(No Model.)

# S. ANDERSON.

## STOVE PIPE DRUM OR HEAT RADIATOR.

No. 346,256. Patented July 27, 1886.

Fig. 1.

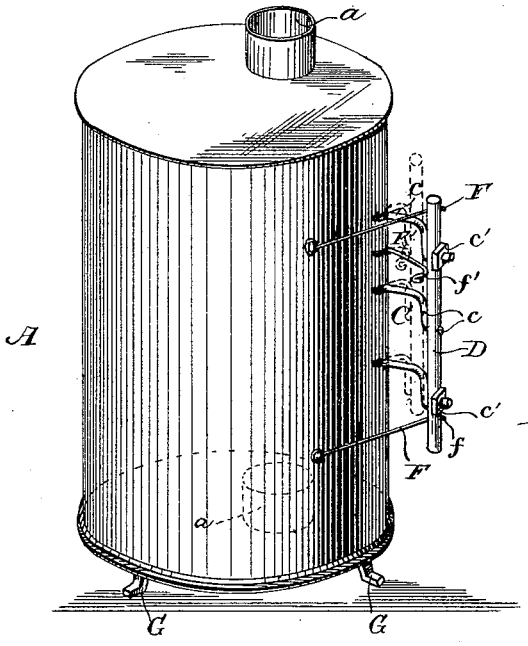



Fig. 2.

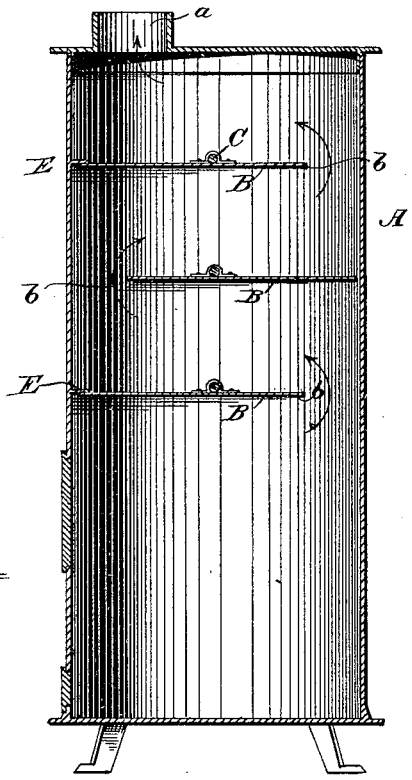



Fig. 4.

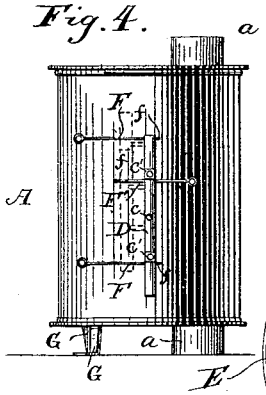
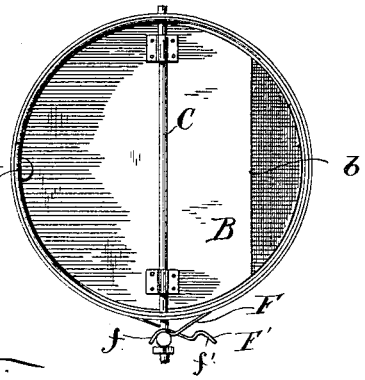



Fig. 3.




Witnesses:

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# UNITED STATES PATENT OFFICE.

SILAS ANDERSON, OF OWATONNA, MINNESOTA.

## STOVE-PIPE DRUM OR HEAT-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 346,256, dated July 27, 1886.

Application filed August 10, 1885. Serial No. 173,908. (No model.)

*To all whom it may concern:*

Be it known that I, SILAS ANDERSON, a citizen of the United States, residing at Owatonna, in the county of Steele and State of Minnesota, have invented certain new and useful Improvements in Stove-Pipe Drums or Heat-Radiators, of which the following is a specification, reference being had to the accompanying drawings.

