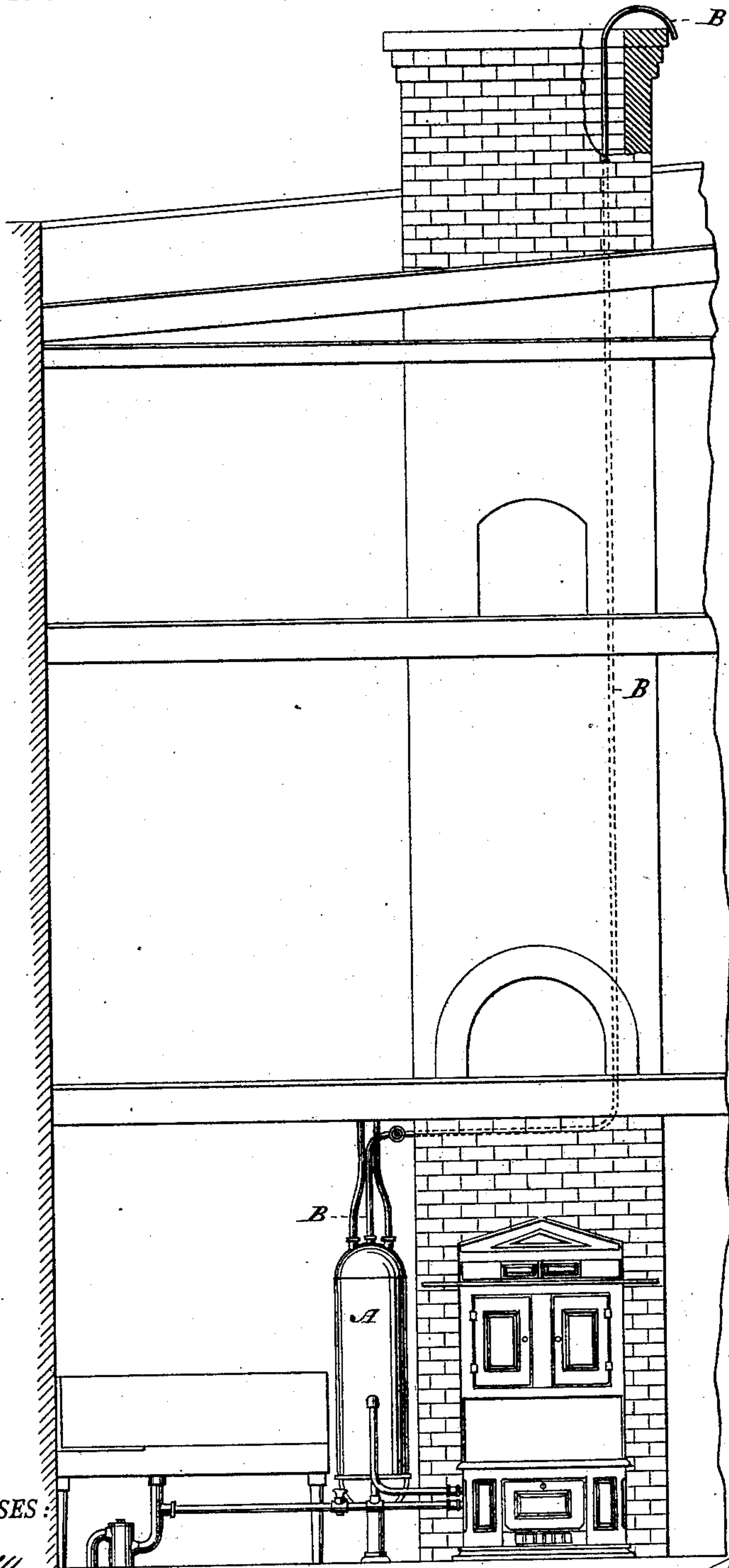


(No Model.)

J. REILLY.
DOMESTIC BOILER.

No. 363,542.

Patented May 24, 1887.



WITNESSES

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JAMES REILLY, OF BROOKLYN, NEW YORK.

DOMESTIC BOILER.

SPECIFICATION forming part of Letters Patent No. 363,542, dated May 24, 1887.

