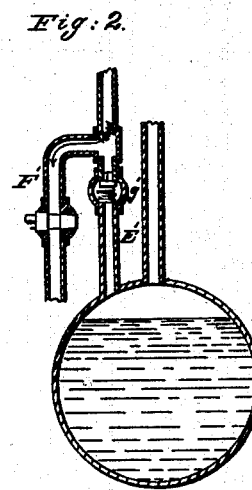
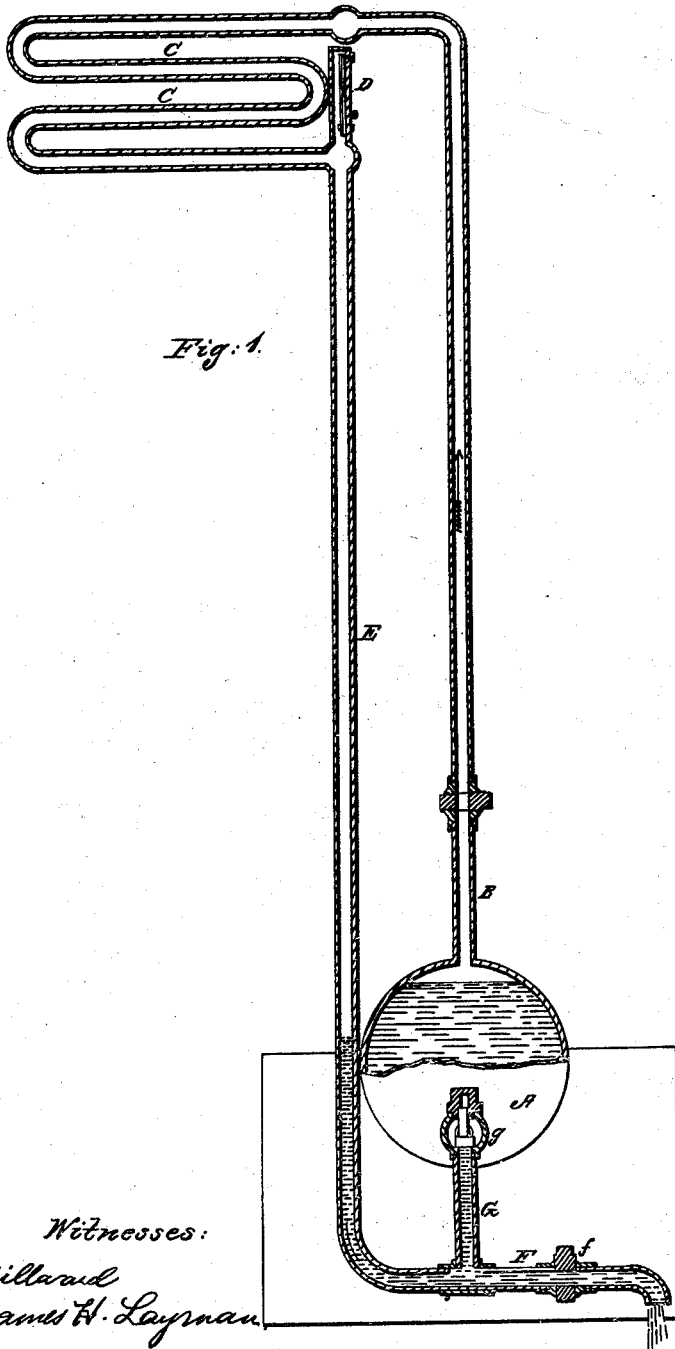


C. A. WILSON.
Steam Warming Apparatus.

No. 49,332.

Patented Aug. 8, 1865.



Witnesses:
J. Willard
James H. Layman

Inventor:
E. A. Wilson
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UNITED STATES PATENT OFFICE.

CHAS. A. WILSON, OF CINCINNATI, OHIO.

STEAM WARMING APPARATUS.

Specification forming part of Letters Patent No. 49,332, dated August 8, 1865.

To all whom it may concern:

Be it known that I, CHARLES A. WILSON, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Steam Warming Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to the class of house-warming apparatus which comprises a steam-generator and pipes for conveying steam to the apartments and for returning the water of condensation to the boiler; and my invention relates to a provision for freeing the return-pipe, in the morning or when started afresh, of the air, vapor, and water that may have accumulated, in order to facilitate the starting of the apparatus and the immediate diffusion of warm steam to every part.

Figure 1 is a side elevation of an apparatus which embodies my invention. Fig. 2 shows a modification of my invention.

A represents the boiler or steam-generator; B, the steam-pipe rising therefrom and entering one or more coils or radiators, C.

D is a self-acting air-vent or thermostat.

E is the return-pipe, terminating in two branches, F G, of which the branch F, when its cock *f* is opened by the attendant, discharges the entire contents of the return-pipe into a sewer or wasteway; but when the cock *f* is closed the contents of the return-pipe ac-

cumulate in the lower part thereof until a column of water is formed of sufficient weight to open the check-valve *g* and to discharge a portion of its volume into the boiler. Such discharge is continued at brief intervals throughout the entire period of active operation.

I have selected to illustrate my invention an arrangement of parts successfully applied by me, but do not desire to restrict myself to the precise forms herein represented, so long as I attain the same results by means substantially equivalent. For example, a substantially identical but inferior arrangement might be formed by leading the return-pipe E in at the top of the boiler, its check-valve *g'* opening downward and being held shut by a spring, and the waste-passage F' being led off from above the check-valve. (See Fig. 2.)

I claim herein as new and of my invention and desire to secure by Letters Patent—

The separate return-pipe E, provided with the closable discharge-passage F *f* and with the automatic valve-guarded return-passage G *g*, which empties into the boiler, the whole being combined and operating substantially as set forth.

In testimony of which invention I hereunto set my hand.

C. A. WILSON.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.