

R. C. FRAMPTON.

HEATER.

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916,292.

Patented Mar. 23, 1909.

Fig. 1.

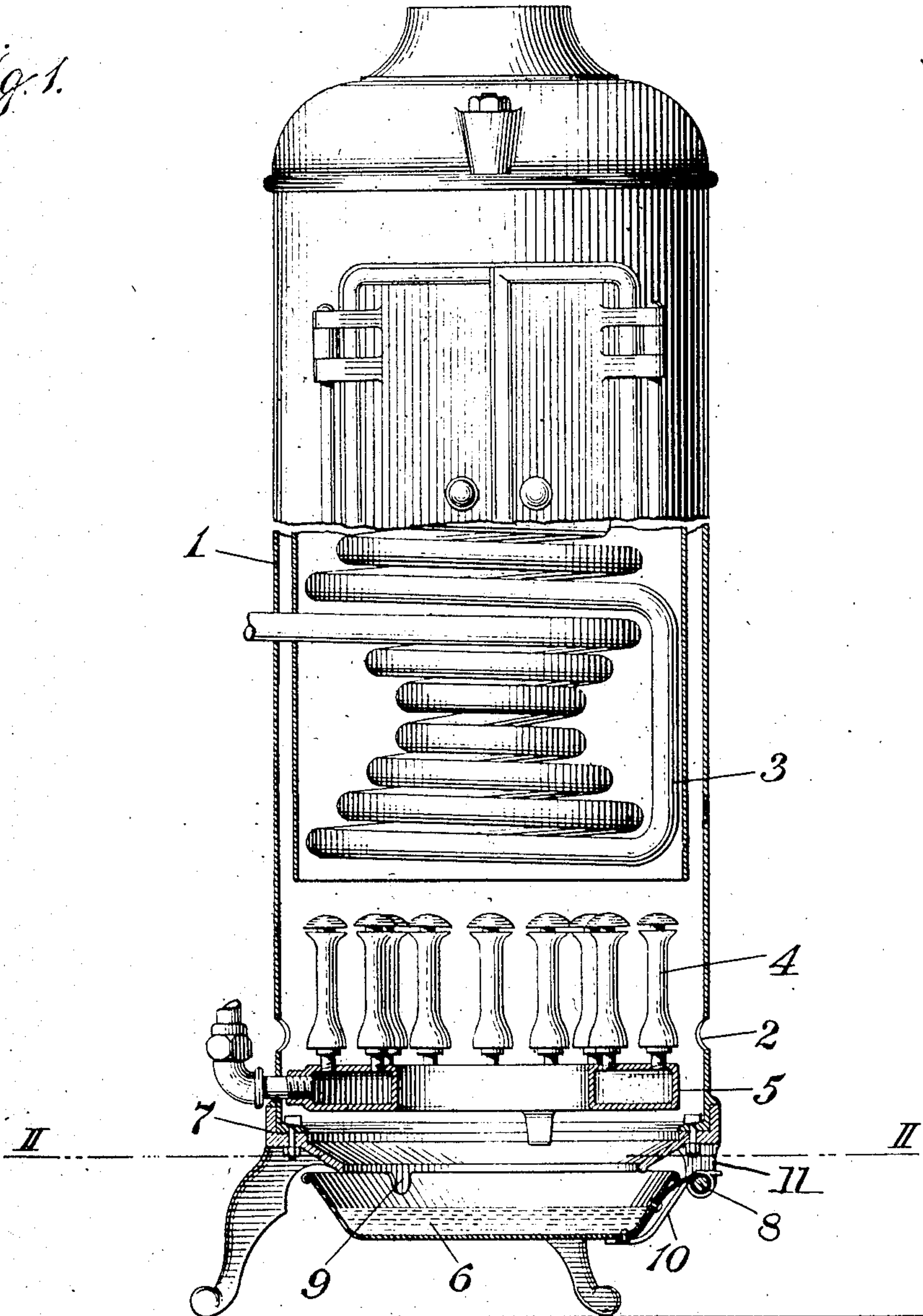
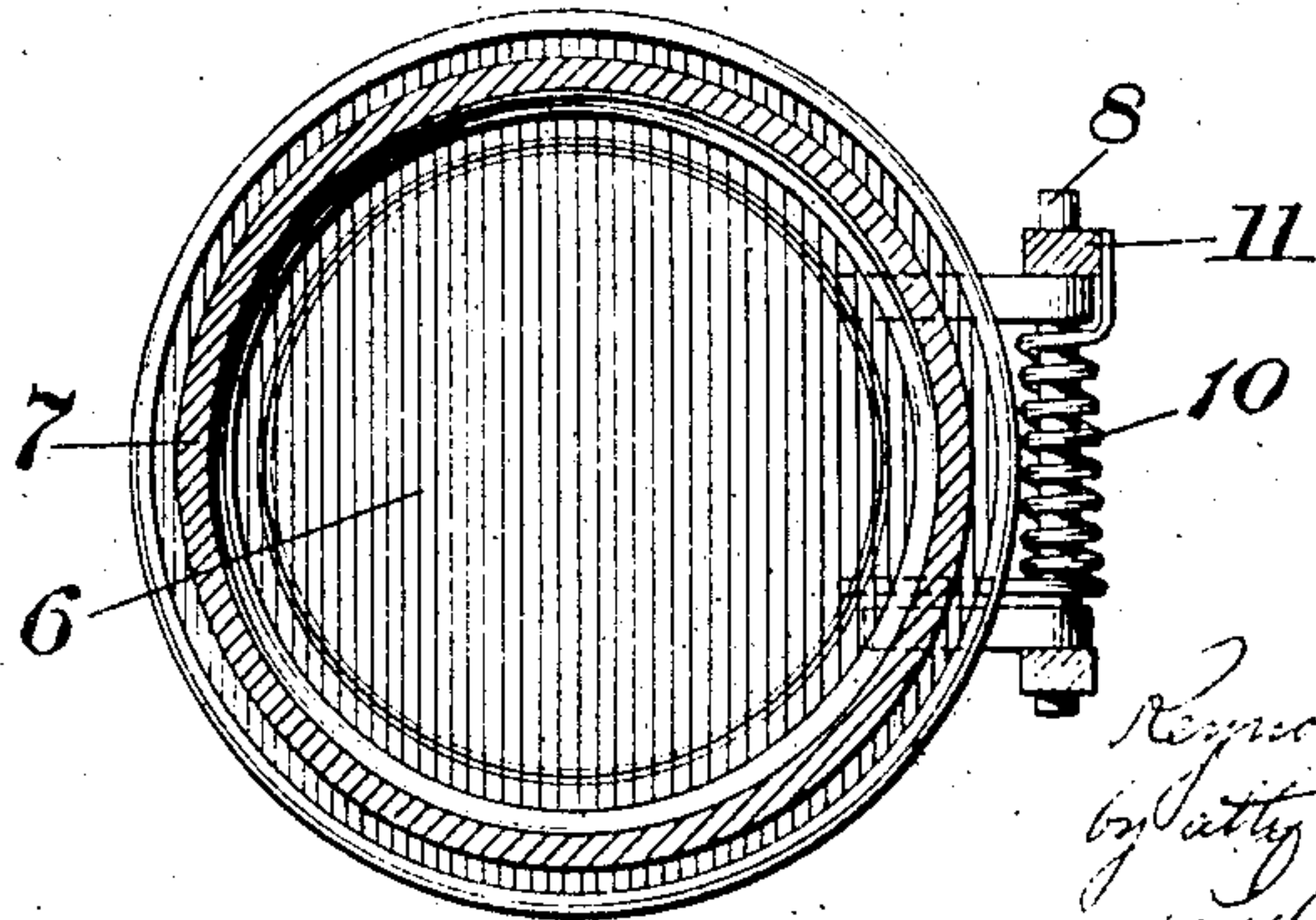


