No. 707,990. Patented Aug. 26, 1902.

W. VOGEL.

HEATING DRUM.

(Application filed Nov. 19, 1901.)

(No Model.)

Fig. 1.

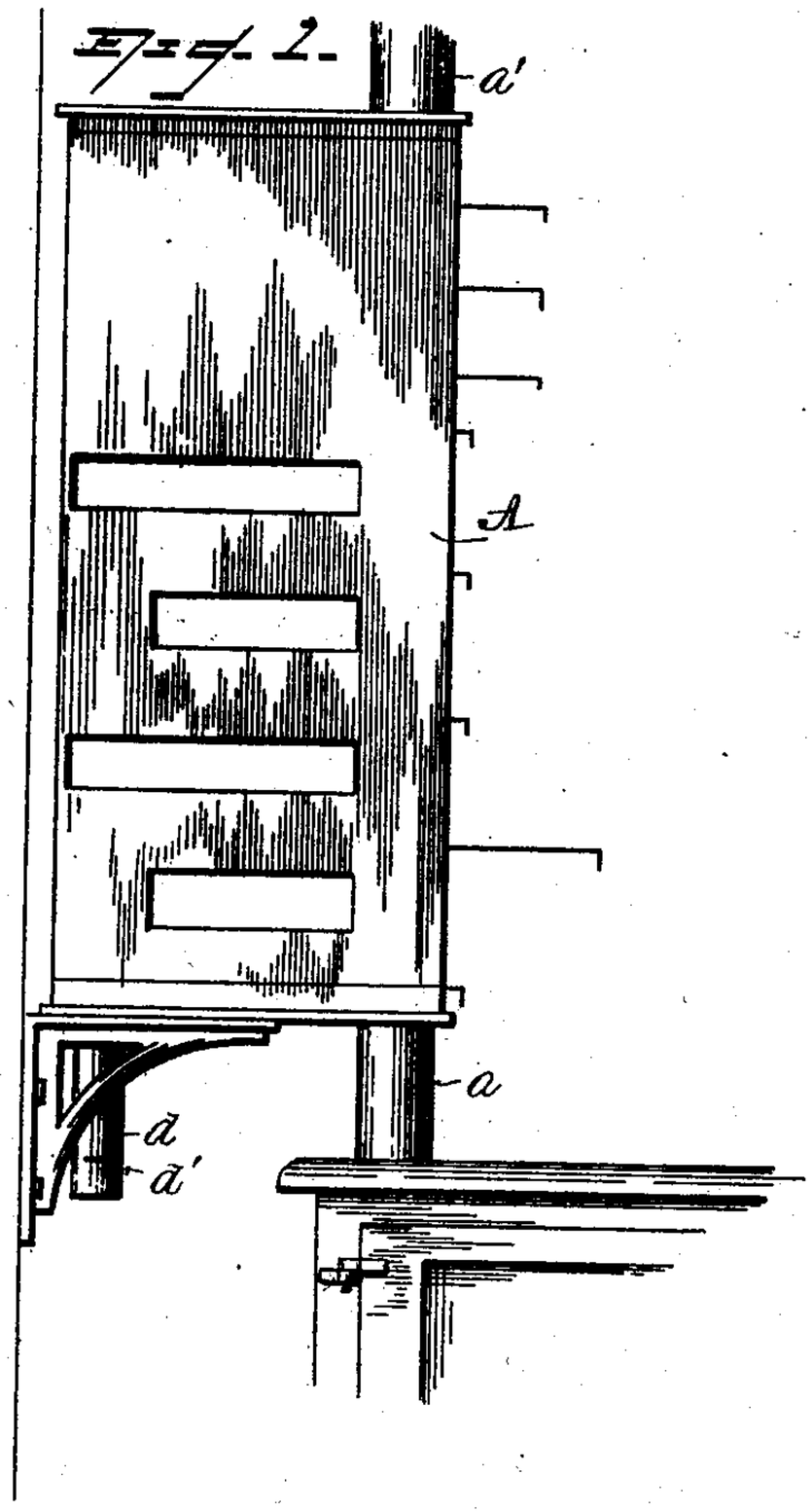


Fig. 2.

