No. 798,183. PATENTED AUG. 29, 1905.

J. HOLT & F. O. SWENSON.

HEATING DRUM.

APPLICATION FILED JAN. 27, 1905.

Fig. 1.

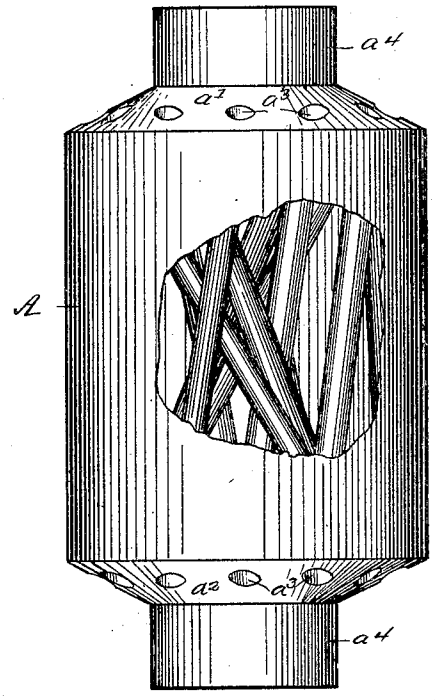


Fig. 3.

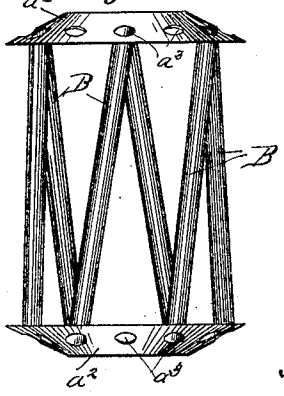


Fig. 4.

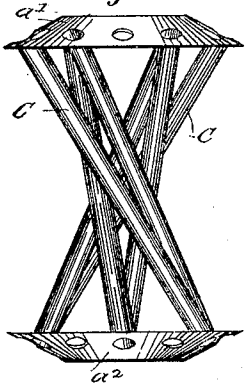
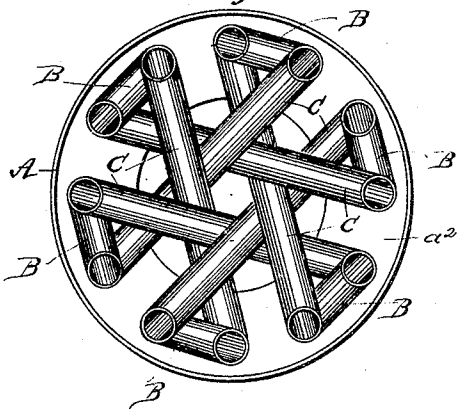


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES HOLT AND FRANS OSCAR SWENSON, OF HUTCHINSON, KANSAS.

HEATING-DRUM.

No. 798,183. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed January 27, 1905. Serial No. 242,830.

To all whom it may concern:

Be it known that we, JAMES HOLT and FRANS OSCAR SWENSON, citizens of the United States, residing at Hutchinson, in the county of Reno and State of Kansas, 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, radiators, or devices of the class that is connected with a stovepipe, hot-air or smoke flue of suitable form, or adapted to be set directly on a stove, and is designed to utilize a portion of the heat that ordinarily escapes up the chimney by interrupting the heat-currents, by increasing the radiating-surface, and by setting up and maintaining currents of atmospheric air which are brought into intimate contact with the ascending column of heat in the pipe or flue.

In the accompanying drawings, Figure 1 is an elevation of our invention with a portion broken away to more clearly illustrate the arrangement of tubes. Fig. 2 is a plan view of the invention with the top removed. Fig. 3 is an elevation, on a smaller scale, showing the arrangement of the concentric tubes; and Fig. 4 is an elevation showing the arrangement of the oblique tubes.

Referring to the details of the drawings, A represents a sheet-metal cylindrical drum or thimble, to which are secured trunco-conical top and bottom annular plates a' a^2, respectively, in each of which are cut a plurality of holes a^3. Secured to the inner periphery of each of the plates is a collar a^4, by which connection with an ordinary stove or flue pipe is facilitated. Arranged within the drum are two sets of tubes B and C, the former being arranged concentric to the side walls of the drum and the latter being set obliquely thereto, as shown in Figs. 3 and 4, respectively. The tubes B are slightly inclined in their concentric plane and have their ends secured in every alternate hole in the top and bottom plates a' a^2. The tubes C extend diagonally across the interior of the drum and are so arranged that they intersect or overlie each other and have their ends secured in the alternate holes between the ends of the tubes B. By this arrangement of said tubes C their sides will extend across the path of hot-air currents passing through the drum, and thus serve to slightly check the movement of the currents while subjecting the tubes to the maximum heating influence of the products of combustion. This arrangement also permits the use of a number of tubes, thus increasing the radiating-surface, and the general vertical position of the tubes permits the atmospheric air to enter at the bottom and pass out at the top, the latter advantage being accentuated where the tubes are made relatively long, as will be understood.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a heating device, a cylindrical drum having a plurality of openings in its top and bottom, a series of air-tubes arranged concentric with the walls of said drum, and obliquely to the vertical axis of the drum, and having their ends secured in some of said openings, and a series of air-tubes arranged diagonally across said drum and intersecting each other and having their ends secured in the other openings in the drum.

2. In a heating device, a cylindrical drum having top and bottom collars and a plurality of openings in its top and bottom, a series of concentrically-arranged air-tubes B having their ends secured in every alternate opening in the top and bottom of the drum and arranged obliquely to the vertical axis of the drum, and a series of diagonally-arranged tubes C having their ends secured in the intermediate openings in said top and bottom, said tubes also arranged in intersecting planes.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES HOLT.
FRANS OSCAR SWENSON.

Witnesses:
J. M. WATSON,
ELLA CAPRON.