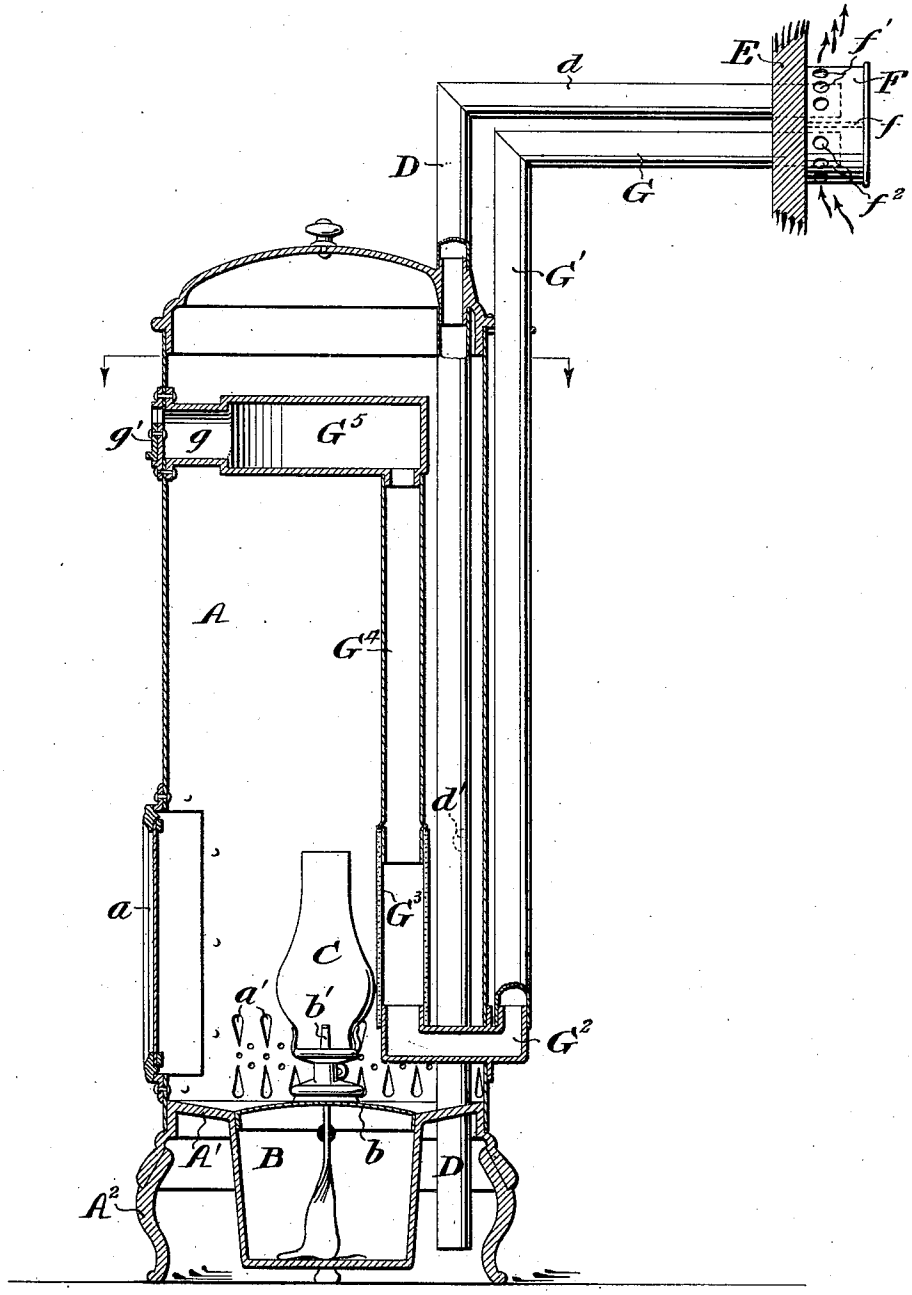
No. 686,393. Patented Nov. 12, 1901.

W. DAWSON.

HEATING APPARATUS.

(Application filed Aug. 3, 1900.)

(No Model.)



WITNESSES:

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HEATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 686,393, dated November 12, 1901.

Application filed August 3, 1900. Serial No. 25,729. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DAWSON, a citizen of the United States, residing at No. 6220 Morton street, Germantown, in the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Heating Apparatus, whereof the following is a specification, reference being had to the accompanying drawing.

Said drawing represents a vertical central section through a heating apparatus embodying my invention in its preferred form.

The purpose of my invention is to provide a device whereby a room may be heated by means of a small burner, such as an ordinary kerosene-lamp, and at the same time ventilated by the action thereof, so that not only shall the products of combustion be discharged at a point exterior to the room, but a constant supply of fresh air shall be drawn in and distributed.