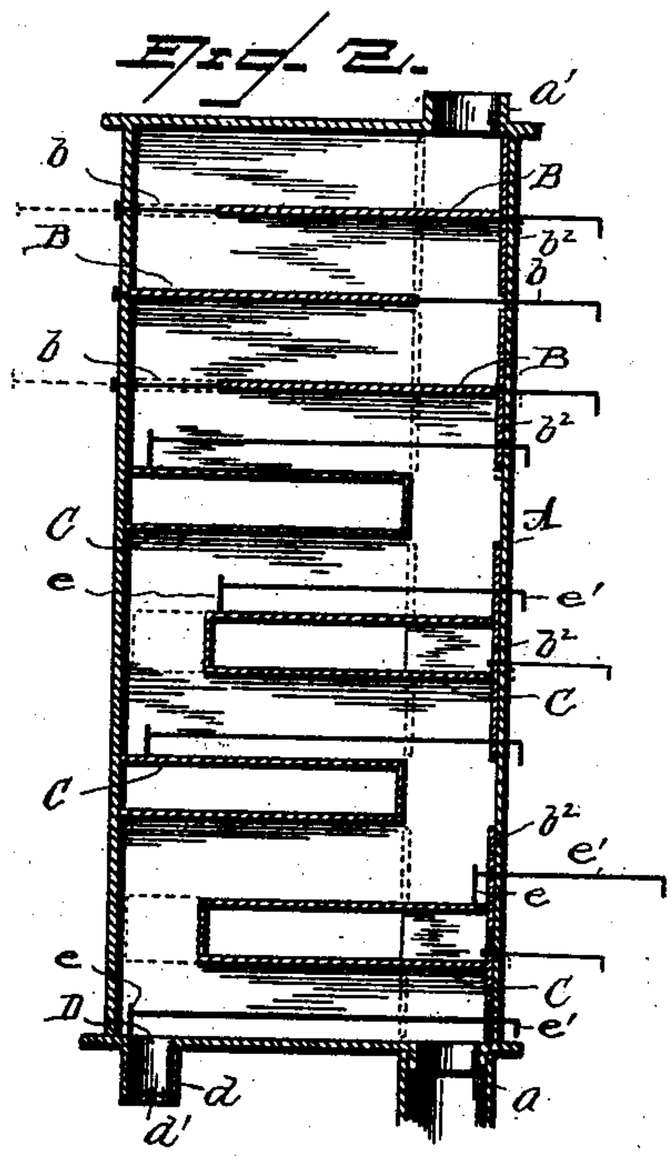


Fig. 3.

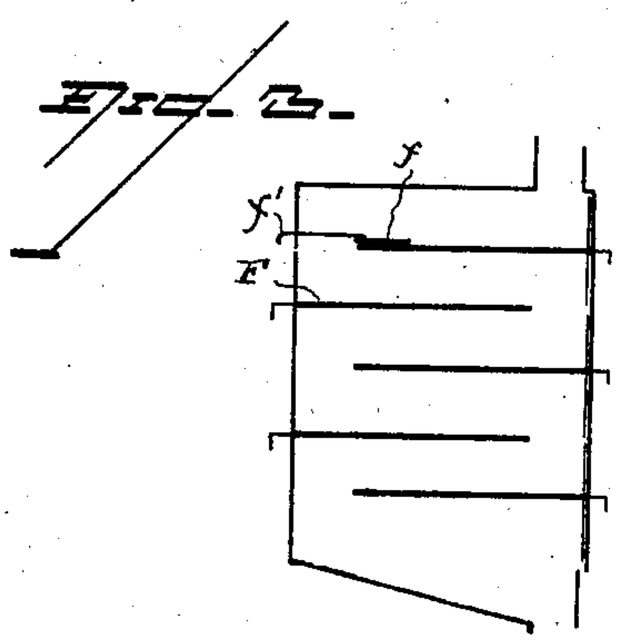


Fig. 4.

