No. 673,905. Patented May 14, 1901.

R. L. HORSLEY & J. H. ROUNTREE.

HEATING DRUM.

(Application filed July 2, 1900.)

(No Model.)

Fig. 1.

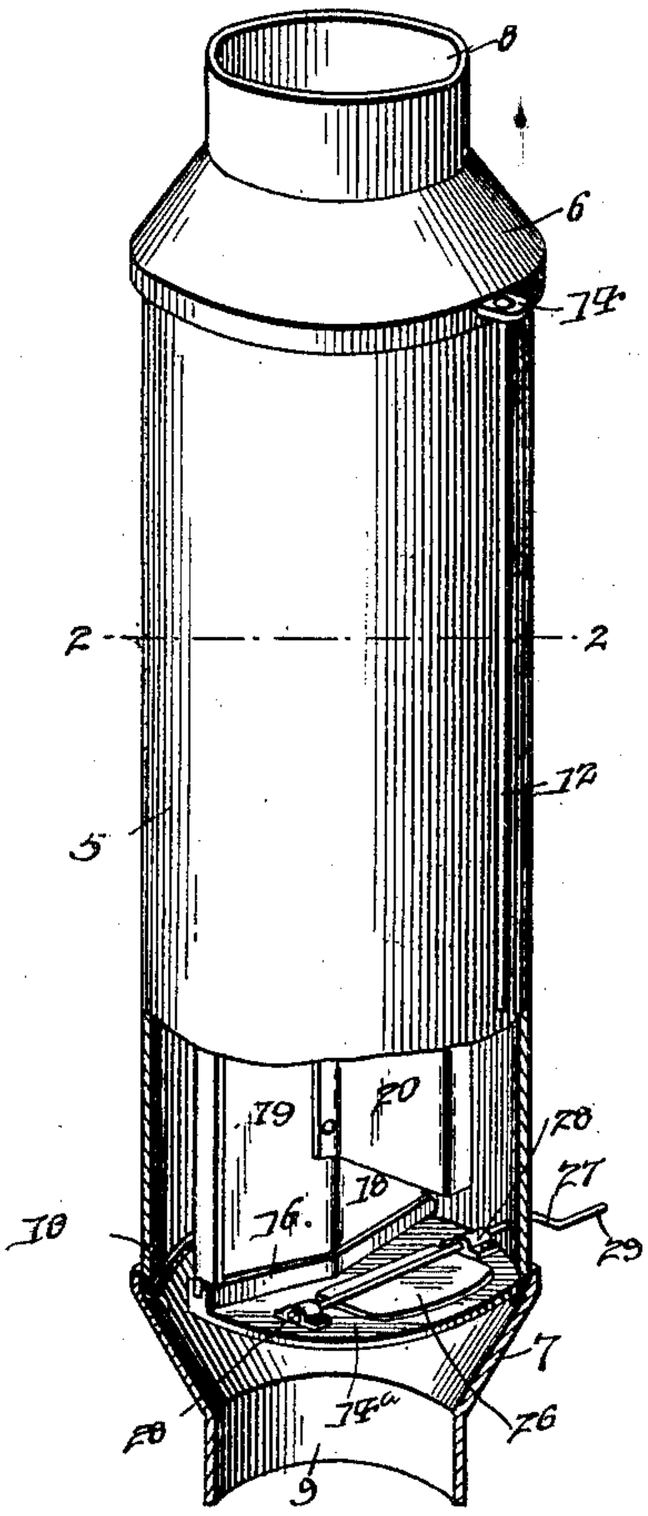


Fig. 4.

