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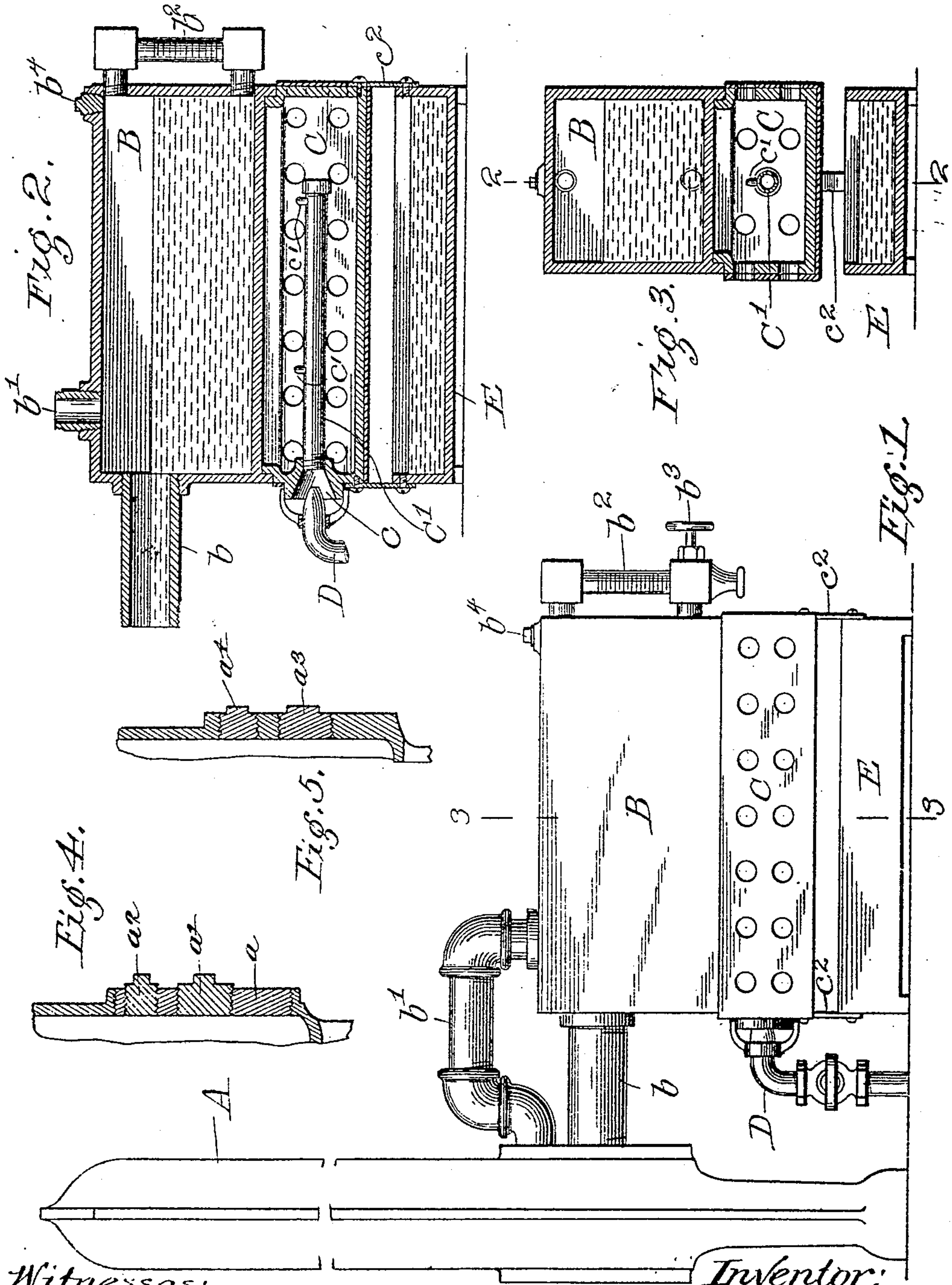
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T. A. FONTAINE.

AUXILIARY APPARATUS FOR SUPPLYING STEAM TO RADIATORS.

APPLICATION FILED NOV. 25, 1904.



Witnesses:
 X. M. Cornwall.
 J. E. Sherry.

Inventor:
 Thomas A. Fontaine
 by Pitman, Wiles & Sherry.
 Attys.

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UNITED STATES PATENT OFFICE.

THOMAS A. FONTAINE, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD TO CHARLES W. PITTS AND ONE-THIRD TO MAX BASS, OF CHICAGO, ILLINOIS.

AUXILIARY APPARATUS FOR SUPPLYING STEAM TO RADIATORS.

No. 817,909.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed November 25, 1904. Serial No. 234,165.

