G. W. BLAKE.

AIR-VENT FOR STEAM-RADIATOR.

No. 170,808. Patented Dec. 7, 1875.

Fig. 1.

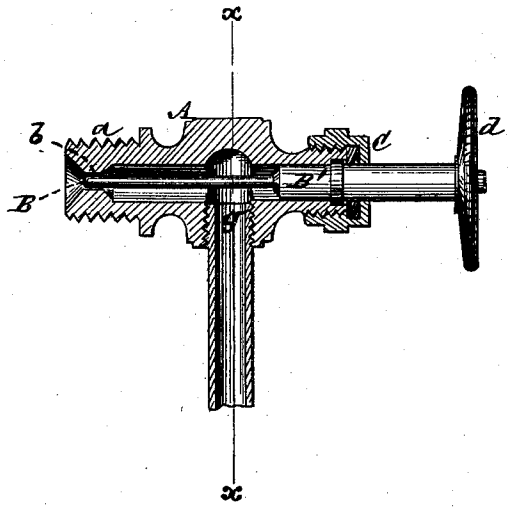
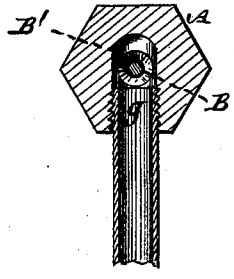


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE W. BLAKE, OF NEW YORK, N. Y.

IMPROVEMENT IN AIR-VENTS FOR STEAM-RADIATORS.

Specification forming part of Letters Patent No. **170,808**, dated December 7, 1875; application filed November 18, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. BLAKE, of the city, county, and State of New York, have invented a new and useful Improvement in Air-Vents for Steam-Radiators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

In air-vents for steam-radiators, used to prevent the choking of the radiator or pipes leading thereto with air, and to secure a free circulation for the steam through the radiator, the following difficulty, which is the object of my invention to avoid, has been experienced. Thus, whether the air-vent be connected with the sewer, or be simply formed by a cock opening into the apartment containing the radiator, it is desirable to have the vent-opening as small as possible, so as to prevent the waste and annoyance of escaping steam after the air has been expelled by the latter. A very fine vent-opening, however, is apt to choke with dust or dirt; and the same is inaccessible for clearing purposes when opening into the sewer; also, difficult or impossible to clear when made in a cock which opens into the apartment. Hence, such air-vents are usually made much larger than otherwise would be necessary, and there is an annoying and wasteful escape of steam.

My invention consists in a single air-vent or device connected with the radiator, and either opening into the apartment containing the radiator, or communicating with the sewer or elsewhere, as desired, in which a clearing-pin, capable of easy manipulation, serves to contract the vent-opening or escape-orifice, and to keep the latter clear of all particles or matter liable to choke the air-vent, which thus may be made as small as desired.

Figure 1 represents a longitudinal section of an air-vent constructed in accordance with my improvement, and Fig. 2 a transverse section thereof on the line *x x*.

A is a socket, which may be connected by a screw-thread, *a*, with the radiator, and which is internally constructed at its connecting end with an air-vent opening or escape-orifice, *b*. B is a clearing-pin, arranged to enter or project within and through said orifice, but of slightly less transverse area than the latter, so as to leave a contracted passage around the pin within the orifice *b*. This pin is attached to a spindle, B′, which passes out through a stuffing-box, C, at the other end of the socket, and said spindle and pin made capable of a limited longitudinal motion by means of the hand applied to a button, *d*.

In this way or by these means a simple tremulous motion of the hand will serve to work the clearing-pin B back and forth, and so clear the escape-orifice *b*. The expelled air and escaping steam pass off from the interior of the socket by an outlet, *g*, which may or may not connect with the sewer.

The passage for the escaping air being so very contracted by means of the clearing-pin, the vent, in the majority of cases, may be left permanently open, as shown in the drawing; but, if desired, it may be made to open and close, by providing the spindle B′ with a valve made to fit a valve-seat in the socket A, and said spindle be formed with a screw-thread made to fit a female thread in the socket, for the purpose of opening and closing the valve, and of working the clearing-pin back and forth by turning the spindle.

I claim—

The combination of the longitudinally-movable clearing-pin B and its attached spindle B′ with the socket A, provided with a stuffing-box, C, an outlet, *g*, and an escape-orifice or vent-opening, *b*, within which the clearing-pin works, substantially as and for the purposes herein set forth.

GEO. W. BLAKE.

Witnesses:

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