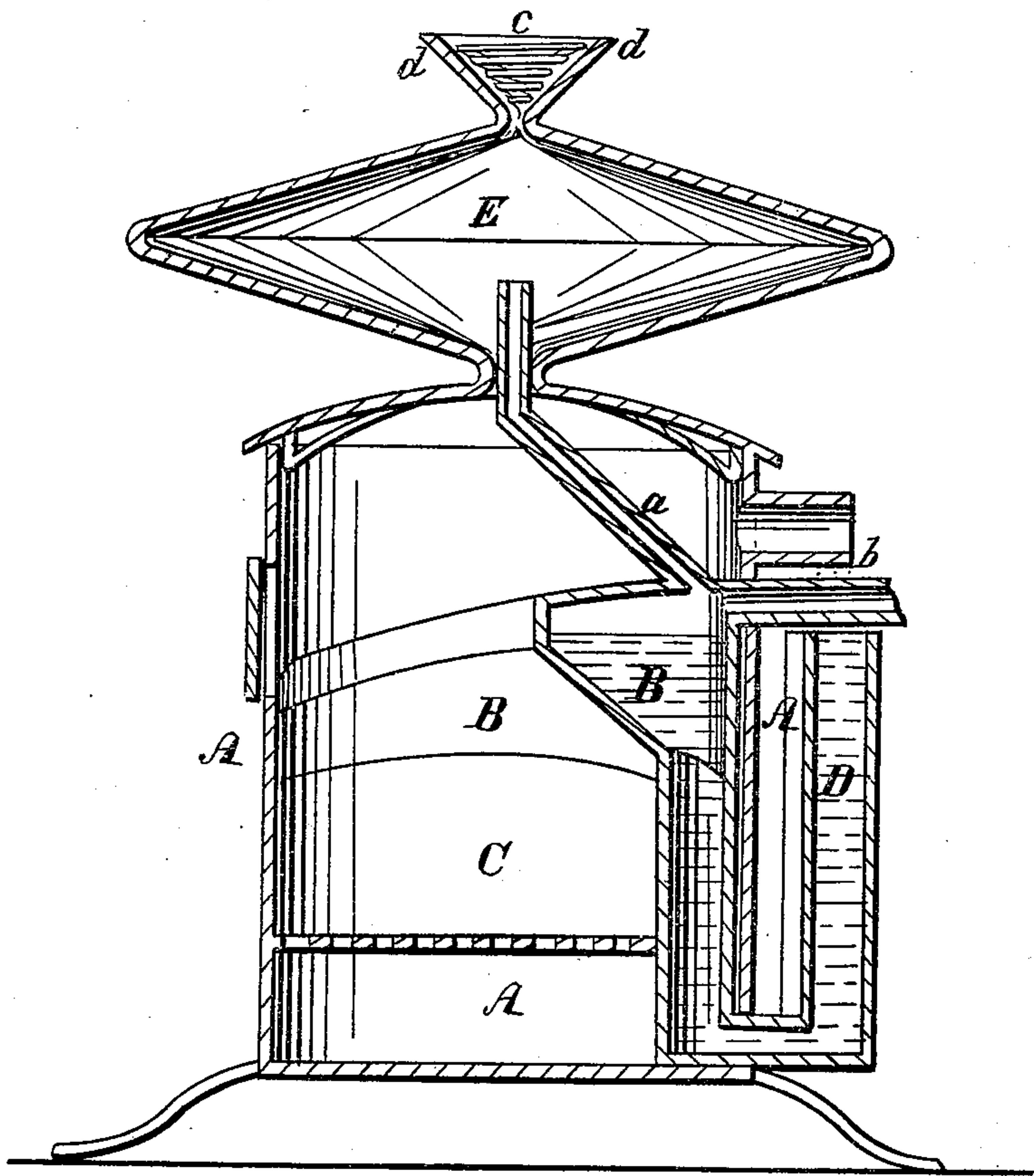


A. C. BACON.

Steam Heater.

Nb. 90,720.

Patented June 1, 1869.



Witnesses.
J. H. Decker
J. H. Brooks

Inventor.
A. C. Bacon.
per *[Signature]*
Attorneys.

United States Patent Office.

A. C. BACON, OF BERGEN, NEW JERSEY.

Letters Patent No. 90,720, dated June 1, 1869.

IMPROVEMENT IN STEAM-HEATERS.

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, A. C. BACON, of Bergen, in the county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Heaters; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a sectional elevation of my improved heater.

This invention relates to a new heater, with reference to various devices which render available the surplus heat of the products of combustion, for heating and evaporating water, so that the steam produced may be applied for heating radiating-surfaces.

The invention consists in the arrangement of the water-chamber within the heater, above or around the fire-chamber of the same, and in suitable pipes, with the radiating-chamber arranged above the heater, in another apartment, if so desired.

A, in the drawing, represents a heater.

B is an annular water-chamber, arranged above the fire-chamber C, and around the same, said water-chamber being connected with the lower end of a vessel, D, arranged on the outside of the heater.

Water is poured into the vessel D, and will stand at the same height in the vessel B, so that it may, in the latter vessel, be evaporated by the heat of the fire.

The steam thus produced is conducted, by a suitable pipe, *a*, into a vessel, E, which is arranged either directly above the heater or near the same. Or, the

steam may, by a pipe, *b*, be conducted into a suitable radiating-vessel in another apartment.

The steam, entering the radiating-vessel E, will heat the sides of the same, so as to aid in heating the room.

By means of a very low fire, sufficient heat can thus be produced for a large apartment, and without producing much steam.

The steam is partially condensed in the vessel E, and the water of condensed steam flows through the pipe *a*, back to the reservoir B.

If the steam should not condense quick enough, it is allowed to ascend in a small coiled pipe, *c*, which may lead into a cold-water vessel placed upon the reservoir.

The pipe *c*, being cooled by the cold water, will insure the condensation of the steam.

Having thus described my invention,

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

1. The arrangement of the heater A and water-reservoir B, with reference to the fire-place of the heater, whereby to produce steam for heating-purposes, as set forth.

2. The arrangement of the steam-heat radiator E and pipe *a* with the water-reservoir B arranged within the heater, substantially as herein shown and described.

3. The arrangement of the condensing-pipe *c* steam-heat radiator E, and water-reservoir B, as set forth.

A. C. BACON.

Witnesses:

FRANK BLOCKLEY,
ALEX. F. ROBERTS.