(No Model.)

E. DORR.

SMOKE AND GAS BURNER AND HEAT RADIATOR.

No. 501,679. Patented July 18, 1893.

FIG. 1.

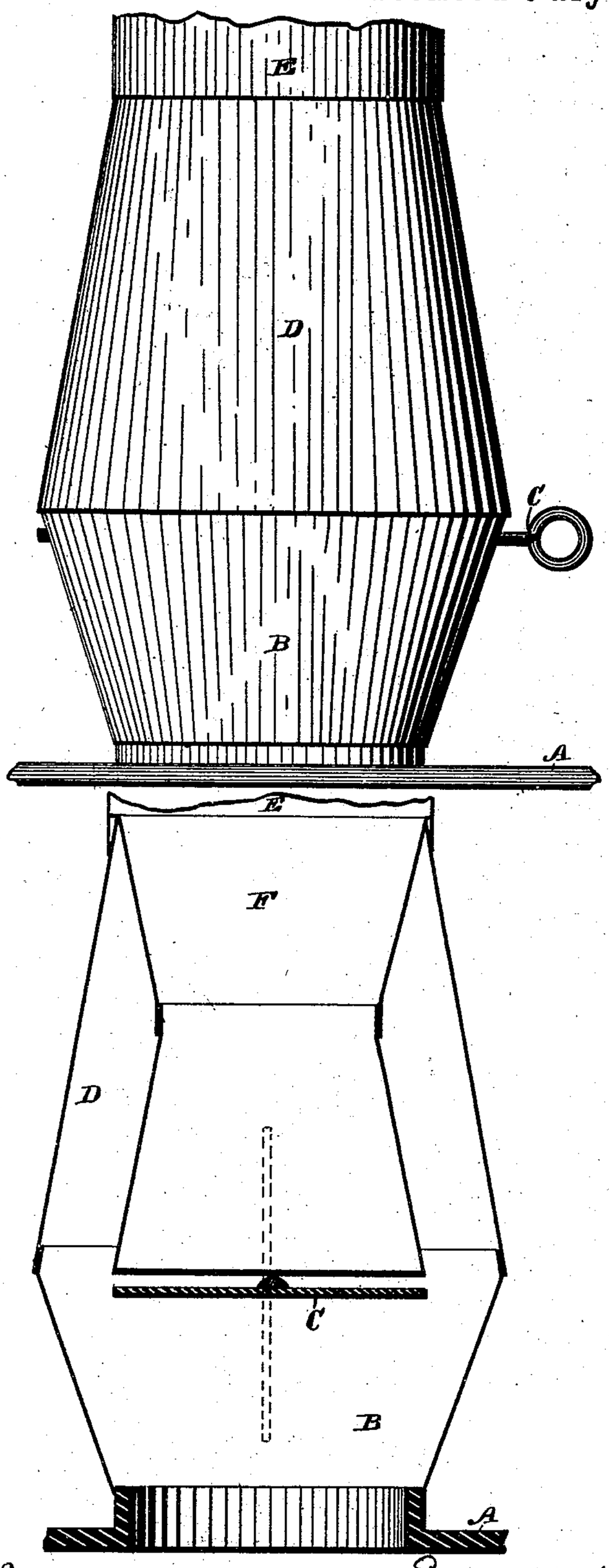

FIG. 2.

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UNITED STATES PATENT OFFICE.

EDWARD DORR, OF KANSAS CITY, MISSOURI.

SMOKE AND GAS BURNER AND HEAT-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 501,679, dated July 18, 1893.

Application filed May 6, 1892. Serial No. 432,065. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DORR, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Heating-Drums, more particularly heating-drums formed in or used as a part of smoke-pipes; 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 relates to an improvement in heating drums and more particularly to heating drums formed in or used as a part of smoke pipes.

The object is to hold the unconsumed gases and products of combustion at a point near the fire chamber until they shall have become completely consumed and to utilize in an effective manner the heat arising from such combustion.

With these ends in view my invention consists of certain features of construction and combination of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, represents the heat radiating device adjusted to the smoke exit hole of a stove. Fig. 2, is a vertical central section of the device, the damper being turned to shut off direct draft, the position of the damper when turned for direct draft being shown in dotted lines.

A, represents a portion of the stove in which the smoke exit opening is formed. Fitted to the opening in said stove is a pipe section B, which expands as it projects upwardly and has fitted in its upper portion a damper C, for purposes which will hereinafter appear.

To the top of the expanded pipe section B, the lower end of a contracted pipe section D, is fitted, the upper or contracted end of the pipe section D, being of the proper diameter to enter the end of a stove pipe section E, of ordinary form for conducting the smoke and products of combustion to the chimney.

Within the pipe section D, and projecting from its top downwardly to within a short distance of the axis of the damper is an interior pipe F, of lesser diameter than the section D, and open at both ends. The interior section F, forms a tight joint with the upper edge of the section D, and its lower end is made slightly flaring in cases where soft coal is used as fuel, but in case hard coal were employed, it would be found advisable to contract its lower end. By the above construction a chamber is formed around the outside of the pipe section F, between it and the pipe section D, in which the consumed gases and smoke are retained and at a point so near the fire chamber that they will be further consumed and the products of their combustion will pass into the lower end of the section F, between it and the horizontally placed damper and thence into the chimney through the section F, and smoke pipe E. The solid damper C, is so located centrally of the expanded section B, and so near the fire chamber that it will when turned horizontally act as a deflector throwing the hot tongues of flame outwardly against the walls of the section B, as well as the unconsumed gases and smoke, which as hereinbefore described will be further retained and consumed. By turning the damper into vertical adjustment as shown in dotted lines Fig. 2, a direct draft is produced when so desired.

The structure as a whole is exceedingly simple and may be readily applied to stoves of various kinds in common use at a very slight expense and it has been found by actual experiment that it effects a very material increase in the amount of heat radiated from the combustion of a given supply of fuel.

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

The herein described heating drum forming a section of stove pipe and consisting of a short upwardly expanded pipe section forming an enlarged heating chamber, an upwardly contracted pipe section fitted onto the aforesaid pipe section, an interior pipe section forming a smoke flue and projecting from the upper end of the contracted section,

downwardly within said section, forming an annular heating chamber between it and the said contracted section, and a solid damper secured below the lower end of said interior smoke flue and serving to deflect the flame and gases into the annular chamber, substantially as set forth.

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

EDWARD DORR.

Witnesses:
BESSIE E. YOUNG,
JANE GAIR.