

COLLINS & BURGIE.

Heating Drum.

No. 70.168.

Patented Oct. 29, 1867.

Fig. 1.

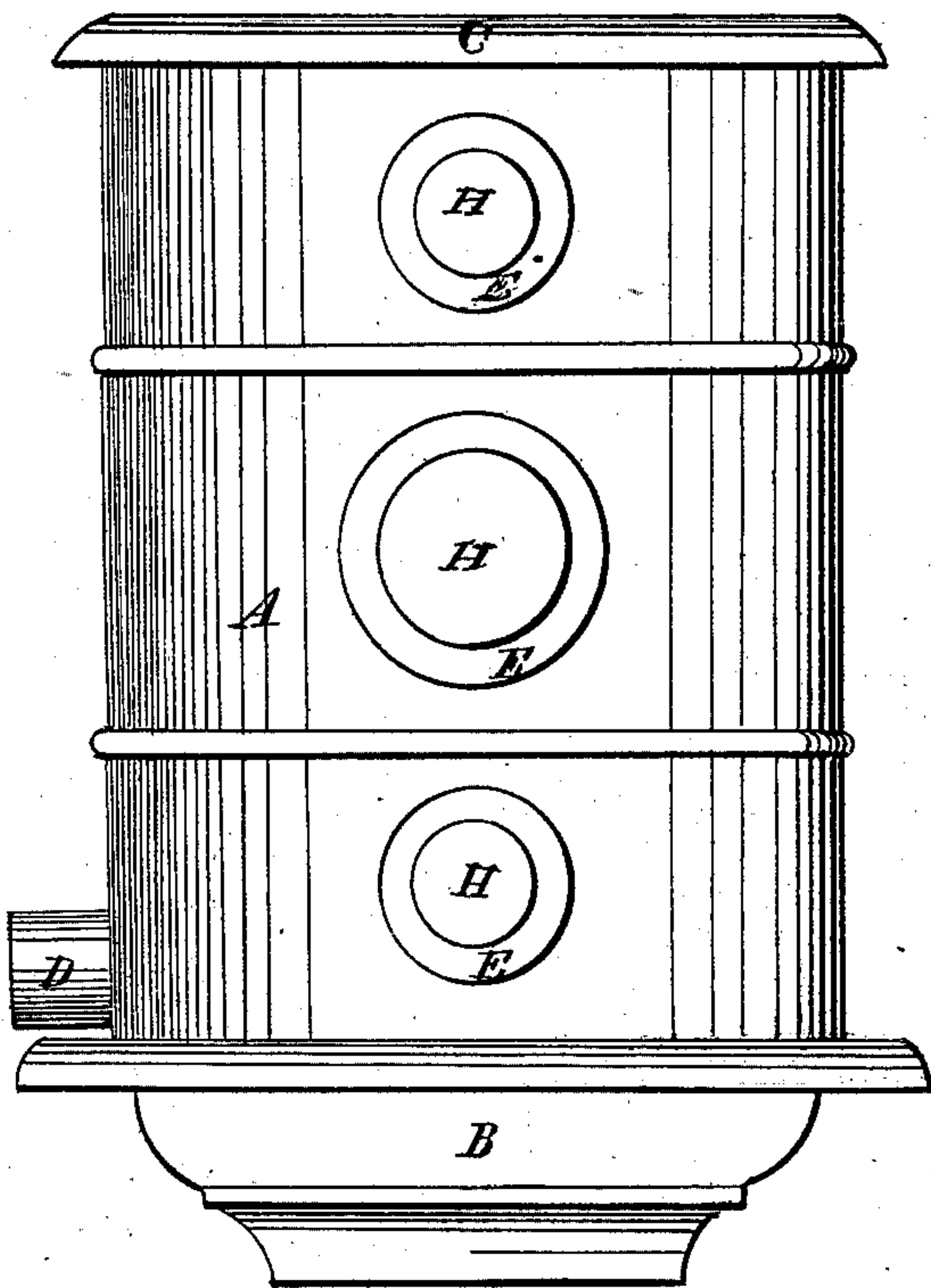


Fig. 2.

