G. W. MOORE.

WATER-BACKS FOR FIRE-PLACES.

No. 192,782. Patented July 3, 1877.

Fig. 1

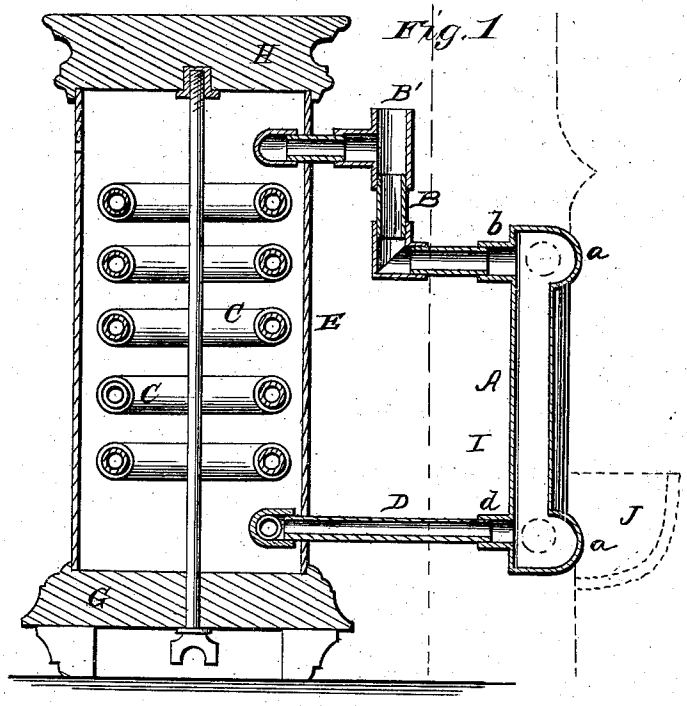
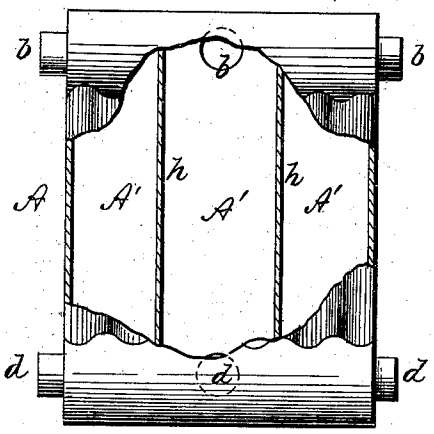


Fig. 2.



WITNESSES

Francis L. Durand

John Schroeder

INVENTOR

Geo. W. Moore

Alexander Thomson

ATTORNEYS

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE W. MOORE, OF LYNCHBURG, VIRGINIA.

IMPROVEMENT IN WATER-BACKS FOR FIRE-PLACES.

Specification forming part of Letters Patent No. **192,782**, dated July 3, 1877; application filed May 17, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. MOORE, of Lynchburg, in the county of Campbell, and in the State of Virginia, have invented certain new and useful Improvements in Water-Backs; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction of a water-back for fire-place grates and radiator connected therewith, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a transverse vertical section of my invention. Fig. 2 is a front view, partly in section, of the water-back.

A represents the hollow water-back, made of cast-iron or any other suitable material, having its top and bottom enlarged, as shown at *a*, and the face of the fire-back between said two enlargements corrugated vertically. From the back of the water-back A extend two pipe-collars, *b* and *d*. The collar *b*, at the top, is, by a pipe, B, connected with the upper end of a coiled or tortuous pipe, C, the lower end of which is, by a pipe, D, connected with the collar *d* at the bottom of the water-back.

The coil of pipe C is inclosed within a sheet-metal casing, E, secured between a base, G, and top H, and the upper end of said casing perforated for the escape of the hot air.

The water-back A is to be built in the back of the grate, flush with the brick-work I, the bottom just above the bottom grate-bars J with the corrugated face, so arranged that the burning coal will lie against the same. A suitable quantity of water is admitted through an inlet, B′, in the pipe B, which is afterward to be closed tightly. As the water in the water-back gets heated it passes up into the radiator, the cold water coming in at the bottom of the water-back, and so on, causing a continual circulation.

The water-backs will be made of different sizes, according as one or more additional rooms are to be heated. When only one room is to be heated the inside of the water-back will all form one chamber; but when more than one room is to be heated with the same fire the water-back will be divided by vertical partitions *h* into two or more chambers, A′ A′, as shown in Fig. 2, which are entirely disconnected from each other, and each chamber connected with one radiator, in the manner above described.

When the room or rooms to be heated are on the same floor as the grate the connections with the radiator will be as above described; but when the radiator is above the floor where the water-back is the hot-water pipe will be connected at the bottom of the radiator and circulate upward.

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

1. The water-back A, constructed as described, with corrugated face, in combination with the connecting-pipes B D and radiator C E G H, substantially as and for the purposes herein set forth.

2. A water-back, A, divided by vertical partitions *h* into two or more chambers, A′, each chamber having inlet and outlet, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of May, 1877.

GEORGE W. MOORE.

Witnesses:

J. M. MASON,

J. R. SMITH.