

(No Model.)

E. C. GRAN.  
HEATING DRUM.

No. 386,978.

Patented July 31, 1888.

**Fig. 1.**

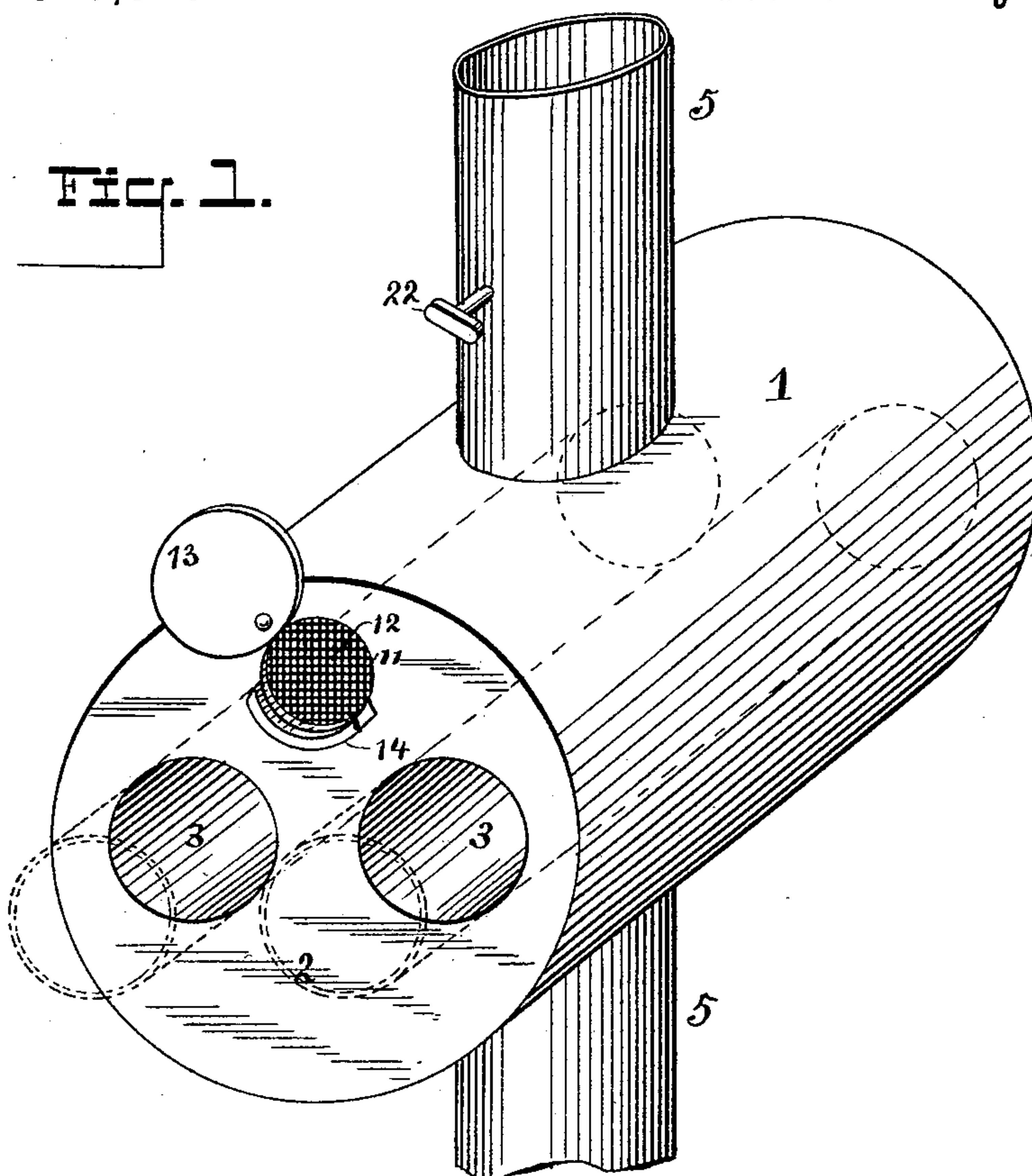
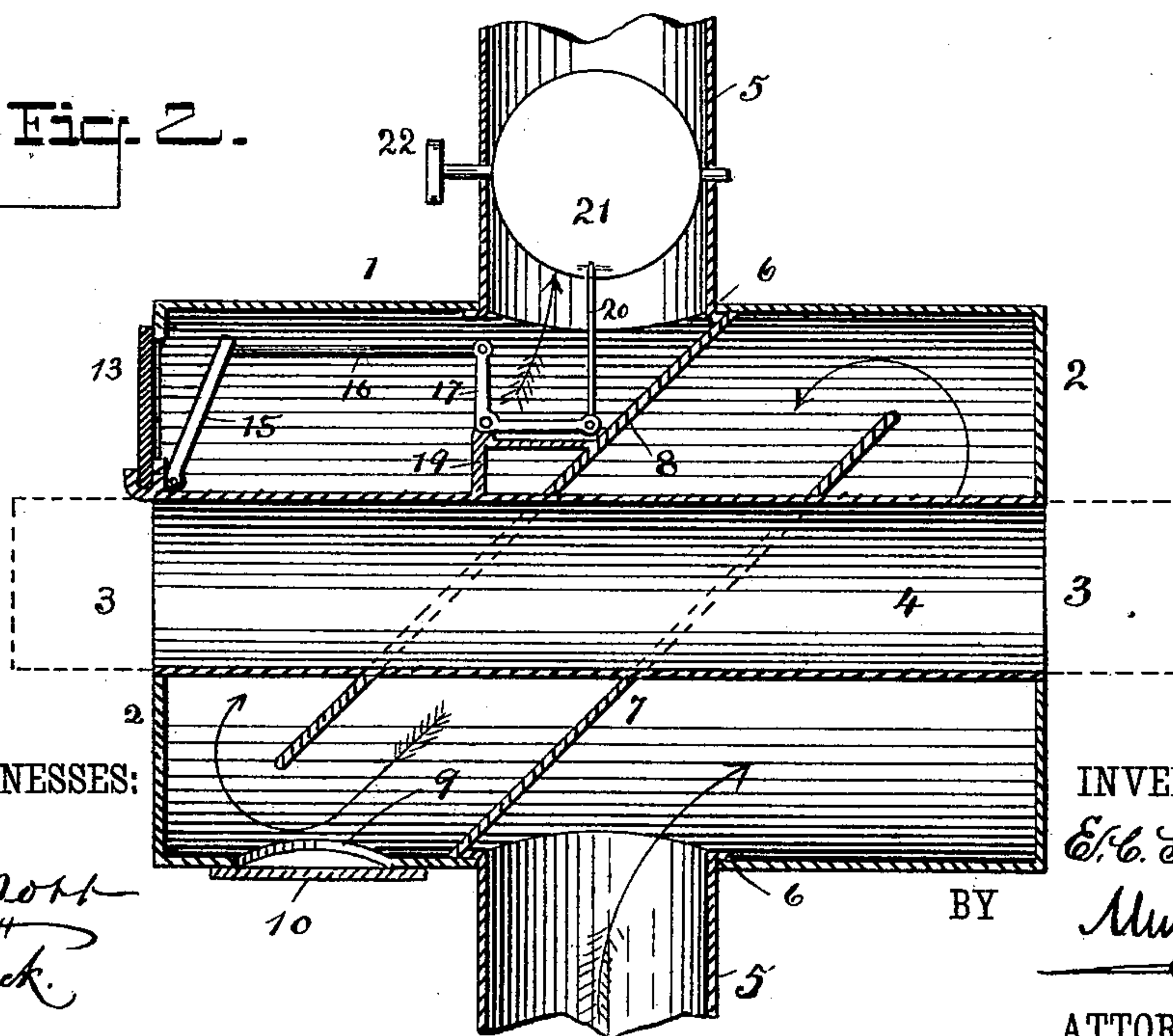