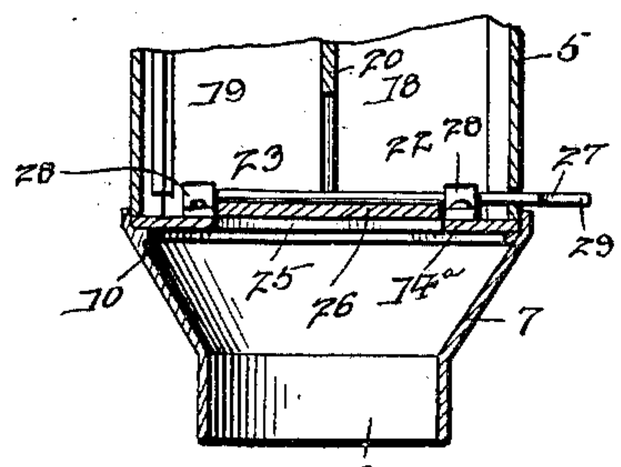


Fig. 3.

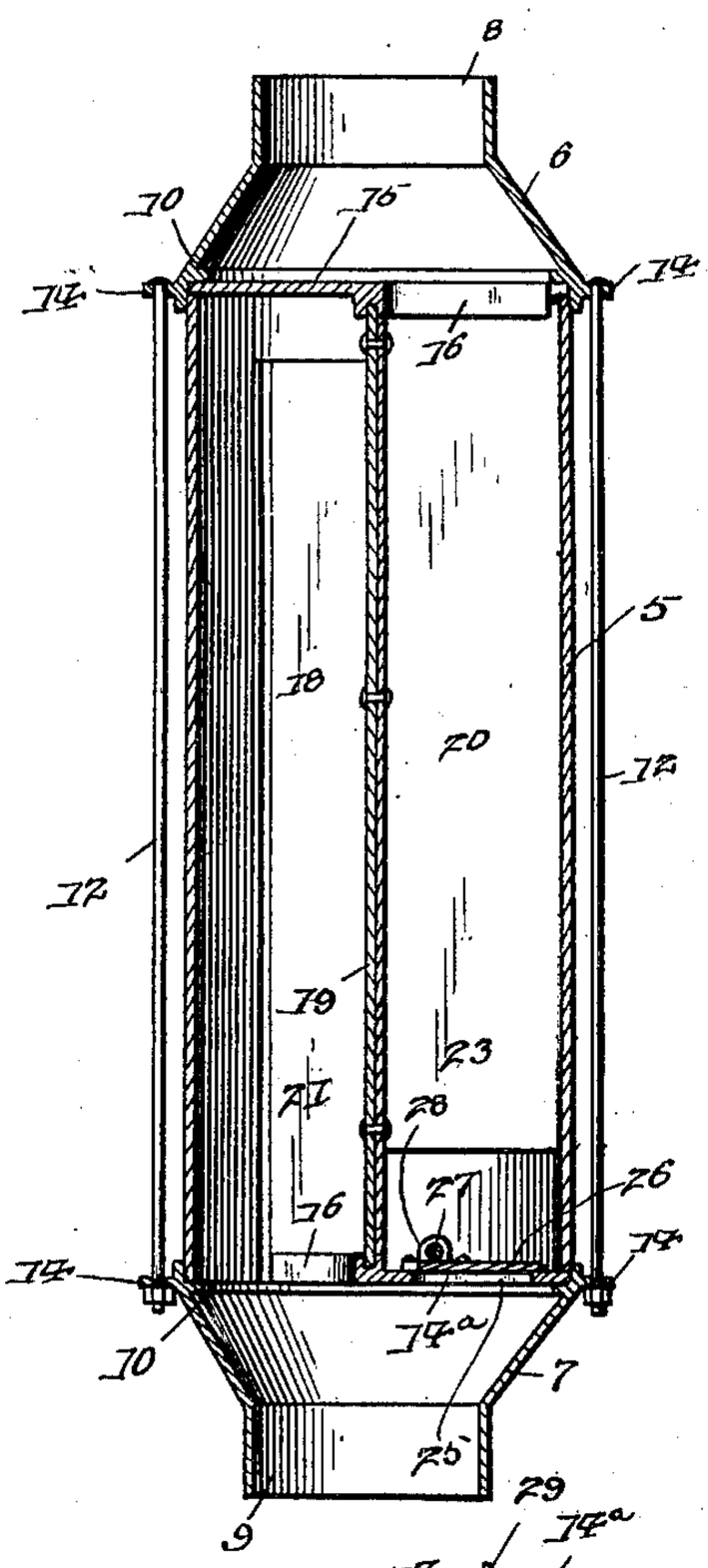
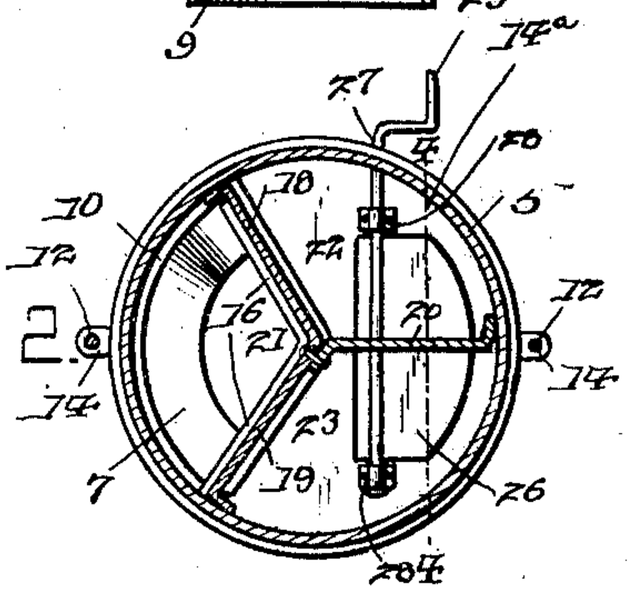