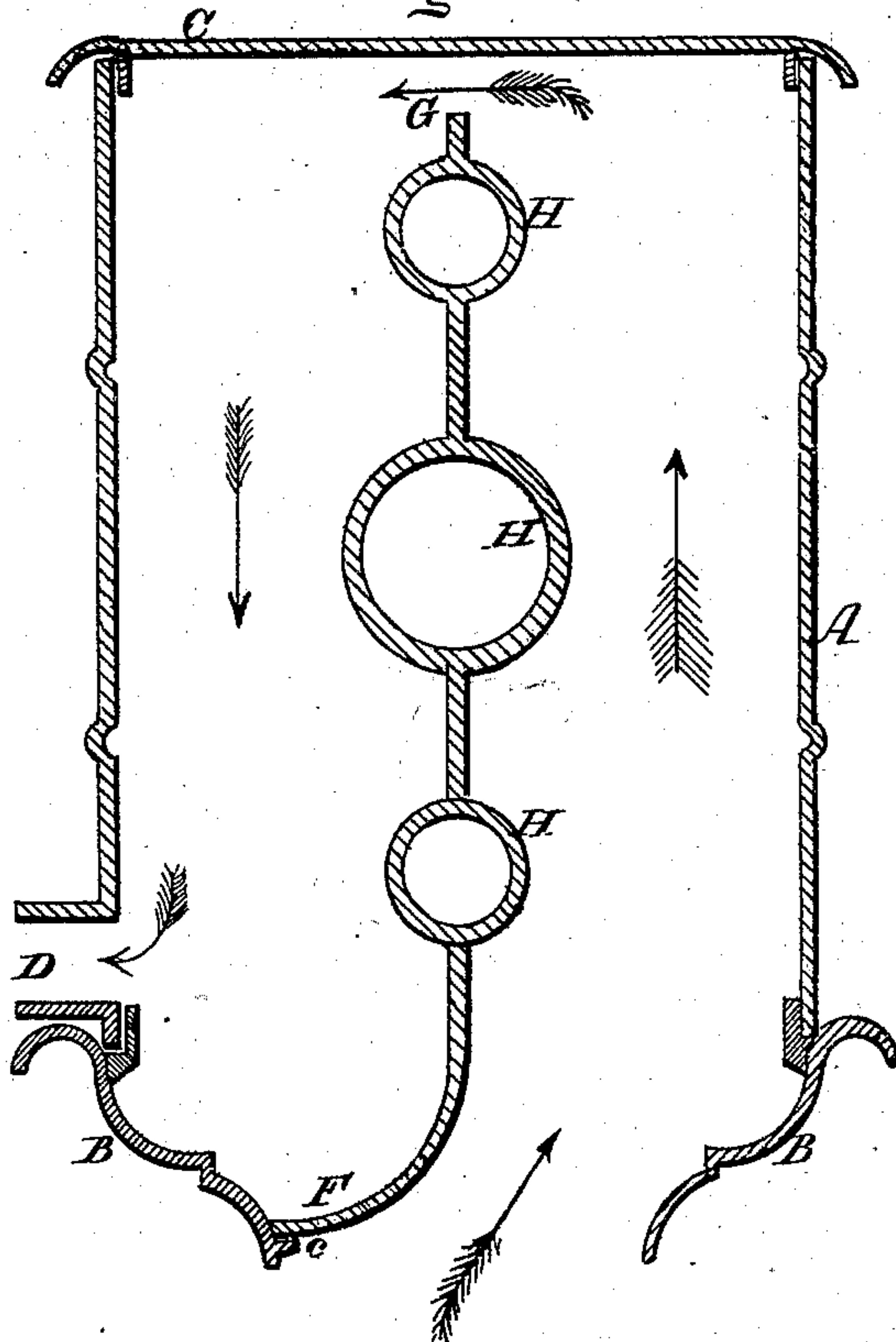


Fig. 3.

