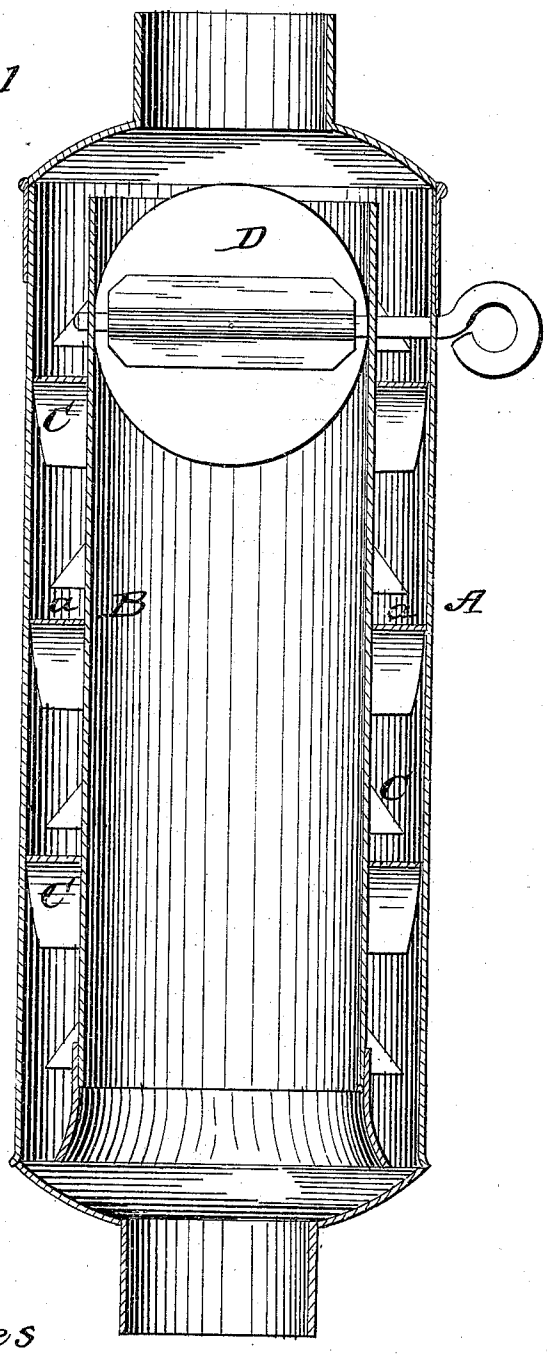
2 Sheets—Sheet 1.

O. B. BUTTLES.

Heating Drum.

No. 42,459. Patented April 26, 1864.

Fig. 1



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2 Sheets—Sheet 2.

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Fig. 2.

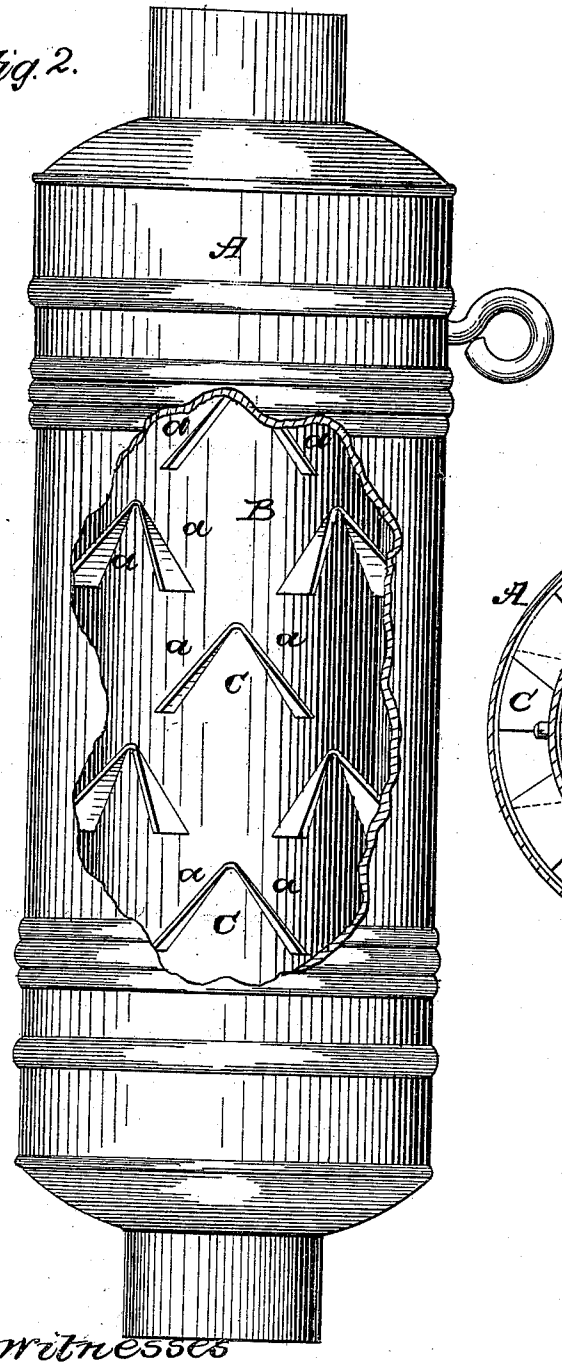
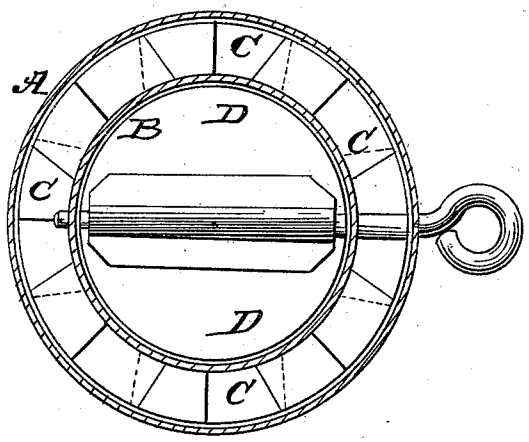


