

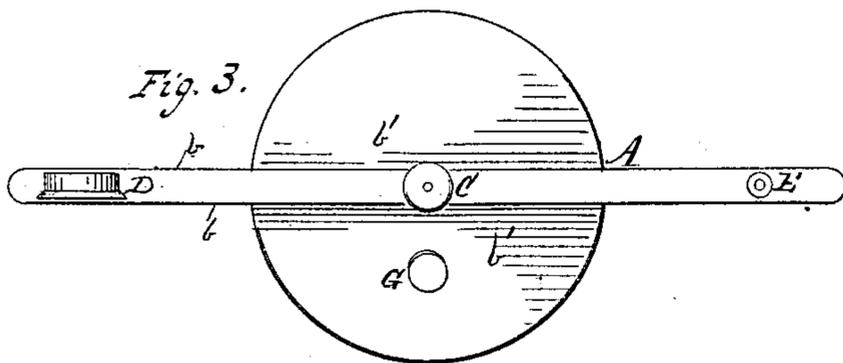
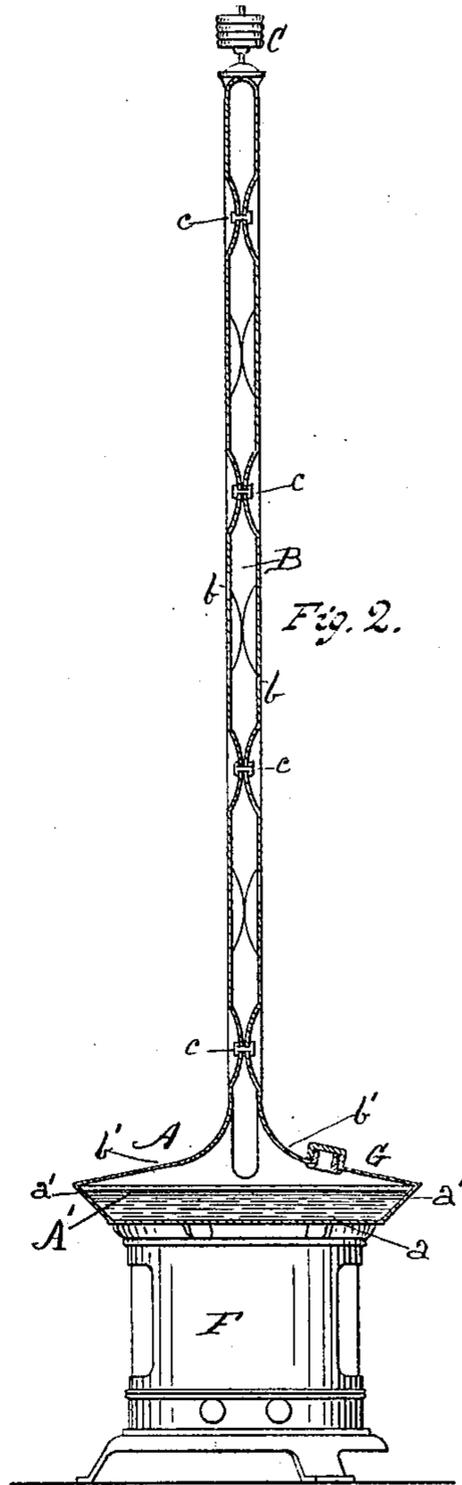
