(No Model.)

C. H. KNOWLTON.

ATTACHMENT FOR RADIATORS.

No. 586,045. Patented July 6, 1897.

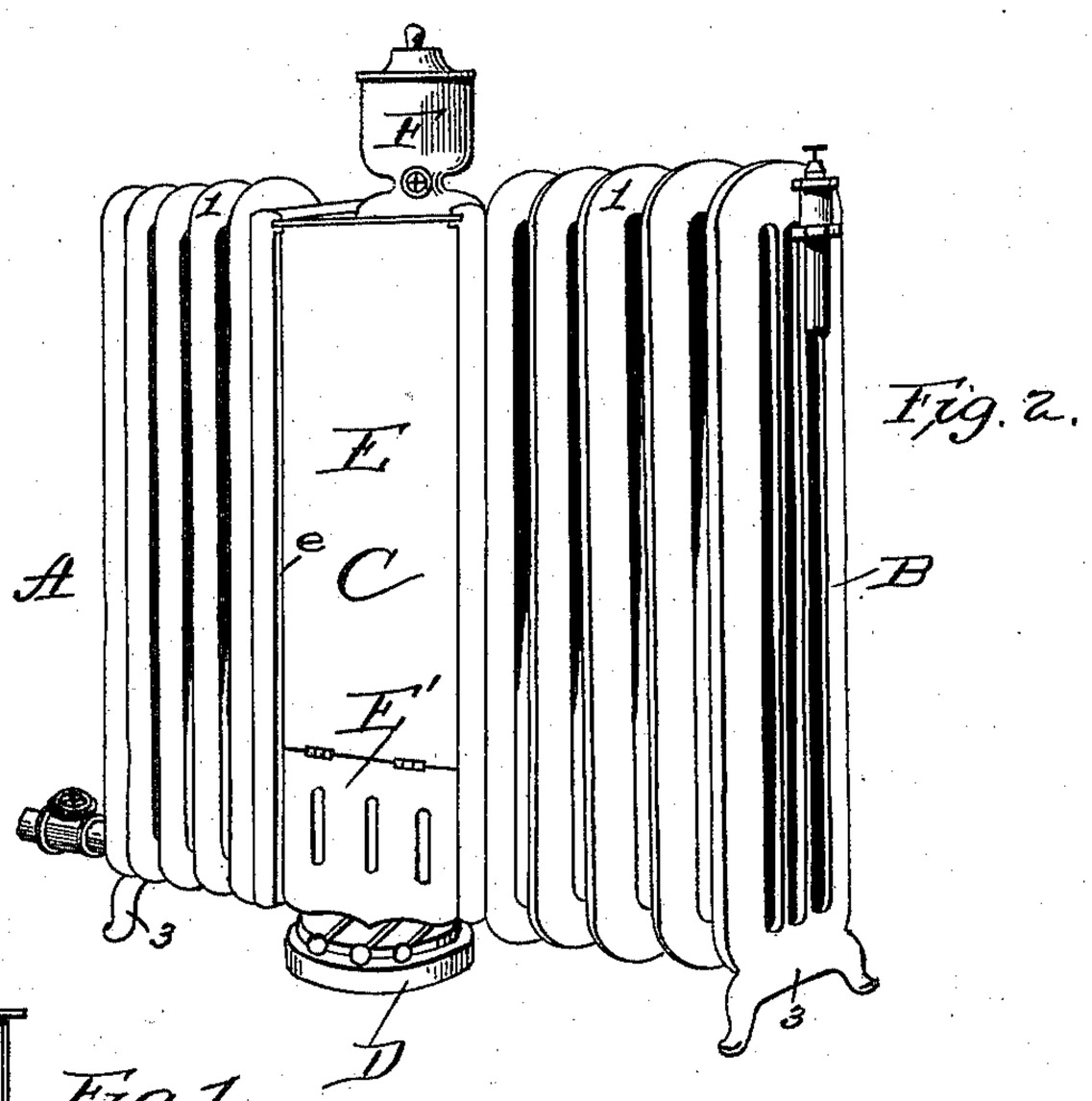

Fig. 2.