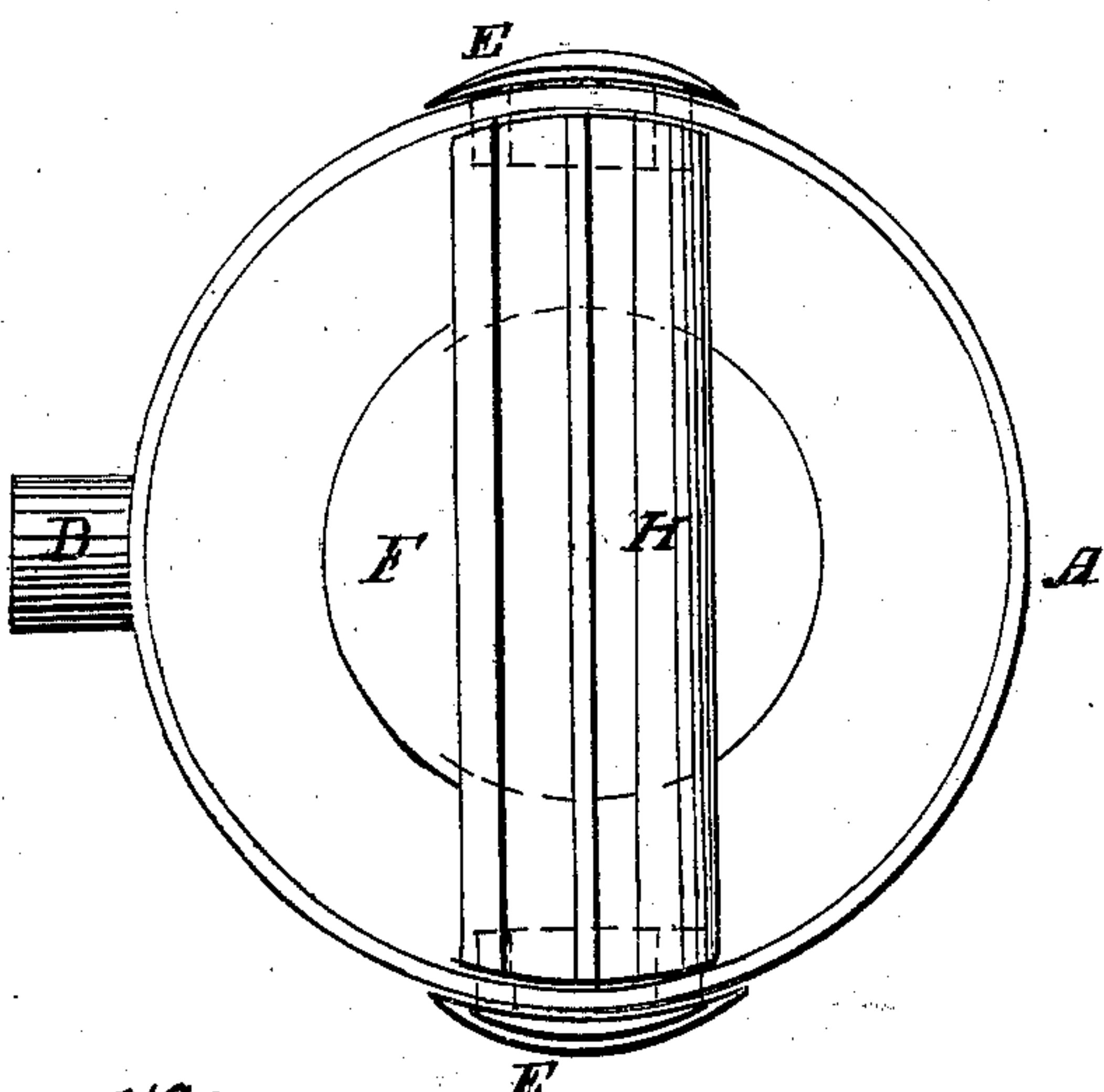
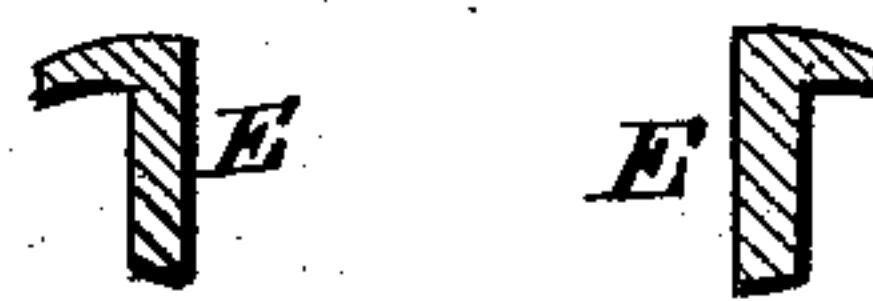


Fig. 4.



