

W. C. DURANT.
Magazine Stove.

No. 65,184.

Patented May 28, 1867.

Fig. 2

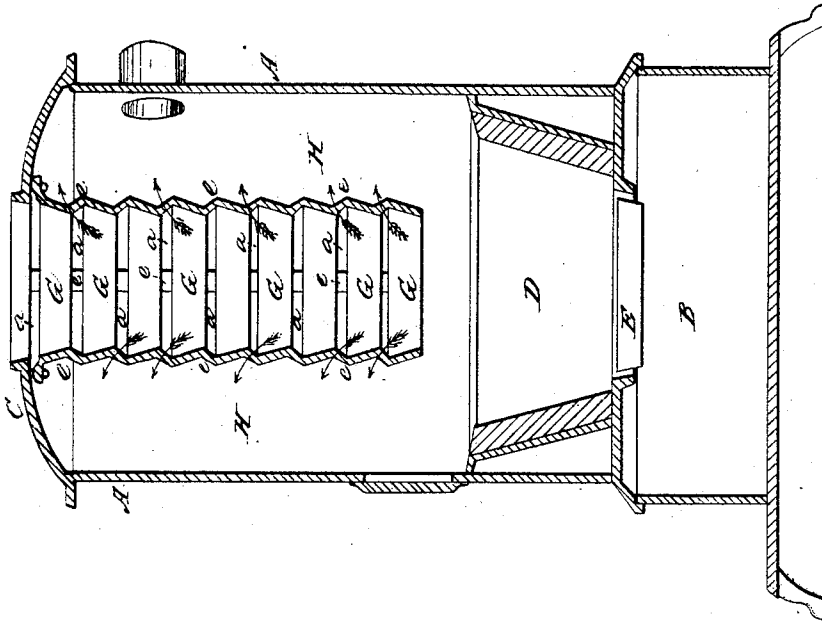
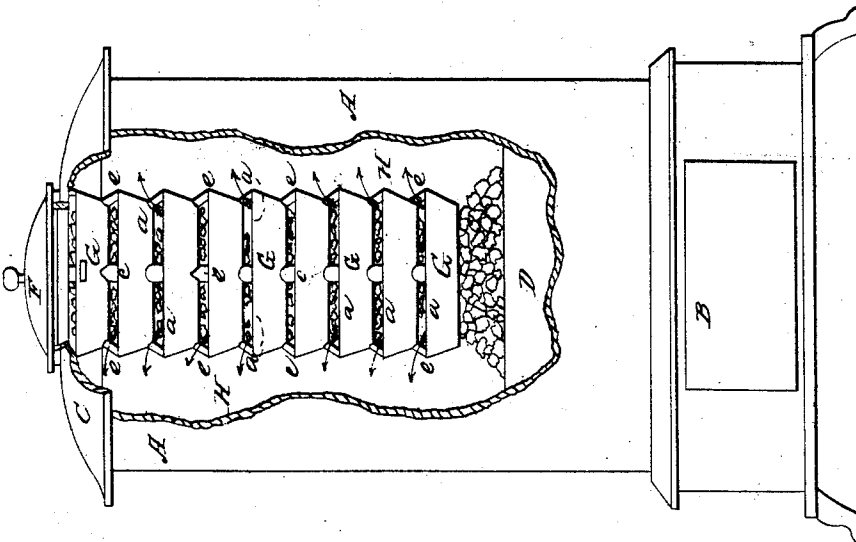


Fig. 1



Witnesses:

Wm Burwell
Hm Wood

Inventor:

Wm C Durant

United States Patent Office.

WILLIAM C. DURANT, OF WEST TROY, NEW YORK.

Letters Patent No. 65,184, dated May 28, 1867.

BASE-BURNING STOVE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM C. DURANT, of West Troy, in the county of Albany, and State of New York, have invented certain new and useful improvements in the construction of fuel reservoirs of "Base-Burning" Stoves; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, and to letters of reference marked thereon, and forming a part of this specification, in which—

Figure 1 represents a side elevation of said improved fuel reservoir; and

Figure 2 represents a vertical section taken through fig. 1.

The same letters have reference to like parts in each of said figures.

The nature of my said invention consists in making or constructing the sides of a fuel reservoir of "base-burning" stoves in such a manner that there shall be a series of apertures or openings through the same, said series extending in succession horizontally from the base or throat of the reservoir upward to its top part, in manner substantially as and for the purpose hereinafter fully set forth. My said invention also consists in the combination with said series of apertures or openings, and with each other respectively, of a series or set of deflector-plates, bands, or rings, said series of deflector-plates or rings extending in succession from the bottom part of said reservoir upward to its top. By this manner of construction substantially an open or skeleton-sided fuel reservoir is constituted, and having combined therewith, and respectively with each other, a series of deflector-plates or rings, which extend in alternate succession with said apertures the whole height, from bottom to top, of the reservoir, in manner substantially as and for the purpose hereinafter fully described and shown.