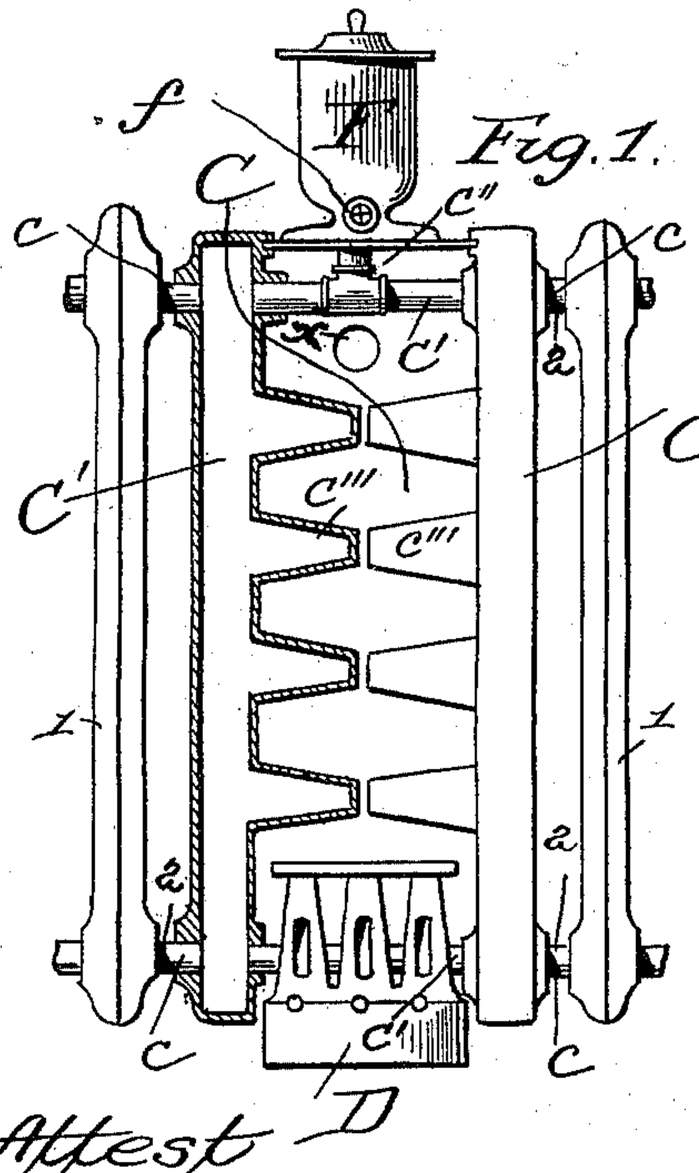

Fig. 1.

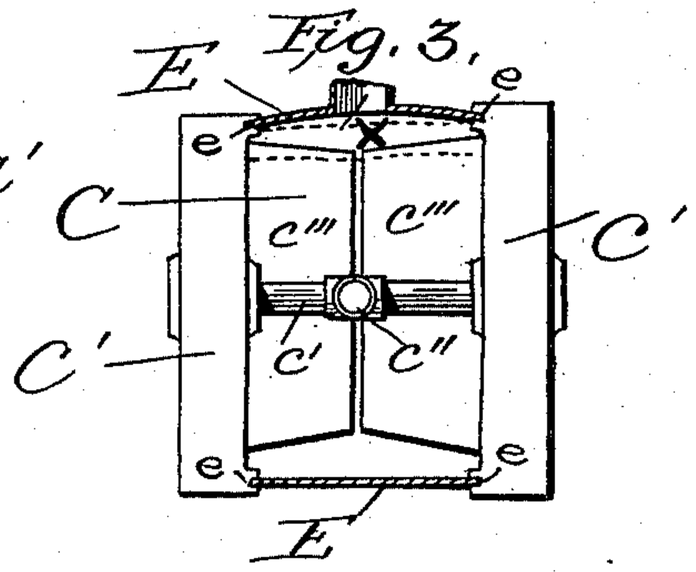

Fig. 3.

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR RADIATORS.

SPECIFICATION forming part of Letters Patent No. 586,045, dated July 6, 1897.

Application filed January 2, 1896. Serial No. 574,118. (No model.)