Fig. 5.



Witnesses
C. A. West.
L. L. Bond

Inventor.
James L. Collins.
Harry C. Burgie.

United States Patent Office

JAMES L. COLLINS AND HENRY C. BURGIE, OF CHICAGO, ILLINOIS.

Letters Patent No. 70,168, dated October 29, 1867.

STOVE-DRUM

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JAMES L. COLLINS and HENRY C. BURGIE, of the city of Chicago, in the county of Cook, and State of Illinois, have made certain new and useful improvements in Stove-Drums; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation.

Figure 2, a vertical section.

Figure 3, a top view with the cover removed.

Figure 4, the collars E.

Figure 5, a vertical section of the collar.

Like letters refer to like parts in all the figures.

The nature of our invention consists in providing a stove-drum with a partition so constructed and arranged that the heated products of combustion must pass first to the top of the drum, and back to the bottom of the drum before entering the pipe; and in providing such drum with one or more air-tubes passing through the same, which tubes are also a part of the partition.

To enable others skilled in the art to make and use our improved drum, we will proceed to describe its construction and operation.

The body A of the drum is cylindrical in form, and of any suitable size. The base B must be so constructed as to fit the top of the stove for which it is designed, or it may be so made as to answer the double purpose of a top for the stove and the base of the drum. The top or cover of the drum may be made either of sheet iron or cast iron, and may be so made as to be easily removed to facilitate the cleaning of the drum. We construct a partition for the drum, composed of a plate or sheet of metal, and tubes, usually three in number, the tubes being a short distance apart, but connected together by a plate of metal, as shown in fig. 2; H being the tubes, and F the plate or sheet of metal. This metallic plate is curved at the bottom, and is of such form as to fit closely the side of the stove B, and effectually prevent the direct passage of the hot air or smoke into the smoke pipe D. It must be of width equal to the diameter of the drum, and of such length as to leave only a few inches' space between it and the top of the drum. Openings are made in each side of the drum, corresponding in size to the tubes or air-passages H, and so located that when the partition is in place the tubes will be exactly opposite those openings. The partition can be most cheaply made of cast iron. The partition may be held in place by means of the collars E, fitting into the tubes, and forming a fine finish, and the bottom may rest on the ledge c, cast in the base B. These tubes may be of various sizes, and one or more can, if desired, be so constructed as to be used for the purpose of heating water, or a separate heater can be made and inserted in the tube. In use the smoke and heat from the fire first pass up into the front part of the drum, the lower part of the partition being so arranged as to prevent their direct passage into the smoke pipe. Passing over the top of the partition at G, the smoke and heat must descend to the bottom of the drum before reaching the smoke pipe D, and as heat descends slowly, the greater part of the heat will be radiated into the room, and but a small portion will escape through the pipe. The hot air in passing through the drum must come in contact with the tubes H, through which there will be a current of air, which will become heated in its passage. The partition may be made of a single plate or sheet without any tubes, (in which case the openings in the sides of the drum must not be made,) but the drum will be more efficient with the tubes. The partition is made entirely separate from the drum, and need not be directly attached to it. The collars E may be fastened to the drum if desired. It will be seen that as the partition F is only attached to the drum by the collars E, it can readily be reversed, so that in spring and autumn weather, when it is not desired to use the drum as a heater, its effect can be counteracted without its removal, as, when reversed, its lower bent portion will project towards the opposite side and allow the products of combustion to escape directly through the pipe D without obstruction.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The reversible partition F, when provided with lateral flues, and bent at the lower end so as to close one-half of the lower opening into the drum, substantially as specified.
2. The combination and arrangement of the outer case A, and removable partition F, with the collars E, substantially as and for the purposes specified.

JAMES L. COLLINS,
HENRY C. BURGIE.

Witnesses :

L. L. BOND,
E. A. WEST.