

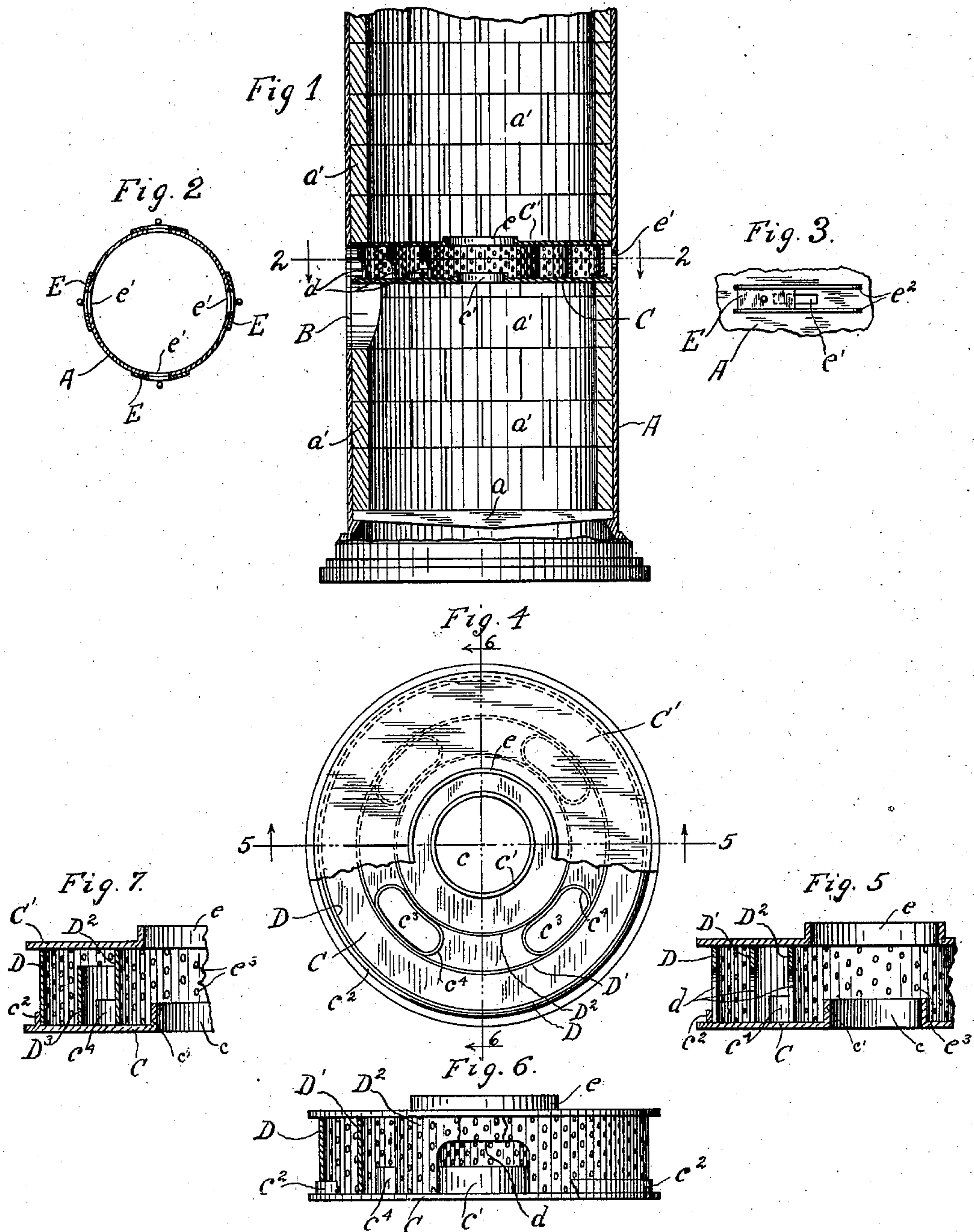
No. 711,681.

Patented Oct. 21, 1902.

W. SASSE.
AIR FEEDING DEVICE.

(Application filed Mar. 29, 1902.)

(No Model.)



Witnesses.

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AIR-FEEDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 711,681, dated October 21, 1902.

Application filed March 29, 1902. Serial No. 100,509. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SASSE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Air-Feeding Devices for Stoves and the Like, of which the following is a specification.