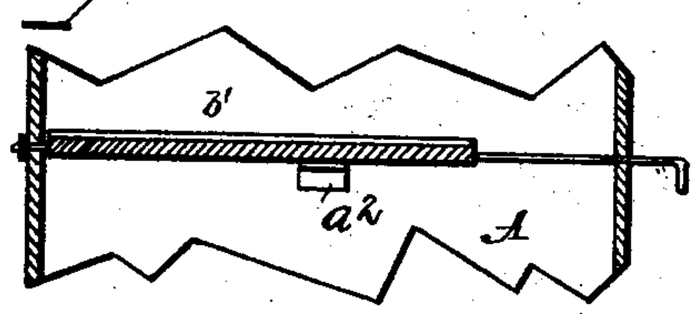
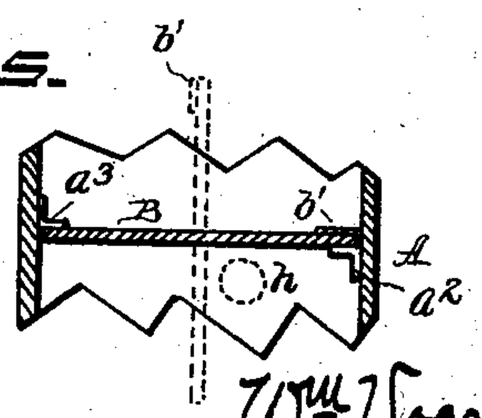


Fig. 5.



Witnesses:-
R. J. Beall
F. S. Magnire.

Wm. Vogel,
Inventor,
by John V. Thomas & Co.,
Attorney S.

UNITED STATES PATENT OFFICE.

WILLIAM VOGEL, OF HARTLEY, IOWA.

HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 707,990, dated August 26, 1902.

Application filed November 19, 1901. Serial No. 82,905. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM VOGEL, a citizen of the United States, and a resident of Hartley, in the county of O'Brien and State of Iowa, have invented certain Improvements in Heating-Drums, of which the following is a specification.

The object of this invention is to provide a simple, cheap, and effective heating-drum which is connected to the smoke-pipe of a stove, so that the products of combustion or smoke will be caused to take a circuitous route through the drum, and thereby produce a greater heat-radiating surface, provision being made for allowing the smoke to pass directly through the drum to give the required draft to the stove when needed.

The invention also contemplates a peculiar construction and arrangement of partition-plates in the drum to provide for the direct and circuitous passages for the smoke and to also provide for effectually cleaning the drum of ashes.

The following specification enters into a detail description of my invention, reference being had to the accompanying drawings and to letters thereon, which designate the different parts, and what I claim in the particular construction and combination is more specifically set forth in the appended claims.

In the drawings which form a part of this specification, Figure 1 is a side elevation of a heating-drum constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a view showing a drum provided with the horizontal partition-plates only. Fig. 4 is a longitudinal sectional view of one of the partition-plates. Fig. 5 is a transverse sectional view of one of said plates.

Referring to said drawings, A designates the casing of the heating-drum, which is connected at its lower end directly to the stove by a short pipe a and at its upper end to a pipe a', which extends to the chimney or flue. Though I have shown this casing connected directly to the stove by a short pipe, it will be understood, of course, that the drum may be located in another room from the stove and connected thereto by pipe. The casing is preferably rectangular or square in shape, though it may be oval or round.