Referring to the drawing, A represents a sheet-metal body, preferably cylindrical in form, supported upon a base A′, having legs A^2, a door *a* being provided to afford access to the lamp. Perforations *a′* are made in the lower portion of the body to admit air for support of combustion in the lamp. The lamp proper consists of a receptacle B, which in the instance shown is made integral with the base A′ of the body and closed by a cover *b*, said cover supporting the burner *b′* and chimney C. A pipe D extends longitudinally through the body, opening at its lower end close to the floor and being conducted, by means of an elbow and lateral extensions *d* above the body, to a point of discharge exterior to the room—as, for instance, through a board E, which may be inserted beneath the partially-raised sash of a window. (Not shown.) The outer end of the extension *d* discharges into a hood or cap F external to the room, said cap being divided by a horizontal partition *f* into two compartments, the upper of which receives the end of the extension *d*. Holes *f′* are provided in the upper portion of the cap to afford an escape for the contents of the pipe D and extension *d*, which together constitute the discharge-flue.

At a point within the stove-body and preferably opposite to the upper end of the lamp-chimney C a hole *d′* is made in the pipe D, into which the smoke and products of combustion of the lamp are drawn by the updraft within said pipe.

A fresh-air pipe G leads in from the lower compartment of the hood F, which latter is provided with openings f^2 to admit air. Said pipe G connects by an elbow with the vertical pipe G′, which leads down to the lower portion of the body A and then enters the same by the double elbow G^2 and is prolonged upwardly within the body. The portion G^3 immediately adjacent to the lamp-chimney is formed of or covered by non-heat-conducting material, such as asbestos. Above this the portion G^4 is formed of metal and leads into an enlarged drum G^5, supported near the top of the body. Said drum is provided with an exit-pipe *g*, leading out through the side of the body near its top, the orifice being controlled by an ordinary register *g′*.

The operation of the device is as follows: The lamp being lighted, the products of combustion and the hot air from the chimney diffuse themselves throughout the body A and impinge upon the drum G^5 and pipe G^4, so as to heat the same to a high temperature. The portion of the pipe which is immediately adjacent to the lamp-chimney being made of non-conducting material is less heated, and thus the lower portion and elbow are relatively cool as compared with the drum G^5 and pipe G^4. The object of this method of construction is to prevent the undue heating of the lower portion of the pipe and the communication of the heat to the exterior parts, such as the outer end of the elbow G^2 and vertical pipe G′, which might occasion an updraft of air therein or impede the access of fresh air. The smoke and products of combustion within the body escape through the orifice *d′* into the pipe D and draw the foul air from near the floor of the room up through said pipe along with them. The contents of the discharge-flue find an exit through the upper compartment of the hood F at the openings *f′*. The fresh air entering the pipe G

is drawn down and then up into the drum G^5, where it is heated and finds its exit through the register g' into the room.

By means of the apparatus just described a comparatively small lamp will supply sufficient heat for a room without any smell of smoke or escape of foul air from the lamp itself and will, moreover, draw in a constant supply of fresh air, discharging a corresponding quantity of foul air drawn from near the floor.

I have described the portion of the pipe immediately adjacent to the lamp-chimney and indicated at G^3 as being constructed of or covered by non-heat-conducting material; but it is obvious that a similar result might be obtained by properly shielding or isolating that portion of the pipe, and I therefore wish it to be understood that I intend to comprehend such device within my claims.

Having thus described my invention, I claim—

1. The combination of a body; a burner contained therein; a discharge-flue having its lower end opening outside of the body and near the base thereof, said flue extending longitudinally with the body, and being provided with an opening which communicates with the interior of the body to permit the discharge of the products of combustion through said flue; a drum arranged within said body above said burner, and having a discharge-orifice exterior to the body; a fresh-air-inlet pipe leading from a proper point and upwardly prolonged within said body to communicate with the interior of said drum, the portion of said pipe which is adjacent to the burner being of non-heat-conducting material, substantially as set forth.

2. The combination of a body; a burner contained therein; a discharge-flue having its lower end opening outside of the body and near the base thereof, said flue extending longitudinally with the body, and being provided with an opening which communicates with the interior of the body to permit the discharge of the products of combustion through said flue; said flue leading to a proper point of discharge; a drum arranged within said body and above said burner, and having a discharge-orifice exterior to the body; a fresh-air-inlet pipe leading from a point adjacent to but below the termination of the discharge-flue, and upwardly prolonged within said body to a point of communication with said drum, the portion of said inlet-pipe which is adjacent to the burner being of non-heat-conducting material; and a subdivided hood arranged with reference to the air-inlet and discharge-flue outlet, substantially as set forth.

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Witnesses:
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