This invention relates to improvements in air-feeding devices to be used in stoves, furnaces, and the like; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of my invention is to provide an air-feeding device which shall be simple and inexpensive in construction, strong, durable, and easily applied to a stove or furnace, and by means of which more perfect combustion will be obtained, thereby economizing in the amount of fuel used.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a vertical sectional view through a stove, showing an air-feeding device embodying my invention located in the fire-box thereof and ready for operation. Fig. 2 is a plan sectional view taken on line 2 2 of Fig. 1, showing the outer shell or cylinder of the stove provided with sliding doors, but with the fire-brick and the air-feeder removed. Fig. 3 is a fragmental view in elevation of the stove-cylinder, showing one of the sliding doors thereon and the opening which it closes. Fig. 4 is a plan view of the device, showing a portion of the upper plate thereof broken away to disclose the concentric rings or bands and the openings for the passage of the smoke. Fig. 5 is a sectional view of a portion of the device, taken on line 5 5 of Fig. 4 looking in the direction indicated by the arrows. Fig. 6 is a view, partly in elevation and partly in section, taken on line 6 6 of Fig. 4 looking in the direction indicated by the arrows and showing the openings in the concentric bands

or rings to register with the opening or door of the stove or furnace; and Fig. 7 is a sectional view of a portion of the device, showing a slight modification in its construction.

Similar letters refer to like parts throughout the different views of the drawings.

A represents a stove, which in the present instance is shown as being cylindrical in shape; but it may be of any other suitable form and is provided in its lower portion with a grate *a* and is lined with fire-brick *a'* on its interior, as usual, to form a fire-box.

The stove or cylinder A is provided in its wall with an opening or door B, through which the fuel may be passed into the fire-box. Located horizontally within the fire-box and near the upper portion of the opening or door B is my air-feeding device, which comprises a bottom plate C of the proper size and shape to fit within the stove or furnace when used in connection therewith and provided with a central opening *c*, surrounded by an annular flange *c'*, which extends upwardly a short distance, as is clearly shown in Figs. 1 and 6 of the drawings. The plate C is also provided on its upper surface, near its periphery, with a flange *c''*, against which the outer ring or band will rest. Between the flanges *c'* and *c''* the plate C is formed with a series of openings *c'''*, having flanges *c''''*, which extend upwardly. Located on the upper surface of the plate C are a series of perforated bands or rings D, D', and D'', each of which has an opening *d* to register with the upper portion of the opening B in the stove or furnace. The band D is preferably located against the inner surface of the flange *c''* on the bottom plate, while the band D' is located on the outer surface of the flanges *c''''*, surrounding the openings *c'''* in said plate, and the band D'' is located against the inner surface of said flanges, which serve to support or retain the bands D' and D'' in position without the use of rivets or other securing means. Located on top of these flanges is the top plate C' of the device, which is provided with a central opening and has therearound a flange *e*, which extends upwardly a slight distance.

The device constructed as above described is placed within the stove or furnace so as to rest on a portion of the fire-brick *a'* or

may be otherwise suitably supported. The cylinder or stove A is provided with a number of openings e' , located between the top and bottom plates of the device, as will be clearly understood by reference to Fig. 1 of the drawings. These openings may be closed by means of sliding doors E, which are located between parallel ribs e^2 on the outer surface of the cylinder A or stove.

In Fig. 7 of the drawings I have shown a modification in the construction of the device, which consists in making the intervening ring or band D^3 imperforate or solid and shorter in height than the rings or bands D' and D^2 , as will be clearly understood by reference to said figure.

From the foregoing and by reference to the drawings it will be readily understood and clearly seen that as the smoke or unconsumed particles of carbon rises from the fire on the grate within the stove or furnace it will pass through the openings c and c^3 in the lower plate and in its passage will be thoroughly mixed with the air admitted through the openings e' in the stove or cylinder, thus affording a new and plentiful supply of oxygen, thereby causing more perfect combustion. As the air enters the openings e' in the stove or cylinder it will pass through the perforations e^3 of the various rings or bands and mingle with the smoke or unconsumed carbon and will pass out through the central opening in the upper plate. When the modified construction shown in Fig. 7 is employed, the air will first pass through the perforations of the outer band or ring and will strike the imperforate or solid band or ring D^3 and pass over the top of the same and then through the perforations of the inner band or ring, as is apparent.

While I have shown the device provided

with three circular bands or rings and as applied to a stove, yet I do not desire to be limited to the number of bands or rings, as I may employ one or more and may make them of other shape than circular and may use the device in connection with a stove or furnace or boiler-furnace without departing from the spirit of my invention.

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

1. In an air-feeding device for stoves and the like, the combination with a bottom plate having a central opening and a number of openings between said opening and the outer edge of the plate, upwardly-extending flanges around the intermediate openings, a series of bands located on the upper surface of said plate and having ways for the passage of air, and a top plate located on the top of said bands and provided with a central opening, substantially as described.

2. In an air-feeding device for stoves and the like, the combination with a bottom plate having a central opening and a number of openings provided with upwardly-extending flanges located between said central opening and the edge of the plate, a series of bands having small perforations and located on the upper surface of said plate at distances apart, one of said bands resting against the outer surfaces of the said flanges and another one of said bands resting against the inner surface of said flanges, and a top plate located on the upper edge of said bands and having a central opening, substantially as described.

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Witnesses:

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