Located in the upper part of the casing A are a number of partition-plates B, arranged horizontally and disposed in different planes, the said plates projecting alternately from opposite sides of the casing to provide a circuitous passage for the smoke. Each plate is fastened to a rod b, which is swiveled in the sides of the casing, so that the said plate can be turned similar to an ordinary damper. One edge of the plate is also provided with a weight b' to hold the plate horizontally, the said weighted edge resting on a support a^2, while the opposite edge bears against the under side of a similar support or shoulder a^3. The partitions at one side of the casing are provided with a vertical wall b^2 for the purpose hereinafter stated. The drum may be provided with horizontal plates only, as shown in Fig. 3, or it may be provided with boxes C, projecting alternately from opposite sides, as shown in Figs. 1 and 2, the said boxes opening out at the sides of the casing or drum to permit air to pass through the drum and be heated. By providing these boxes an increased heat-radiating surface is presented, and said boxes may be used as shelves for keeping food warm when the drum is used over a cook-stove.

In the bottom of the drum at the side opposite the connecting-pipe a is an opening D, through which the soot drops from the drum when cleaning same, the said opening having a pipe d with a door d'.

To provide for cleaning the drum when the boxes C are employed, I use scrapers e, having handles e' extending through one side of the drum, the said scrapers being located upon the boxes, so that they may be drawn across the same.

In cleaning the drum the partition-plates B are each given a half-turn, which will deposit the soot upon the boxes C, and the soot from the upper box is scraped to the next lower, and so on, until it is deposited upon the bottom of the drum, from which it is scraped into the opening D and through the pipe d into a receptacle placed at the lower end of said pipe, the door d' being open. It will be noted, therefore, that simple and effective means are provided for readily and conveniently cleaning the drum of soot, and as soot quickly accumulates in a heating-

drum of this character this is an important feature of the invention.

When the partition-plates and boxes are arranged as shown in the drawings, the smoke will be caused to pass around the ends of said plates and boxes in a circuitous passage and heat all sides of the drum or casing to radiate a great amount of heat. Thus the heat from the smoke is utilized to the best advantage in heating the room. When a direct draft is required, the partitions at one side of the drum are moved horizontally to bring the plates b^2 on a vertical line against the other partitions, forming a straight passage through the drum.

I have shown both the horizontal partition-plates and the boxes and may use them in combination or either one alone, and therefore desire protection by patent upon either one or both. The drum may be provided with a damper *f*, Fig. 3, and may be also provided with a tube *h*, Fig. 5, under the plates when said plates are used alone, the said tube forming an air-passage through the drum.

The advantage of a heating-drum for utilizing the heat from smoke will be readily appreciated and will serve to heat a room over a kitchen or room containing a stove, the particular construction of the drum providing a direct draft when needed, forming practically a continuation of the smoke-pipe.

The drum can be cheaply manufactured from sheet metal and can therefore be sold at comparatively small cost.

Having thus described my invention, I do not wish to be limited in what is herein particularly shown and described, but reserve the right to modify or change the construction within the spirit and scope of my claims.

I claim—

1. In a heating-drum, the combination with the casing connected at its ends to the stove and smoke-pipe, horizontal plates slidably mounted therein, rods connected to said plates, and a wall at one end of the plates, substantially as shown and described.

2. In a heating-drum, the combination, of the casing connected at its ends to a stove and smoke-pipe, horizontal plates swiveled in the drum or casing, rods connected to said plates, a wall at the outer end of the plates at one side of the drum, and supports for said plates, one edge of each plate being heavier than the other, substantially as shown and described.

3. In a heating-drum, the combination, of the casing connected at its end to a stove and smoke-pipe, horizontal plates swiveled in the drum or casing and located at one end thereof, boxes in the other end of the casing, scrapers mounted in the casing upon the boxes, and handles connected to said scrapers, the bottom of the drum having an opening through which the soot is deposited, substantially as shown and described.

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

WILLIAM VOGEL.

Witnesses:

EDWARD EWELDT,

L. A. VAN GALDER.