

No. 650,965.

Patented June 5, 1900.

H. S. CAMPBELL.
HEATING DRUM.

(Application filed Aug. 25, 1899.)

(No Model.)

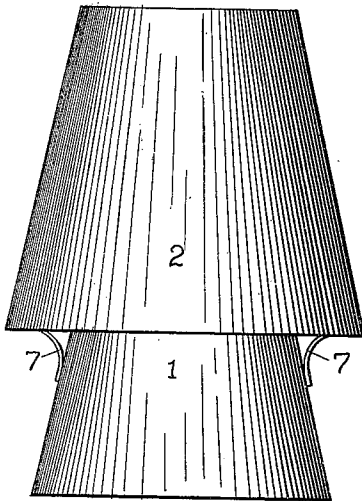


FIG. 1.

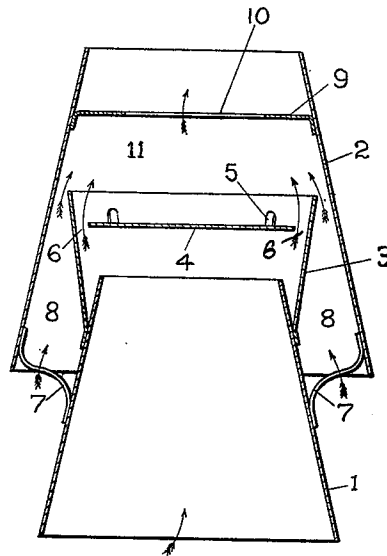


FIG. 2.

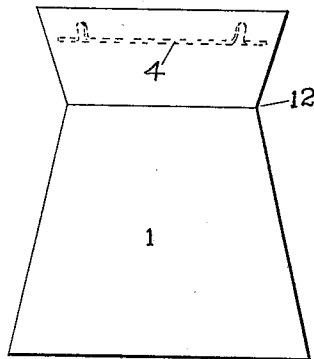


FIG. 3.

WITNESSES:

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HOWARD S. CAMPBELL, OF BALTIMORE, MARYLAND.

HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 650,965, dated June 5, 1900.

Application filed August 25, 1899. Serial No. 728,483. (No model.)

To all whom it may concern:

Be it known that I, HOWARD S. CAMPBELL, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Heating-Drums, of which the following is a specification.

This invention relates to improvements in heating-drums, and is particularly adapted for use on oil and gas stoves.

One object of the invention is to provide a drum of such a construction that the air will be compelled to take a circuitous route through the several passages and chambers, thereby retaining the air within the drum a sufficient time to allow it to become superheated before it is expelled therefrom.

A further object of the invention is to so arrange the several deflectors within the drum that the hot air will come in contact with all the parts of the said drum and radiate an intense heat.

Other features of the invention will be fully set forth in the following description of the accompanying drawings, in which—

Figure 1 is a side elevation of the improved device. Fig. 2 is a vertical section of the same. and Fig. 3 is a modification of the lower shell,

In the accompanying drawings, 1 designates a shell having preferably a conical contour, and 2 designates a shell which fits partly over and is approximately the same as the shell 1.

The shell 1 has its wall inclined, so that the diameter of the opening at the top will be considerably less than that of the opening at the bottom. Thereby the shell 1 will be kept full of hot air at all times during the use of the drum. A shell 3 is fitted over the shell 1 and has its lower end resting on the outer wall of the shell 1, as shown in Fig. 2, and is secured thereto by rivets or other suitable means. The wall of the shell 3 inclines outwardly and extends nearly to the wall of the shell 2. A deflector 4 is suspended within the shell 3 by metal strips 5. The diameter of the deflector 4 is slightly less than that of the shell 3, thereby leaving a passage 6 between the two.

The shell 2 is approximately the same shape as shell 1, the former fitting partly over the latter and being held in position by the arms 7, leaving a passage 8 between the two. Near

the top the shell 2 is provided with a partition 9, having an opening 10 through the center.

The operation of the device is as follows: The shell 1 is placed a suitable distance—say two or three inches—from the burner of the stove. The air will take the course shown by the darts. As the heated air passes out the opening at the top of the shell 1 it strikes the deflector 4 and is forced downward against the sides of the shell 3 and out the passage 6, thereby keeping the walls of the shell 3 thoroughly heated at all times. The partially-heated air as it passes along the passage 8 will contact with the sides of the shell 3 and be thoroughly heated before it enters the chamber 11, where it commingles with the superheated air from the shell 3, and the two fluids pass off through the opening 10 of the partition 9 to the atmosphere.

Fig. 3 shows a modification of shell 1 having a contracted neck 12, thereby dispensing with the shell 3. In this modification the deflector 4 is suspended within the top of the shell, just above the contracted neck 12, as shown by dotted lines.

It will be seen that by the arrangement of the parts as herein shown the superheated air will be held within the drum sufficiently long to allow all the parts to be thoroughly heated, thereby radiating an intense heat.

Having thus described my invention, what I claim is—

1. In a heating-drum, the combination of the shell, 1; the shell, 3, having its lower end resting on the shell, 1, the wall of the shell, 3, being inclined outward to form a larger opening at the top than at the bottom; a deflector, 4, suspended within the shell, 3; a shell, 2, surrounding the shells, 1, and, 3; and means for connecting the said shells 1 and 2.

2. In a heating-drum, the combination of the shell, 1; the shell, 3, having its lower end resting on the shell, 1, below the opening thereof, the said shell, 3, being inclined outward to form a larger opening at the top than at the bottom; the shell, 2, having a partition, 9, near the top provided with an opening, 10; and means, 7, to connect the said shells, 1, and, 2.

3. In a heating-drum, the combination of the shell, 1; the shell, 3, having its lower end resting upon the shell, 1, the said shell, 3,

having its wall inclined outward to form a larger opening at the top than at the bottom; the deflector, 4, suspended within the shell, 3; the shell, 2, surrounding the shells, 1, and, 5 3, and having a partition, 9, below the top opening; and means to connect the said shells, 1 and 2.

4. In a heating-drum, the combination of the shell, 1; a shell, 3, integral with the shell, 10 1; a deflector, 4, suspended above the shell, 1, and within the shell, 3; a shell, 2, extending above and surrounding the shells, 1 and 3; and means, 7, to connect the said shells 1 and 2.

15 5. In a heating-drum, the combination of the shell, 1; a deflector, 4, suspended above

the shell, 1; a shell, 2, having a partition, 9; a shell, 3, resting on the shell, 1, and having its wall inclined outward toward the shell, 2, thereby forming a narrow exit for the air 20 from the passage, 8, to the chamber, 11, whereby the air is retarded in the passage, 8, and allowed to thoroughly heat before entering the chamber, 11; and means to connect the shells, 1, and, 2. 25

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

HOWARD S. CAMPBELL.

Witnesses:

CHAPIN A. FERGUSON,
B. F. BOYDEN.