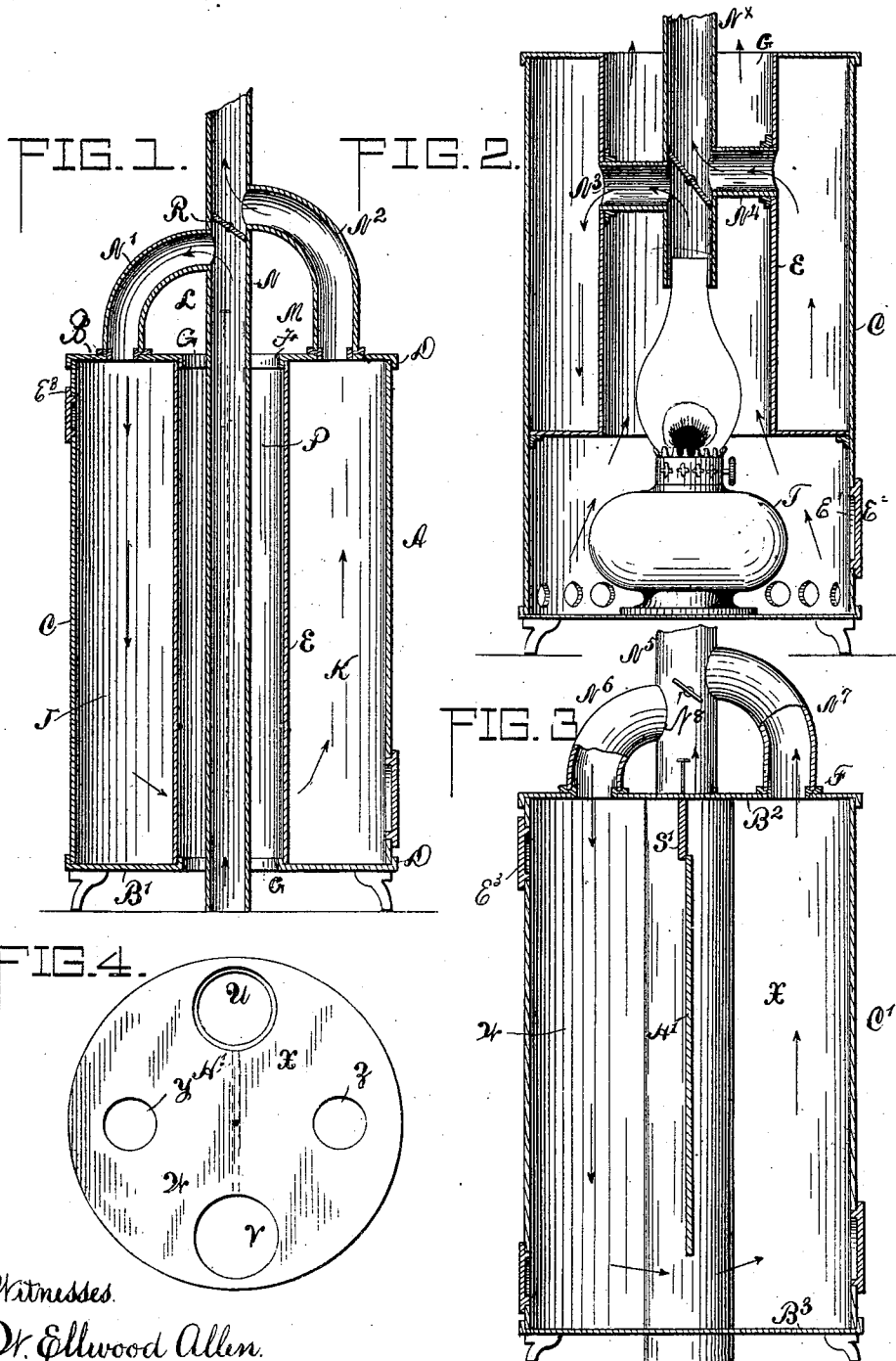


G. F. ANDERSON.
HEATER OR HEATING DRUM.

No. 564,464.

Patented July 21, 1896.



Witnesses.