To enable others skilled in the art to make and use my said invention, I now proceed to fully describe its construction and use.

A, B, and C, of annexed drawings, show respectively the sides or outer casing, the base and ash-pit, and the top of a heating stove of the ordinary or usual manner of construction, of which D is the fire-pot and E the fire-grate. My improved construction of the fuel reservoir, from its bottom upward to its top, is as follows: G G is a series of deflector-plates, bands, or rings, whose outer or deflecting sides respectively are inclined outward and downward, in manner substantially as shown, or in such manner that the said plates or rings, when properly arranged adjacently one above the other, and connected for use as a fuel reservoir, they then resemble externally a series of inverted frusta of a cone. These said deflector-plates or bands, or a series of plain, flat rings or hoops, when used in their stead, are respectively arranged adjacently, one above the other, and connected together throughout the whole series employed by means of cast or attached distinct connecting parts *e e e*, and in such manner as to form or leave a series of openings or apertures, *a a a*, between the connecting parts *e e e* and the top and bottom parts of each respectively adjacent deflector-plate or band, or flat rings or hoops instead, and said series of apertures or openings *a a a*, extending in alternate succession with said series of deflector-bands or hoops from the base or throat of the fuel reservoir upward to its top part or throughout its entire height, in manner substantially as shown in annexed drawing.

When I do not use the deflector-plates or bands, I then substitute instead a series of ordinary hoops or flat bands connected respectively one adjacent to and above the other in succession by connecting parts, and in manner to form successively, in alternate succession with said hoops, openings or apertures *a a a*, as before described, and extending in a series from top part to bottom part of the fuel reservoir. But in practice I prefer the deflector-bands or plates, because of their ability to produce much better results. In manufacturing these improved fuel reservoirs, for purposes of convenience and economy therein, I make said reservoir in parts or sections of two or more, each section extending from top to bottom, or being equal to the whole height of the reservoir. These sections are then cast separately, and afterwards united by rivets or bolts to form the complete fuel reservoir, such substantially as above described, and shown in the annexed drawings. This improved fuel reservoir is suspended within the combustion or flame-chamber H from the top plate of the stove, or it may be sustained in such proper position by lateral projecting arms or supports, which secure it to the outer wall or casing enclosing the flame-chamber of the stove.

The object of this improved construction of fuel reservoir for "base-burning" stoves is to provide such fuel reservoirs as have their location wholly or have their whole length suspended entirely within the combustion or

flame-chamber of the stove, with, first, a series of outlet holes or apertures formed or made through the side walls of the reservoir, in manner as hereinbefore set forth, that the gases of combustion rising into said fuel reservoir from ignited fuel below, or generated therein by the heat of the surrounding combustion-chamber, may escape therefrom through the outlets or apertures aforesaid into said surrounding chamber; and, secondly, in order to facilitate and induce free escape of said gaseous products of combustion, as fast as rising into and generated therein, from the reservoir through said lateral apertures, the series of deflector-plates or bands is provided and arranged in combination with said apertures and with each other respectively, in manner as hereinbefore fully set forth, and by means of said series the escaping currents of gases are deflected outward about in manner as shown by the red arrows in the annexed drawings, and much more rapidly and effectively than they would be without the aid of such devices.

Hence, by the operation of the aforesaid combined serial devices of apertures and deflector-plates or bands, the fuel reservoir is well and continually ventilated of all heated combustible gases rising or generated therein; and thus is prevented any collection of heated gases within the same to ignite the supply of fuel from its base up and throughout its entire body, as contained in said reservoir. This good result obviates what has been heretofore the principal defect in the operation of "base-burning" stoves.

What I claim as my invention, and desire to secure by Letters Patent, is—

A fuel reservoir of "base-burning" stoves, having a series of horizontal apertures or openings, *aaa*, formed in and through its sides, said series of openings or apertures extending in succession from its base part upward to its top part, in manner substantially as herein described and for the purpose set forth.

Also, in combination with said series of apertures or openings *aaa*, and respectively with each other, I claim a series of deflector-plates or bands, *G*, said series extending in alternate succession with said apertures from the base part or bottom of the reservoir upward to its top, in manner substantially as herein fully set forth and for the purpose specified.

WM. C. DURANT.

Witnesses:

WM. BURWELL,

WM. WOOD.