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

EDWARD C. GRAN, OF JORDAN, MINNESOTA.

## HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 386,978, dated July 31, 1888.

Application filed February 23, 1888. Serial No. 264,896. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD C. GRAN, of Jordan, in the county of Scott and State of Minnesota, have invented a new and Improved Heating-Drum, of which the following is a full, clear, and exact description.

The invention relates to heating-drums used in connection with stove-pipes, either adjacent to a stove or at a distance therefrom, which are employed for retarding the current of heated air in its passage from a stove to the chimney and for procuring a perfect radiation of heat:

The object of the invention is to provide a stove-drum so constructed and arranged that the best possible radiation of heat may be obtained and the drum prevented from becoming choked up by soot.

The invention will be set forth in the following description, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both views.

Figure 1 illustrates in perspective the outside of a stove-drum constructed according to my invention to be applied to sections of a stove-pipe, and Fig. 2 is a vertical longitudinal section thereof.

1 indicates a drum formed of sheet metal and of cylindrical shape, having the heads 2, provided with openings 3, in which rest pipes 4, through which air is adapted to pass freely. The ends of pipes 4 project out from openings 3, as shown in dotted lines. The drum 1 is secured to thimbles 5, inserted in openings in the drum and attached thereto by flanges 6, the said thimbles being adapted to receive the ends of the sections of a stove-pipe. The interior of the drum is constructed with inclined partitions 7 8, the partition 7 extending across and from the bottom of the drum nearly to its top adjacent to the left of the opening in the lower portion of the drum, and the partition 8 extending across and from the top nearly to the bottom of the drum adjacent to the right of the upper opening of the drum. The pipes 4 pass through the partitions 7 8. It will be seen by this arrangement of the partitions that heat entering through the lower opening in the drum

will be directed to one end thereof, will pass to the top of the drum about the pipes 4 over the partition 7, then downward about the pipes 4 and beneath the lower edge of the partition 8, thence up about the pipes 4 again, and out through the upper opening in the drum. By this construction and arrangement the hot air will be circulated about one end, the middle, and then the other end of the pipes 4, and will thoroughly heat the air passing through said pipes.

The inclination of the partitions 7 and 8 is such as to prevent the deposit or accumulation of soot, and the latter, instead of lodging thereon, falls to the bottom of the drum adjacent to an opening, 9, which is covered by a slide, 10. The oval form of the pipes 4 will also prevent the deposit of soot thereon, and will aid in carrying it to the bottom of the drum adjacent to the opening 9. From time to time the collected soot may be removed by withdrawing the slide 10.

In order to check the draft through the drum 1, the drum is provided with an opening, 11, preferably covered with a wire screen, 12, and a pivoted cover, 13, adapted to rest on a grooved support, 14. The opening 11 may be closed on the inside by means of a valve, 15, connected by a rod, 16, with a bell-crank lever, 17, pivoted to a bracket, 19, and having a rod, 20, connecting it with the damper 21, having an operating-handle, 22. In order to aid the circulation of air through the drum 1, the damper 21 may be opened, as shown in Fig. 2, thereby holding the valve 15 open and permitting air from the outside to pass into the drum and out through its upper opening.

When the damper 21 and valve 15 are about two-thirds closed, the cover 13 may be closed to prevent smoke coming out. By means of this construction and arrangement of pipes the air in passing through the pipes 4 will be thoroughly heated, and heat will also be radiated from the drum, and there is no opportunity for the drum to become choked with soot and rendered inoperative. The ventilator serves to carry off any steam, gases, or foul air that may be in the room where the drum is located.

The drum can be used on top of any kind of stove as well as in any portion of the pipe,



either on the floor above or in a room adjoining to the one in which the heater is located.

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

5 1. A stove heating-drum constructed with inclined partitions alternately extending across the drum from the bottom nearly to the top and from the top nearly to the bottom, and located between the bottom and top openings  
10 of the drum, and a discharge-opening with a door located in the lower portion of the drum between the said partition, substantially as described.

15 2. A stove heating-drum constructed with inclined partitions extending alternately from the bottom and top of the drum nearly to its opposite side and located between the bottom and top openings thereof, and having a ventilating opening and valve connected by mechanism, substantially as described, with a damper  
20 located on the drum, the said mechanism oper-

ating to close the valve on closing the damper, substantially as described.

3. A stove heating-drum constructed with inclined partitions extending alternately from  
25 the bottom and top of the drum nearly to its opposite side, and located between the bottom and top openings thereof, and having a ventilating-opening, substantially as described.

4. A stove heating-drum, 1, constructed with  
30 open horizontal pipes 4, thimbles 5 5 in its top and bottom, inclined partitions 7 8, opening 9, with slide 10, and opening 11, provided with the valve 15, connecting-rod 16, bell-crank lever 17, connecting-rod 20, and damper 21, all  
35 constructed and arranged substantially as described.

EDWARD C. GRAN.

Witnesses:

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