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT L. HORSLEY AND JAMES H. ROUNTREE, OF WHITNEY, TEXAS.

HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 673,905, dated May 14, 1901.

Application filed July 2, 1900. Serial No. 22,341. (No model.)

To all whom it may concern:

Be it known that we, ROBERT L. HORSLEY and JAMES H. ROUNTREE, citizens of the United States, residing at Whitney, in the county of Hill and State of Texas, have invented a new and useful Heating-Drum, of which the following is a specification.

This invention relates to heat-radiators in general, and more particularly to the class of heating-drums adapted for connection with a stovepipe, the smoke from the pipe being caused to take a circuitous route to cause it to give up a maximum amount of heat, the object of the invention being to provide a simple and efficient construction which may be readily set up and taken down, which will be durable, and in which, moreover, by operation of a single damper the smoke-pipe above the drum may be brought into direct communication with the smoke-pipe below the drum and the several compartments of the apparatus will be opened to permit ready cleaning.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view of the drum, partly broken away to show the lower ends of the partitions, the bottom plate, and the damper through which communication is had to the compartments at both sides of a partition. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a vertical central section of the complete drum. Fig. 4 is a section on line 4 4 of Fig. 2.

Referring now to the drawings, 5 represents the body of the drum, which is preferably cylindrical in shape and has a diameter somewhat greater than that of the stovepipe to which it is to be attached, and over the ends of this cylindrical body portion are secured the frusto-conical caps 6 and 7, having tubular axial extensions 8 and 9, respectively, which directly receive the stovepipe-sections.

Each of the caps 6 and 7 has a hoop-shaped flange at its major end, which incloses the adjacent end of the body 5, and has also an inwardly-directed flange 10, which lies against the end of the body, the caps being held clamped in this position by means of tie-rods 12, which are engaged with lugs 14, extending radially from the caps.

Between the ends of the body 5 and the flanges 10 are disposed two substantially disk-shaped plates 14 and 15, each of which has a sector removed therefrom, the resultant opening extending through substantially one hundred and twenty degrees of the disk, and these disks are so disposed that their openings will be out of alinement.

