J. H. KEYSER.

Drum for Hot-Air Furnace.

No. 82,723, Patented Oct. 6, 1868.

Fig. 1.

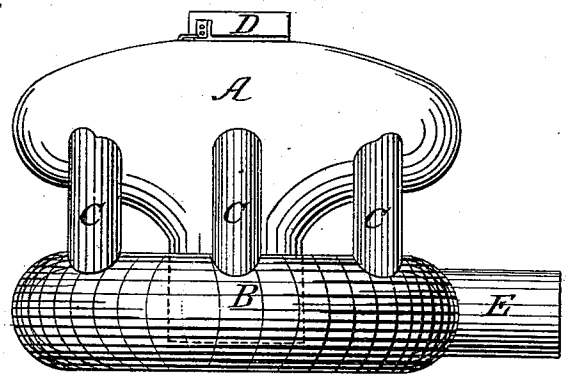


Fig. 2.

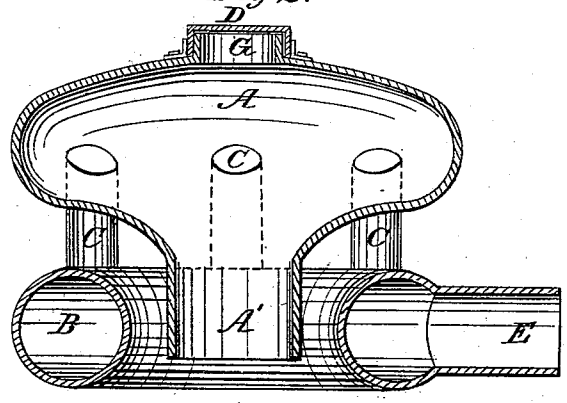
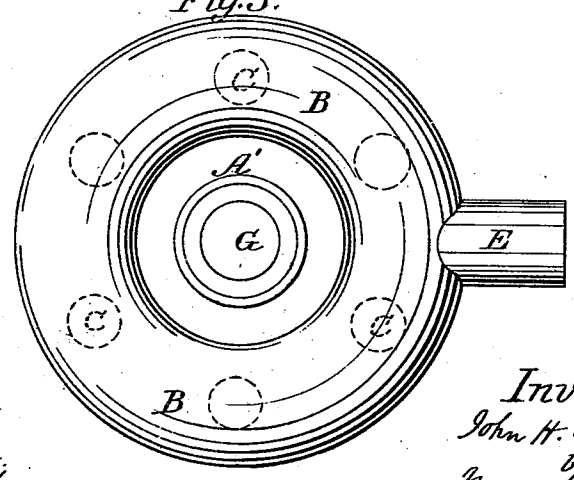


Fig. 3.



Witnesses.

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JOHN H. KEYSER, OF NEW YORK, N. Y.

Letters Patent No. 82,723, *dated October* 6, 1868.

IMPROVEMENT IN DRUMS FOR HOT-AIR FURNACES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN H. KEYSER, of the city and county of New York, and State of New York, have invented a new and useful Improvement on Radiators for Hot-Air Furnaces; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of my improved radiator.

Figure 2 is a diametrical section through the radiator.

Figure 3 is a bottom view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement on the radiator for hot-air furnaces, which is described in the specification annexed to my Letters Patent, numbered 62,962, and dated on the 19th day of March, 1867.

The said radiator consisted of two drums, arranged one above the other, and provided with vertical communications, and a flue leading from the furnace to the uppermost drum, so that the products of combustion were compelled to pass into the said upper drum first, and thence descend into the lower drum, before escaping through the exit-pipe. The only objections attending such arrangement were the want of direct draught, and the difficulty of reaching the interior of the drums to clean them out. These objections I have now removed by constructing the upper drum with a central opening through it, surrounded by a collar for receiving a direct-draught pipe, through which opening the products of combustion rising from the fire-chamber can be carried directly off, and access can be readily obtained to the interior of the upper drum, for cleaning it out, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a drum, which communicates with the fire-chamber of a furnace by means of a central contracted flue, A′, and which receives the products of combustion as they rise from said fire-chamber. This drum communicates with a drum, B, arranged beneath it, by means of a number of vertical flues, C C, and from this lower drum, B, the products of combustion are conducted off by way of an escape-pipe, E.

This radiator is constructed substantially like that described by me in my Letters Patent above referred to, and is designed for effecting a thorough and uniform distribution of the heat throughout its several chambers.

Through the centre of the crown of drum A, an opening, G, is made, which is surrounded externally by a collar, for receiving and confining in place a pipe for conducting off the products of combustion directly from this drum A.

This direct-draught opening is designed for allowing access to the interior of the upper drum, for cleaning it out; and it is also designed for use, when bituminous coal is used in the furnace, for affording sufficient draught to allow such coal to be burned successfully. In using anthracite or hard coal, it is not so important to have the opening G, but in the construction of the radiators, I shall leave this hole G, and when it is not required to have a direct-draught pipe, it can be closed by a cap, D. When a direct draught is required, a pipe is applied to the collar around hole G, and provided with a damper for checking and entirely cutting off the direct draught, when necessary. Said pipe may be carried off to a main flue direct, or it may communicate with the pipe E, leading from the lower drum B.

Having described my invention, I claim, as an improvement on my radiator, patented March 19, 1867, and desire to secure by Letters Patent—

The radiating-attachment herein described, constructed with an opening through the top of its drum A, substantially as specified.

JOHN H. KEYSER.

Witnesses:

WILLIAM TURTON,

WILLIAM F. HUESTON.