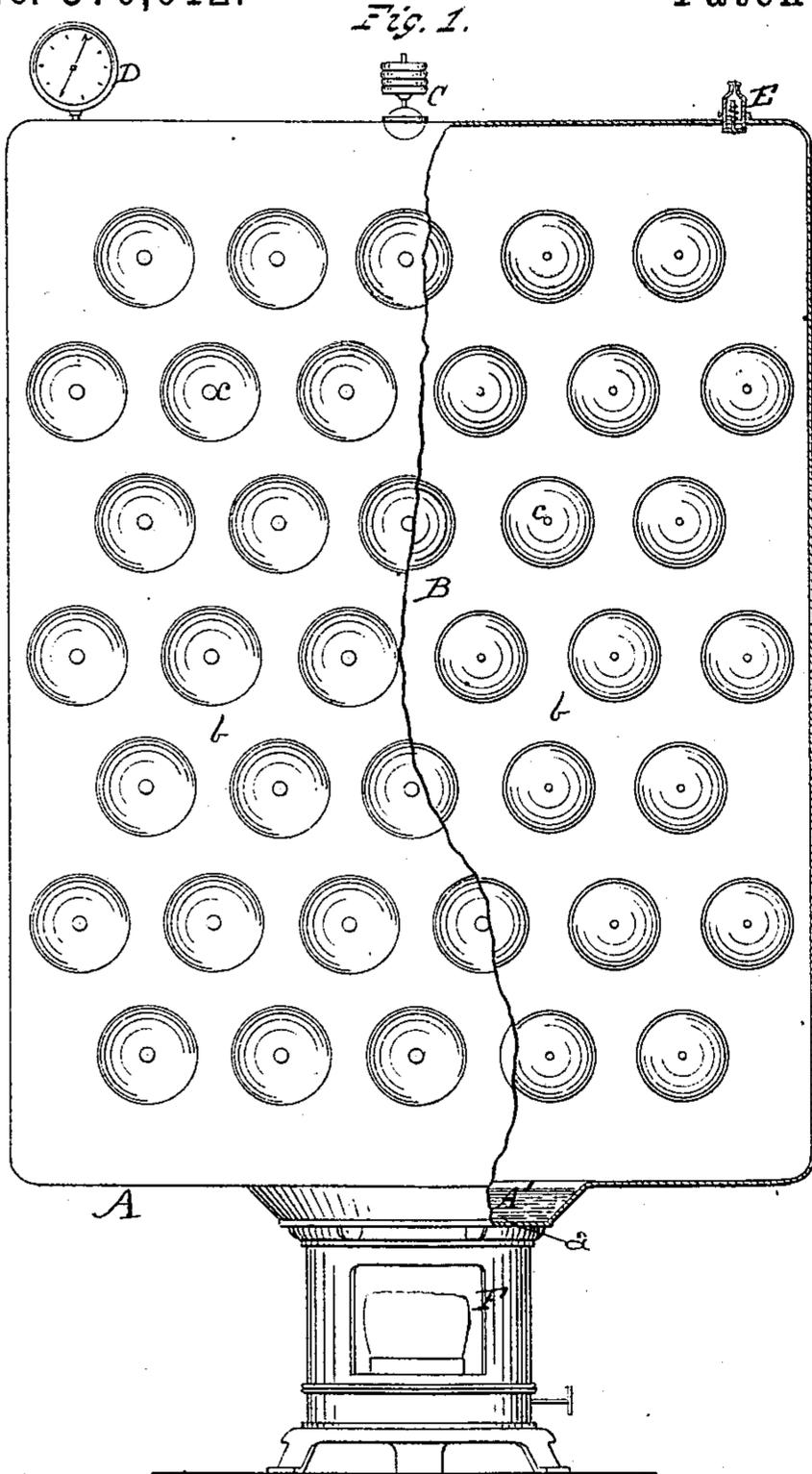
(No Model.)