To all whom it may concern.

Be it known that I, CHARLES H. KNOWLTON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Attachments for Radiators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to heating attachments adapted to be connected with an ordinary hot-water radiator when the boiler which usually supplies the same with hot water is out of operation.

The device is particularly designed to be used in connection with that class of radiators which are formed of a plurality of vertical sections connected at their tops and bottoms by short pipes or nipples, said radiators being supported at each end by short depending legs.

In applying the heating device the radiator is intermediately separated preferably by removing a number of the intermediate sections, and the two parts of the radiator are then connected to each other at their tops and bottoms by extended pipes in lieu of the nipples. In the space thus provided the attachment is placed. The heating device itself comprises a water-compartment, beneath which a fire or flame is designed to be placed, and a compartment adapted to confine the hot air arising from said fire or flame.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, with parts in section, of the heating arrangement applied to a radiator, only a portion of the radiator being shown. Fig. 2 is a perspective view of the same, showing a complete radiator. Fig. 3 is a detail plan view of the water-heater compartments.

The radiator may be of any of the well-known forms comprising a plurality of independent vertical sections 1, connected by the short sections of pipes or nipples 2, and, as shown in Fig. 2, the radiator is intermediately separated by removing several of the intermediate vertical sections 1, and the radiator, together with the heating attachment, which is located in this space, is supported upon the end legs 3.

The attachment or heater consists, preferably, of two vertical compartments C′, which are provided with suitable couplings or otherwise adapted to be connected at top and bottom with the circulating-spaces of the sections, as shown at *c*. These compartments C′ are connected by cross-pipes *c′*, the upper one of which has preferably an upwardly-extending branch *c″*, for a purpose hereinafter described.

The compartments C′ are also provided with suitable inwardly-extending projections or fingers arranged in pairs, preferably in the form shown at *c‴*, to provide an enlarged heating-surface to be exposed to the heat arising from a suitable oil or gas stove, which may be placed beneath them, as shown at D.

In order to confine the heat in proximity to the surface to be heated, ornamental panels E are provided, which slide in ways *e*, provided in the opposing faces of vertical compartments C′, these panels being colored and ornamented to conform to the appearance of the radiator-sections to which the attachment is connected, and the bottom of one of the panels is provided with a door E′, through which access may be had to the stove or heater at the bottom. The panels, together with the compartments, form a heating-chamber closed on all four sides. These fingers or projections *c‴* are of less length than the heating-chamber, thus providing free air-spaces between said panels and the projections.

The upwardly-extending branch *c″*, before referred to, is preferably provided with or connected to an expansion tank or vessel F, which may be of ornamental form, as shown in Fig. 2, and is formed with a base which covers the top of the heating-chamber, and thus a completely-inclosed heating-chamber is formed. The branch pipe is also provided with a cut-off valve of suitable form, as shown at *f*.

In operation the flow and return pipes connecting the radiator to the furnace (if it is so connected) are cut off, and the radiator being filled with water the heater is started, when the water is heated and circulates through the radiator-sections, giving out heat in the room equally as well as if it were connected with and supplied by the furnace. If desired and the circumstances permit, a pipe may be extended from the upper portion of the heating-chamber to a chimney, as indicated at X,

to carry off the products of combustion from the heater, and this is further advantageous in that it serves to produce a draft in the room, thus keeping the room supplied with fresh air.

I claim—

1. The combination with a radiator formed in sections, of the pair of water-heating compartments interposed between two adjacent sections of said radiator, panels extending between said compartment, to form a closed chamber, and a heating device located beneath said chamber, said water-heating compartment, having hollow lateral projections arranged in pairs extending from their inner walls into close proximity to each other whereby contracted passages are formed between the inner ends of the same, said projections being of less length than the length of the heating-chambers to leave free air-spaces between said panels and said projections, substantially as described.

2. In combination the radiator-sections connected by circulating-pipes, the water-heating compartments forming the side walls of a heating-chamber, and the independent plates forming the top and end walls thereof secured to said heating-compartments and extending between the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. KNOWLTON.

Witnesses:

EDW. W. SEAVER,

ANDREW P. FISHER.