At the straight side edges of the openings in the disk plates are formed two grooved flanges 16 and 17, which lie at an angle to each other, and with the flanges of the lower disk 14 is engaged a plate which is bent to form two wings 18 and 19, while the upper end of the wing 19 is engaged with the grooved flange 16 of the upper disk, the upper end of the wing 18 terminating short of the upper disk, so that access may be had from the space at one side thereof to the space at the other. A plate 20 is engaged with the grooved flange 16 of the upper disk and terminates at a point above the lower disk, there being thus formed three compartments in the drum, said compartments being shown at 21, 22, and 23 in Fig. 2 of the drawings. The compartment 21 communicates with the space below the lower disk 14 through the opening therein and communicates with the compartment 22 over the partition-plate 18, the compartment 22 having communication with the compartment 23 beneath the partition-plate 20 and the compartment 23 having communication with the space above the disk plate 15 through the opening therein.

The plate 20 is riveted to the plates 18 and 19, as shown, and the plate 19, extending from the upper disk plate to the lower disk plate, is clamped firmly and in turn holds the remaining plates in position. In order that the partition-plates may make snug contact with the inner face of the body 5 of the drum, the outer edges of the plates are bent laterally, as shown, and engage the body of the drum with their side edges at acute angles to the inner surface of the drum-body, the plates being of spring metal to exert outward pressure and insure intimate contact.

In order that the draft may have a direct passage through the drum at times instead of the circuitous passage through the several compartments, as above mentioned, an opening 25 is formed in the lower disk plate 14

and extends to both sides of the partition 20, and this opening is provided with a damper-plate 26, which is mounted upon a rock-shaft 27, journaled in bearings 28 upon the disk 14 and extending through the side of the drum-body, where it is provided with an operating-crank 29. The plate 26 is of sufficient size to project forwardly beyond the opening 25, and when moved by its shaft it rises with its forward end in the direction of the axis of the drum, while its rear end passes downwardly through the opening 25. When the plate is raised, the compartment 23 communicates at its lower end with the space below the plate 14, so that the draft may pass from the lower cap up through the compartment 23 and then into the upper cap. Furthermore, when the damper is raised access is had to both of the compartments 22 and 23 from the lower cap, and they may be readily cleaned, both compartments being thus opened and closed and the drum being converted from the circuitous to the direct draft by means of a single damper.

It will be understood that in practice various modifications of the specific construction shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. A heating-drum comprising a cylindrical body portion having caps at its ends adapted for attachment of smoke-pipes thereto, flanges upon the caps, tie-bolts engaged with the flanges for holding the caps against the ends of the body portion, disk plates clamped between the caps and the ends of the body portion, said plates having openings therein and grooved flanges at the edges of the openings, said openings being out of alinement, and spring-metal partitions engaging the grooved flanges and dividing the drum into longitudinal compartments having communication to form a sinuous passage, the outer edges of the spring-metal partitions being bent at acute angles to the inner face of the drum to exert spring-pressure thereagainst and hold the partitions in contact therewith.

2. A heating-drum including a cylindrical body portion having caps at its ends adapted for attachment of smoke-pipes thereto, flanges upon the caps, tie-bolts engaged with the flanges for holding the caps against the ends of the body portion, disk plates clamped between the caps and the ends of the body portion, said plates having openings therein and grooved flanges at the edges of the openings, said openings being out of alinement, and partitions engaging the grooved flanges and dividing the drum into longitudinal compartments having communication to form a sinuous passage.

3. A heating-drum comprising a body portion having a plurality of radial partitions dividing it into compartments, the outer edge of each partition being bent to lie against the inner face of the body and at an acute angle thereto, said partitions being of spring metal to hold the edges thereof in close contact with the body.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

ROBT. L. HORSLEY.
JAMES H. ROUNTREE.

Witnesses:
J. E. GRIFFITH,
W. A. CARVER.