R. G. FERGUSON.

COMBINED STEAM GENERATOR AND RADIATOR.

No. 370,012.

Patented Sept. 13, 1887.



Witnesses:

Charles S. King.  
Arthur M. Bugden.

Robert G. Ferguson  
Inventor.  
His Attorney Alex. Selkirk

# UNITED STATES PATENT OFFICE.

ROBERT G. FERGUSON, OF SARATOGA, NEW YORK, ASSIGNOR OF ONE-HALF TO OSCAR A. DAY, OF SAME PLACE.

## COMBINED STEAM-GENERATOR AND RADIATOR.

SPECIFICATION forming part of Letters Patent No. 370,012, dated September 13, 1887.

Application filed January 14, 1886. Serial No. 188,597. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT G. FERGUSON, a citizen of the United States, residing at Saratoga, in the county of Saratoga and State of New York, have invented certain new and useful Improvements in Combined Steam-Generators and Radiators, of which the following is a specification.

My invention relates to improvements in combined steam-generators and radiators in which a cylindrical heater and a circular shallow water-receptacle supported by the former are employed in combination with a radiator containing a narrow steam-chamber, and constructed of sheet-metal walls which are continued downward and outward to the top edges of the shallow water-receptacle and there hermetically sealed.

The object of my invention is to provide a combined steam-generator and radiator which will be portable in character, and which may be readily placed at will in any selected portion of a room or apartment to be warmed, and by the use of only a small quantity of water and the flame of the heater effect a generation of steam, and thereby a heating of the walls of the radiator to such a degree as to render the same capable of comfortably warming the room or apartment or the portion of the same neighboring the apparatus. I attain this object by the means illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of the combined steam-generator and radiator, with parts broken away, exposing the interior thereof. Fig. 2 is a sectional view of the same. Fig. 3 is a plan view of the same.

The same letters of reference refer to similar parts throughout the several views.

In the drawings, A represents a portable device, which includes the circular shallow water-receptacle A' and the sheet-metal radiator B. The water-receptacle A' is made with a circular form, as shown in Fig. 3, and with a shallow depth, as shown in Figs. 1 and 2, with its bottom *a* and side walls *a'*, preferably formed from a single piece. The radiator B is made with a rectangular form, and consists of the sheet-metal walls *b b*, secured together at intervals

by rivets *c c*, in the manner usually practiced by the trade, and contains between these walls the narrow steam-chamber shown. The lower portion of these sheet-metal side walls *b b* of this radiator, as portions *b' b'*, are continued downward and outward to the top edges of the side walls *a'* of the circular water-receptacle, and are there secured and hermetically sealed in any suitable manner.

C is a safety-valve, D is a steam-gage, and E is an air-vent, all of which devices can be of any known construction, and be made to have suitable connections with the radiator B.

F is a portable heater, of any known construction, and consists in its essential parts of a circular outer wall inclosing a suitable oil-receptacle, and a suitable burner, (one or more,) provided with any well-known devices for regulating the flame of the same. This heater operates as a portable base or support of the combined water-receptacle and radiator, and in its office as a support for the same obviates the use of legs fixed to the radiator, as heretofore, and adapts the radiator to be readily turned in either direction on the upper end of the heater, so that its flat sides can be adjusted at will to face any preferred direction, and at the same time, by reason of this feature of this adjustment, together with the portability of both the heater and the combined radiator and water-receptacle supported at will on the former, this apparatus can be readily placed at will in any part of the room, and either in close neighborhood to the occupant or occupants or remote from them, accordingly as may be preferred for comfort.

Before using this apparatus the safety-valve will be set to blow off at the pressure intended to be the greatest on the radiator. Water will be introduced into receptacle A' through the screw-capped opening G until it is filled about up to the upper edge of its side walls *a'*. The burner of the heater will then be lighted, and the flame will be adjusted so as to quickly heat the water in the receptacle and convert it into steam, which will fill into all portions of the radiator and heat the walls thereof to a degree corresponding to the pressure of the steam on the same. After the pressure has been raised as high as intended to be used, the operator

will adjust the flame in its volume or capacity  
as will be most suitable for maintaining the  
preferred pressure without the exercise of any  
great care on the part of the occupant of the  
5 room or other person.

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

10 The combination of a cylindrical heater and  
circular shallow water-receptacle supported  
thereby with a radiator consisting of sheet-  
metal walls riveted together at intervals and

forming a narrow steam-chamber, the said walls  
being continued downward and outward to  
the top edges of the shallow water-receptacle  
and there hermetically sealed in any suitable 15  
manner, substantially as and for the purposes  
and operations set forth.

ROBERT G. FERGUSON.

Witnesses:

ARTHUR M. BUGDEN,  
ALEX. SELKIRK.