said arched top Z into chamber Y², and wings D² on opposite sides of tube V bearing upon said arched top, substantially as described, for the purpose specified.

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

JOHN DAVIS.

Witnesses:

ALBERT W. BROWN,
FRANCES M. BROWN.