To all whom it may concern:

Be it known that I, THOMAS A. FONTAINE, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Auxiliary Apparatus for Supplying Steam to Radiators, of which the following is a specification.

My invention relates to certain new and useful improvements in auxiliary apparatus for supplying steam to radiators; and its object is to produce a device of this class which shall have certain advantages which will appear in the course of this specification.

To this end my invention consists in certain novel features which are shown in the accompanying drawings as embodied in my preferred form of construction.

In the aforesaid drawings, Figure 1 is an elevation of my improved device. Fig. 2 is a central longitudinal section in the line 2 2 of Fig. 3. Fig. 3 is a transverse section in the line 3 3 of Fig. 1, and Figs. 4 and 5 are vertical longitudinal sections through the connecting-boss of a radiator and illustrate two forms of a plug used in connection with this device.

Referring to the drawings, A is the end coil of an ordinary radiator, such as is made up of sections provided with bosses, by means of which each section communicates with the other to permit of the passage of the steam. My object is to provide an auxiliary heater which can be connected to such a radiator by means of a pipe or pipes opening directly into the boss of the end section opposite the end in which the steam-pipe from the ordinary supply enters. I am aware that various attempts have been made to supply radiators with auxiliary heaters, but in each instance a special radiator has to be employed to be used in connection with the auxiliary heater. B is a suitable boiler arranged partly above and partly below the bottom of the steam-space within said coil. Said boiler is connected with the radiator by means of a steam-pipe b' , leading from the boiler and threaded in the boss upon the end section of the radiator, and a return-pipe b also connects the boiler with said boss. The steam enters the radiator through the pipe b' , and the water of condensation returns through the pipe b . In this way the auxiliary heater

may be connected to the radiator by merely threading the inlet and outlet steam pipes in the boss, which is already provided with an opening which under ordinary conditions is closed up by a plug. Figs. 4 and 5 show the boss, Fig. 4 showing the opening therein of considerable diameter. For this reason said opening is closed by a large plug a , which in turn is bored and tapped to receive smaller plugs a' a'' , which plugs may be removed to receive the pipes b b' . In Fig. 5 the original opening in the boss is quite small, and in this case a second opening is made above the original opening, both of which openings may be closed by plugs a^3 a^4 when the radiator is used without the auxiliary heating device, but which are removed and the pipes b b' threaded in said openings when the auxiliary heater is used. The boiler is provided with a water-gage b^2 , having a cock b^3 , by which the contents of the boiler can be removed, and with a plug b^4 , by which the boiler can be filled, if necessary.

Immediately below the boiler is a heater-box C, having perforated ends and sides for the admission of air, but with a closed bottom. The heater-box may be secured to the boiler by means of clips c^2 , as shown. The side walls and especially the bottom are protected by asbestos to get the greatest heating effect without much radiation. One end of the heater-box C is provided with a conical opening c , from which extends a pipe C' , having nipples c' , adapted to direct gas against the bottom of the boiler. A gas-pipe D is arranged to discharge a jet of gas through the conical opening c of the heater-box, thereby mixing the same with air, and into the pipe C' . Below the heater-box C is supported a water-pan E, which serves the double purpose of supplying aqueous vapor to the atmosphere and of protecting the floor beneath the structure from the influence of the heat given off by the heater-box.

The operation of my improved device will be readily apparent. When there is no steam-pressure in the radiator system, it is frequently desirable to generate a small amount of heat, and for this purpose my device is particularly designed. When so used, the main valve of the radiator is cut off and the gas turned on and lighted in the heater-box. Steam will then be generated in the boiler,

which will flow into the radiator and warm the room. My device has a further advantage that it is in constant communication with the radiator and that the boiler is situated partly below the level thereof, so as to form a trap for the water of condensation. The boiler should in practice be kept full of water to approximately the level shown in the drawings, and it will rarely be found necessary to fill the boiler, as the water of condensation will keep it filled to the proper level. The water can be drawn off through the cock *b*³.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit myself to the specific form herein shown and described.

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

1. In a device of the class described, the

combination with a radiator having the ordinary connecting-boss, of an auxiliary heating-boiler having supply and return pipes threaded in said boss and means for heating the water in said auxiliary boiler.

2. In a device of the class described, the combination with a radiator provided with the usual connecting-boss, of an auxiliary heating-boiler, a steam-supply pipe and return-pipe connecting therewith and threaded in said boss, a heater-box below the boiler and a burner within said box for heating the water within the boiler.

In witness whereof I have signed the above application for Letters Patent at Chicago, in the county of Cook and State of Illinois, this 21st day of November, A. D. 1904.

THOMAS A. FONTAINE.

Witnesses:

CHAS. O. SHERVEY,
K. M. CORNWALL.