Application filed August 26, 1886. Serial No. 211,896. (No model.)

To all whom it may concern:

Be it known that I, JAMES REILLY, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Domestic Boilers, of which the following is a specification.

The invention relates to improvements in the class of domestic boilers employed in connection with ranges for supplying hot water to the pipes passing therefrom to the different apartments of a house.

The objects of the invention are to remedy certain objections to the domestic boilers heretofore existing, to render them more efficient in operation, to insure them from collapsing or bursting when in use, and to effect a saving in the water.

It is well known that the domestic boilers in use are customarily placed upon a stand adjacent to the range, and that they are fed from the water-main, the water circulating through the back, where it is heated, and thence into the boiler, and that pipes lead from said boiler to the different apartments of the house and to a sink or waste-delivery. It is also well known that the water in the boiler frequently becomes overheated, especially on days when the demand for hot water is light, and that when in this condition certain dangers are likely to result unless the boiler is relieved. When the pressure in the boiler becomes greater than that in the supply-main, the hot water will temporarily be forced back into the latter; but this is not only objectionable in itself, but has not always proven a safe reliance, since, notwithstanding the connection of the boiler with the main, the pressure generated in the boiler is sometimes sufficiently great to burst it. It is true, also, that the condensation of steam at times produces a vacuum in the boiler, causing thereby its sides to collapse. In addition to these dangers it is a universal custom, when the water has become sufficiently heated to produce a pounding or rumbling noise in the boiler, for the domestic to relieve the latter by opening the waste-outlet and permitting the escape of the hot water, thus cooling the boiler; but it must be apparent that in a large city this custom, although adopted as a means of safety, entails a

very great waste of water, as a consequence of which some parts of the city lack a sufficient supply to meet the requirements.

In carrying my invention into effect I prevent the overheating of the water, the generation of pressure in the boiler greater than that in the supply-main, and the formation of a vacuum in the boiler, and at the same time avoid the necessity of allowing the hot water to be wasted in order to relieve the boiler. These results I accomplish by adding to the usual boiler a pipe, (preferably a one-half-inch copper pipe,) which leads therefrom to the air, preferably passing up through the chimney, and having its end bent downward over the upper edge of same, and being of such height relative to the supply-main that the water will not escape therefrom under the pressure in the main. This additional pipe admits air to the boiler, and thus automatically prevents the water therein from becoming heated to above the boiling-point—viz., 212° Fahrenheit—under which condition the pressure will not rise above that in the supply-main, vacuums will not be created, and there will be no pounding or rumbling in the boiler, and hence the same will not require to be relieved by the escape of the water.

By the use of my invention the boiler is rendered safe at all times and requires no special attention in order to avert accidents, and, as aforesaid, the water heretofore allowed to waste in order to relieve the boiler is effectually saved.

In the accompanying drawing I illustrate a section of a house, showing the application of my invention to the usual domestic boiler.

A in the drawing designates the boiler arranged on a stand adjacent to the range, and supplied, in addition to the usual pipes, with the pipe B, by which the objects of my invention are accomplished, and which is shown as passing from the boiler up through the chimney to the top of the house; its upper end being bent or curved downward over the edge of the chimney, in order to insure its being kept clear.

The particular manner of disposing of the pipe B is unimportant, except for the sake of convenience, it being only essential that it reach such an elevation that the pressure in

the supply-main will not be sufficient to cause the water to flow from it. I do not therefore confine my invention to any particular manner of arranging the pipe B with relation to the boiler or the chimney, nor to a pipe of any special construction or form.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The range having the water back, the domestic boiler A, and its circulating pipes, combined with the water-supply pipe and the pipe B, open at its upper end and passing upward through the house from the boiler to the outer air, the height of said pipe B being such relative to the supply-main that the pressure in the latter will not force the water from the upper end of said pipe, substantially as shown and described.

2. In combination with the domestic boiler and the chimney, the pipe B, open at its upper end and passing from the boiler up through the chimney to the air, the height of the pipe being such relative to the supply-main that the pressure in the latter will not force the water from the upper end of the pipe, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 24th day of August, A. D. 1886.

JAMES REILLY.

Witnesses:

CHAS. C. GILL,
A. S. SHAW.