Fig. 3



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UNITED STATES PATENT OFFICE.

O. B. BUTTLES, OF MILWAUKEE, WISCONSIN.

IMPROVEMENT IN DRUM STOVES OR RADIATORS.

Specification forming part of Letters Patent No. 42,459, dated April 26, 1864.

To all whom it may concern:

Be it known that I, O. B. BUTTLES, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Radiating-Cylinders for Heating Purposes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an elevation of a radiating-cylinder with a portion broken away to show the form of the deflectors in the flue-space. Fig. 2 represents a vertical section through the same, and Fig. 3 represents a horizontal or transverse section of the radiating-cylinder.

Similar letters of reference, where they occur, refer to like parts in all the figures.

Flue-spaces have been furnished with many kinds of deflecting-surfaces, which tend to retard the escape of the heated products of combustion, and thus radiate the heat into the room, or into a chamber, from whence it is carried to the room to be heated; but from the fact that such deflectors have either too much interfered with the draft or have caught and retained the soot and ashes upon them they have failed to go into general use or to render entire satisfaction.

My invention consists in placing roof shaped deflectors in the flue or smoke-passage, which, while they retard the escaping heated products of combustion and deflect them to the cylinder, and by conduction transmit their heat through the cylinder, will not hold or retain the soot, &c., but from the inclination of their sides allow the soot to slip off, and thus prevent the flue-space from choking up.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents an outer, and B an inner case or shell, between which is the flue-space of any ordinary stove or furnace. This flue-space I occupy by or with deflectors C, made of two inclined pieces, *a a*, meeting at their tops and open underneath, the inclination being such as that the soot and ashes will slide off. These deflectors are so placed as to break up the flue-space and cause the escaping heat to deflect from one to the other, and to be finally given out by conduction through the outer cylinder. I do not confine myself to any particular length of cylinder or number of deflectors, as these may be varied.

The inner cylinder, B, is used, that an unobstructed passage may be had when the fire is just started and requires more draft. The cylinder is furnished with a valve, D, which, when turned as shown in Fig. 1 allows the heated gases to escape directly through the cylinder; but when turned as shown in Fig. 3 the heated products must pass up the flue-space between the cylinders, and is then deflected and thrown against the outer cylinder and by conduction into the room or apartment.

If the heat thus procured from the escaping gases is required to heat an upper apartment, then another cylinder or jacket may be put around the one A, leaving an air-space between them, from whence the heat may be carried up to an upper room.

Having thus fully described the object and purpose of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

The arrangement of the inclined or roof-shaped deflectors in the flue-space of a radiating-cylinder, for the purpose and in the manner herein described and represented.

O. B. BUTTLES.

Witnesses:

ISAAC S. CLARK,

GEORGE W. LAKIN.