

(No Model.)

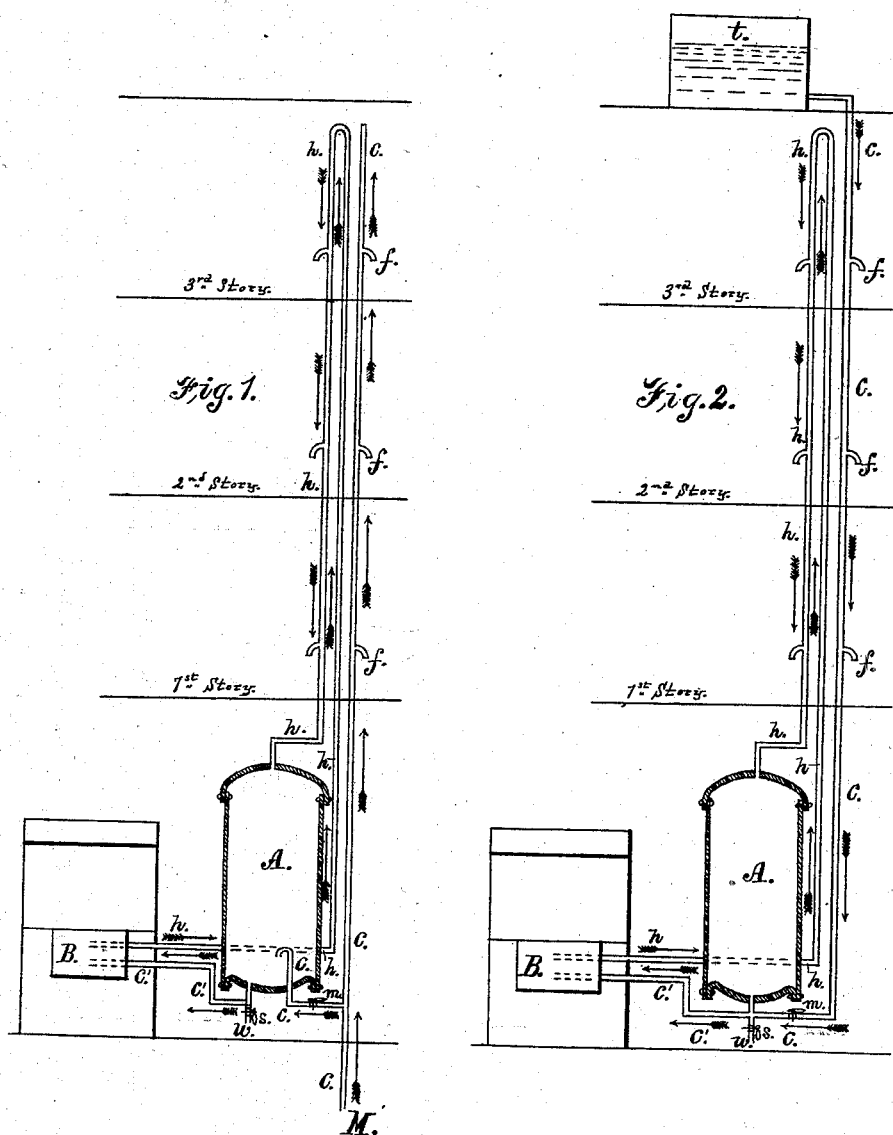
2 Sheets—Sheet 1.

A. P. CREQUE.

STAND BOILER AND CONNECTIONS.

No. 263,767.

Patented Sept. 5, 1882.