W. Ellwood Allen.

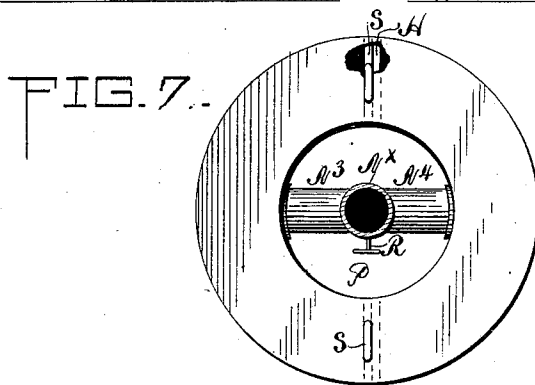
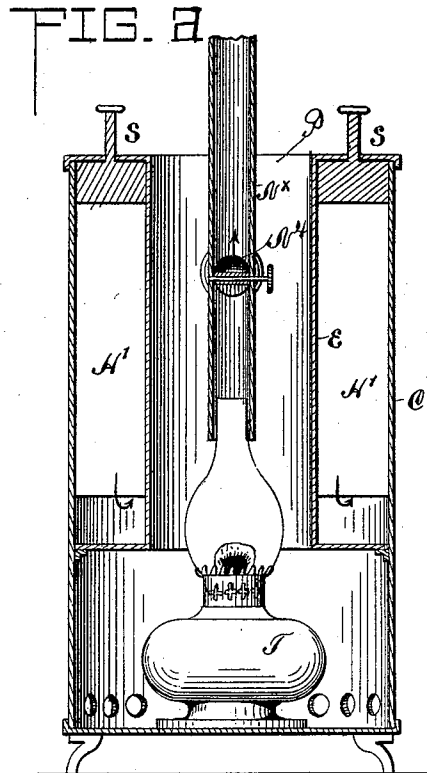
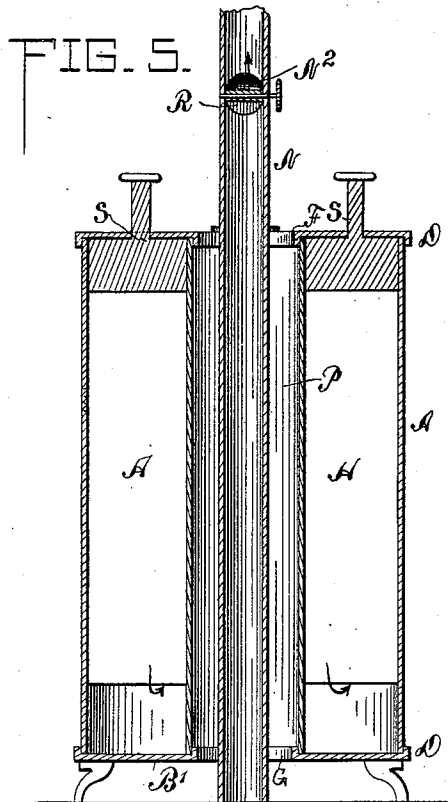
Thos. A. Aiton

Inventor. George F. Anderson.
By Robert Aiton Atty.

G. F. ANDERSON.
HEATER OR HEATING DRUM.

No. 564,464.

Patented July 21, 1896.



Witnesses.
W. Ellwood Allen.
Thos. A. Aiton

Inventor.
George F. Anderson.
By Robert Aiton
Atty.

UNITED STATES PATENT OFFICE.

GEORGE F. ANDERSON, OF MARSHALLTOWN, IOWA.

HEATER AND HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 564,464, dated July 21, 1896.

Application filed February 14, 1896. Serial No. 579,202. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. ANDERSON, a citizen of the United States, residing at Marshalltown, in the county of Marshall and State of Iowa, have invented certain new and useful Improvements in Heaters and Heating-Drums; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has relation to improvements in heating-drums or heaters; and it consists of a novel heater formed as hereinafter described.

In the drawings, Figure 1 represents a central vertical section of a heater embodying my invention. Fig. 2 represents a central vertical section of a modification of the invention. Fig. 3 represents a central vertical section of a modification of the drum of the heater. Fig. 4 represents a top view of the modification shown in Fig. 3. Fig. 5 represents a sectional view at right angles to that shown in Fig. 1. Fig. 6 represents a sectional view at right angles to that shown in Fig. 2. Fig. 7 represents a top view of device shown in Fig. 2.