Figure 1 is a perspective view of the drum. Fig. 2 is a vertical central section showing the drum applied to a stove. Fig. 3 is a top plan view, the upper plate of the drum being removed. Fig. 4 is a side elevation of the drum.

This invention belongs to that class of devices known as "heating-drums" or "radiators;" and the particular novelty consists in the construction, arrangement, and combination of all the parts, whereby an efficient and economical conserver of heat and a good radiator is obtained, all as will now be more fully set out and explained.

In the accompanying drawings, A denotes the drum. When it is used distinctively as such, it is attached to the exit-pipe of a stove at any convenient place, either in the room where the stove is situated or in another through which the stove-pipe passes. This attachment is made at the top and bottom by means of the small circular projections or thimbles *a*, which are of the same size as the stove-pipe, or can be adapted to conform thereto.

When the radiator is applied to a stove, the bottom plate, *a*, can be removed as well as the upper plate of the stove, and the drum then placed bodily upon the stove, or the stove-top may be specially made to receive inside and out the novel features of the drum. For the mere mechanical adaptation of the drum to the stove, any skilled workman is fully competent.

While I now show the drum as a cylinder, it is obvious that a rectangular or other shape may be used.

Inside the drum are placed any desired number of segmental dampers, B, severally pivoted in the wall of the drum by shafts or journals C. On one end these shafts extend beyond the drum in crank-arms or ends *c*, on the outer extremities of which the movable and vertical bar D is placed. This bar is held in place by nuts *c'* on the threaded crank ends. From the circumference or side of each damper a small segment or piece is cut, as shown at *b*, and the dampers are so placed in the drum that this part shall come on opposite sides, and thus leave an alternate opening on each side, and secure a zigzag flow of the products of combustion through the drum, as now indicated by the arrows. By means of the bar D these dampers can be easily placed horizontal or vertical, or at any desired angle. When it is in a vertical position, the products of combustion will flow through the drum direct from inlet to outlet pipe. By means of stops E on the inside of the drum, at any convenient point, the dampers cannot, in their closing movement, be turned further than a horizontal position.

The outside springs, F, at one side of bar D, have at their ends *f* a seat for the bar D, which holds it in position when the dampers are placed horizontally. The pressure is sufficient for this purpose, but not strong enough to prevent an easy movement of the bar when it is desired to open the dampers. When thus opened, the spring F' of the bar on the opposite side will hold the bar D stationary in its seat *f'*. The closing movement is as easily performed as was the opening.

It may be desirable sometimes to provide feet G for the bottom of the drum, so that it can rest upon them, as when the drum is placed in an upper room.

In many merely mechanical details the construction of this device can be changed from what is now shown without departing at all from the nature and scope of my invention.

Having now described my invention, what I consider as new, and desire to secure by Letters Patent, is—

1. The drum A, provided with the stops E, in combination with the dampers B, cut away at *b*, on alternate opposite edges *t*, to secure a zigzag flow of the products of combustion, and having crank-ended journals C *c*, combined with the bar D, connected with the said ends *c*, and springs F and F', all as shown and described.

2. In combination, with a heating-drum, of movable dampers, the operative-rod and the

springs F and F', each having seats *f* or *f'*, whereby the said rod may be held in position to retain the dampers closed or open.

3. The combination of the following elements, viz: a heating-drum, internal diaphragms within the same, one above the other, their alternate edges cut away to allow a zigzag flow of the products of combustion, shafts attached to said diaphragms and extending beyond the outer case of the drum and having crank ends, a vertical rod pivoted on the crank ends of said shafts, whereby said diaphragms can be set horizontal or vertical, and spring-arms attached to the exterior of the drum on each side of said rod, whereby by means of the engagement of said rod on the ends of one or other springs the rod may be held in position up or down, as desired.

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

SILAS ANDERSON.

Witnesses:
SOREN PETERSON,
M. B. CHADWICK.