WITNESSES:
Thomas Hunt.
Irving W. Spencer

INVENTOR
Allen P. Creque,
BY *J. W. H. H. H. H.*
ATTORNEY

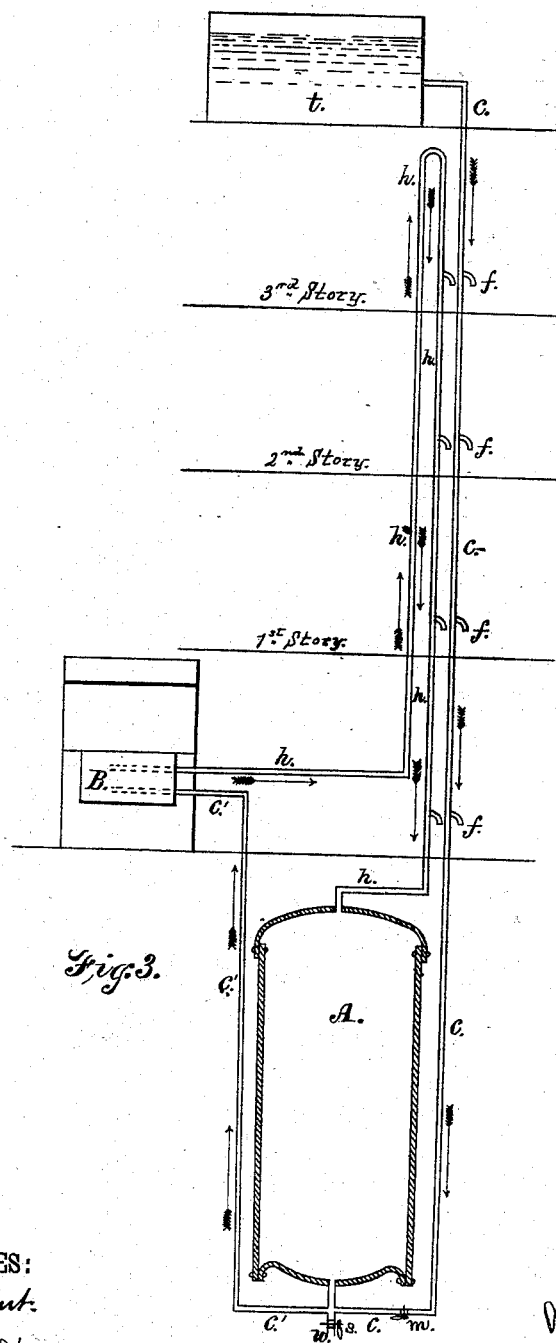
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Wm. H. Hyde
ATTORNEY

UNITED STATES PATENT OFFICE.

ALLEN P. CREQUE, OF NEW YORK, N. Y.

STAND-BOILER AND CONNECTIONS.

SPECIFICATION forming part of Letters Patent No. 263,767, dated September 5, 1882.

Application filed June 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALLEN P. CREQUE, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Stand-Boilers and their Connections for heating and supplying water for domestic and other purposes, of which the following is a specification.

The object of my improvement is to obtain a circulation for the hot water through the pipes which supply the hot water for consumption for domestic and other uses.

I have described in three applications for patents lately filed in the United States Patent Office an improved system of constructing range-boilers and their connecting-pipes, by which I obtain a more positive, rapid, controllable, and constant circulation of the water, and by making use of the principles of construction set forth and claimed in those applications, I am enabled to construct a boiler and its connecting-pipes which shall cause a positive, rapid, controllable, and constant circulation of water from the source of supply to the boiler, thence to the heater, and then through the pipes which supply the hot water to the different parts of the building for consumption back into the boiler.

By the system of constructing range-boilers now practiced, and which I have illustrated in the above-mentioned applications, there is no circulation through the pipe which supplies the water for consumption, and it is necessary for the consumer to draw off the cold water already in the pipe before he obtains a supply of hot water from the boiler, while added to this delay is that caused by the necessity of supplying the boiler with hot water before the supply-pipe is filled. My improved method of constructing the boiler enables me to obviate these objections and to procure the results of my present invention by arranging the boiler and its connecting-pipes as shown in the accompanying drawings, in which—

Figure 1 is a sectional view of a boiler, heater, and system of pipes as arranged for a water-supply from the main. Fig. 2 is a sectional view of a boiler, heater, and system of pipes as arranged when the water is supplied from a tank at the top of the house or elsewhere. Fig. 3 is a sectional view of an ar-

rangement in which the boiler may be placed in the cellar or other convenient position when the supply comes from a tank.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings, it will be seen that, while I construct the boiler and its connections in a form to embody the invention shown in my three former applications above alluded to, my present improvement is effected by lengthening the pipe which supplies the hot water to the boiler, so as to make it pass directly from the heater through the several stories of the building until it reaches the top story, where it is bent and returned back through the several stories to the top of the boiler. The descending pipe is tapped for the supply to the different parts of the building. Arrows indicate the circulation of the water.

A is the boiler.

c represents the pipe through which cold water is supplied from the main or tank.

c' is the portion of pipe which conveys the cold water to the range water-back.

B is the water-back in which the water is heated.

h is the pipe through which the hot water passes from heater for consumption and into the boiler.

w is a waste-pipe, through which the boiler is emptied when it is desired to clean it, and s is a stop-cock which opens and closes the waste-pipe.

m is a stop-cock which opens and closes the pipe from the main or tank when the boiler is to be emptied, or for any other reason.

M indicates the pipe from the main, and t indicates the tank.

f indicates the faucets from which the hot and cold water is drawn.