Similar letters indicate like parts in the different figures.

In the drawings, A designates a drum formed of the end pieces or castings B B' and the cylindrical or other shaped shell or side C. On each of the said castings B B' is a peripheral flange D, which incloses the ends of the shell C, so that there is no drip from the same on the floor of the apartment in which the heater is used.

Within the shell C is an inner shell E, the ends of which encircle the bosses F, surrounding the opening G in the end pieces B B', and are secured to the bosses in any suitable way. Vertical partitions H, extending from the top end piece B to near the lower piece B', divide the space between the outer and inner shells into chambers J and K, respectively, each of said chambers being provided with an opening in its top wall, as L and M, having a flange around the same.

N designates a pipe which at its lower end is connected with a heat supply, and is passed into and extends through the inner shell E, leaving a space P between it and said shell for the passage of air. Leading from the pipe N to the openings L of the chamber J and M of the chamber K are the branch pipes N' and N², respectively.

R designates a valve or damper located in said pipe N, so as to deflect the heat supply from the main pipe N into the branch pipe N' and guide it from the branch pipe N² to the upper part of the said main pipe N'.

The upper portions of the partitions H are provided with dampers, preferably sliding ones, S, providing a communication between the upper ends of the chambers J and K, and thereby permit an increased draft, or a straight draft, if desired.

In Fig. 2 the branch pipes N³ and N⁴ are within the body of the drum, and a gas or oil lamp T is shown as a heat supply within said drum; but other means of generating heat may be employed, as wood may be burned on the lower end piece of the heater. The upper casting in this modification is made without openings, except the central one, and the partitions do not extend as near the base as in the form shown in Fig. 1.

In Figs. 3 and 4 two air-passages U and V are employed, the sides of the walls of which are in contact with the outer shell C', and the partition H' extends between them from the upper end piece B² to near the lower end piece B³, forming the chambers W and X, leaving a space at the bottom for the passage of the heat supply or products of combustion from one of said chambers to the other. In the top wall of the chamber W is an opening Y, and in the top wall of the chamber X is an opening Z, so that when the pipe N⁵ is passed through either of the air-passages U and V a branch N⁶ on said pipe may be connected with either said opening Y or Z and the branch pipe N⁷ with the other one of said openings, the said pipe N⁵ having a valve or damper N⁸ therein similar to the valve R in the pipe N. In the upper part of the partition H' is a damper S', preferably sliding in ways on said partition and operated by means of a rod extending through the upper end piece of the heater. The outer shell C is

provided with a door C² for purposes of inspection and cleansing the interior, also for insertion of fuel and furnishing a draft when fuel is burned in the drum.

5 E' designates an opening in the lower portion of the side of the casing C, corresponding in size to the openings Y and Z, so that when it is not used as a heat supply or draft-inlet a cap E², taken from the one of said
10 openings not in use, may be placed thereon, so as to close the same.

E³ designates an opening near the top of the casing, so that when desired and the damper S' is opened a straight draft is obtained through said drum.
15

From the description herein given the operation of the heater is readily understood, and it is evident that the construction of the same is simple in character and easily kept
20 in proper condition.

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

1. A heater consisting of a casing with an
25 inner shell forming a vertical air-passage therethrough, a vertical partition or partitions dividing the space within said casing outside of said inner shell into two chambers,

a pipe adapted to pass through said inner shell and having branches adapted to communicate with said chambers, said pipe having a valve therein at intersection of said branches with the main pipe, said parts being combined substantially as described. 30

2. A heater consisting of a casing having
35 end pieces and a connected shell, an inner shell forming a vertical air-passage through said casing, a partition or partitions in said casing dividing the space therein outside of said inner shell into two chambers said partition extending from the upper end of the casing but not to the lower one, dampers in said partition at or near the top thereof, a pipe freely passing through said inner shell and having branches communicating with
45 said chambers, and a damper in said main pipe at the intersection of the branches therewith, said parts being combined substantially as described.

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

GEORGE F. ANDERSON.

Witnesses:

ROBERT AITON,
THOS. A. AITON.