Referring to Fig. 1, it will be seen that the cold water from the main passes into the boiler through the pipe c, which is curved at its inclosed end to prevent the water from spouting into the boiler. It passes from the boiler through c' into the heater B, and thence through the pipe h, which is shown in dotted lines in Figs. 1 and 2 as passing behind the boiler A, to the top of the house, and back into the boiler at the upper part thereof.

I prefer to tap the descending branch of the

hot-water pipe *h* for the supply of hot water to the different floors, as a steady flow is thereby secured; but the ascending branch may be tapped instead, if desired.

5 In the arrangement shown in Fig. 1 the cold water may be supplied directly to the heater without passing through the boiler; but such delivery is not so good as that shown in the drawings, unless the water be also arranged
10 to circulate from the boiler, because with circulation through the boiler, if the supply from the main should cease from any cause, the water would siphon out of the entire system and the range water-back would burn out.

15 Fig. 2 illustrates my improved method when the cold water is supplied from a tank. The water flows from the tank *t* through the pipe *c*, thence to the pipe *c'* and into the water-back B, where it is heated. It flows thence into the
20 pipe *h* to the top of the house and back through the descending branch of the pipe *h*, which is tapped for consumption, into the boiler, at the upper part thereof. It flows out of the boiler into the pipe *c'*, thus creating a constant cir-
25 culation.

I have found that by these methods of construction just described I can raise hot water to a height of over one hundred and fifty feet, while I obtain a constant, controllable, rapid,
30 and positive circulation, which enables the consumer to draw hot water immediately from the faucet without waiting for the cold water in the pipe to be exhausted, and without waiting for the boiler to be filled with hot water, as was necessary in the old method.
35

It is apparent that I am not confined to placing my boiler by the side of or above the range, as must under present systems of circulation be now done, in order that the water
40 may not siphon out; but I may, if desired, heat the water in a water-back attached to the furnace or other heater in the cellar, and I can place the boiler in the cellar; and my invention makes such an arrangement safer than it
45 would be in the old method of construction, as I have a positive and constant circulation which is not liable to get out of order.

Fig. 3 illustrates the method which I prefer to adopt when the water is supplied from a
50 tank at the top of the house, as it obviates the necessity of placing the boiler in the kitchen, where it is not desirable, either in nicely-finished houses, or when, as in apartment-houses, the size of the boiler is greatly increased to supply all the tenants. In this arrangement
55 I place the boiler in the cellar or other convenient place, as desired, and lengthen the pipe *c'* so as to reach the water-back of the heater. Otherwise the arrangement of pipes is

precisely as shown in Fig. 2, and the water 60 follows the same circulation. The same arrangement may be adopted where the supply comes from the main, in which case the pipes may be arranged as in Fig. 1, and while it would be safe as a general rule, still, if from 65 any cause the water-supply from the main should cease, the water would siphon out of the system and the water-back would burn out. This arrangement is not therefore as valuable in such a case as when the water is supplied 70 from a tank. It is also obvious that I may place the boilers in these systems in a horizontal position and arrange the pipes as shown in my application for Letters Patent of the United States filed May 19, 1882, without im- 75 pairing the value of my invention here shown and described.

Having thus described my invention, what I claim is—

1. The combination of a boiler, heater, and 80 system of pipes, arranged substantially as described, whereby the cold water is delivered into the heater, thence into a hot-water-supply pipe extending to one or more faucets, for consumption, and thence into the boiler and 85 heater, substantially as described.

2. The combination of a tank, boiler, heater, and system of pipes connected and arranged substantially as described, whereby the cold 90 water from a tank is delivered to the heater, thence into a hot-water-supply pipe extending to one or more delivery-faucets, and thence into the boiler and heater, substantially as described.

3. The combination, in a building, of a boiler, 95 heater, and system of pipes for supplying hot water, connected and arranged substantially as described, whereby the water is delivered directly into the heater, thence through a pipe or pipes to one or more delivery-faucets, thence 100 to a boiler located in the cellar or other convenient place below the heater, and thence to the heater, substantially as described.

4. The combination, in a building, of a boiler, 105 heater, and system of pipes for supplying hot water, connected and arranged substantially as described, whereby the water is delivered into a boiler located in the cellar or other convenient place below the heater, thence into the 110 heater, thence through a pipe or pipes to one or more delivery-faucets, and thence into the boiler, substantially as described.

ALLEN P. CREQUE.

Witnesses:

J. E. HINDON HYDE,
THOMAS HUNT.