Fig. 2.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

REYNOLDS C. FRAMPTON, OF SWISSVALE, PENNSYLVANIA, ASSIGNOR TO PITTSBURG WATER HEATER COMPANY, OF ALLEGHENY, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

HEATER.

No. 916,292.

Specification of Letters Patent.

Patented March 23, 1909.

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To all whom it may concern:

Be it known that I, REYNOLDS C. FRAMPTON, a citizen of the United States, residing at Swissvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Heaters, of which the following is a specification.

My invention relates particularly to water heaters of the well known instantaneous type, and has for its objects; to provide an arrangement of drip pan and casing whereby an adequate supply of air for the inner burners is secured; to provide an arrangement of heater casing and drip pan whereby a draft of air over the water collected in the pan is secured; to provide a drip pan wherein the accumulated water is automatically disposed of at intervals in case the evaporation is not sufficient to secure this result; and, to provide a heater which will be less subject to injury in case of an explosion. One form of the invention is shown in the accompanying drawings, wherein;

Figure 1 is a side view partly in elevation and partly in section, showing a water heater with my invention applied thereto, and

Figure 2 is a section on the line II—II of Figure 1 looking down.

In instantaneous heaters a large amount of condensation occurs which condensation has heretofore been provided for, and kept from the floor beneath the heater by the use of a drip pan mounted in the base of the heater beneath the burners. No provision has heretofore been made for the removal of the water which collected, it being assumed that the heat from the burners should evaporate the water, and it would be carried from the heater in the form of vapor. Experience has shown, however, that the water ordinarily collects more rapidly than it evaporates, and as a result, water collects in the pan to a considerable depth and becomes foul, eventually rusting out the bottom of the casing. My invention is designed not only to obviate this difficulty by the provision of an automatic discharge of such pan, but to provide an arrangement of pan and casing for securing a better supply of air for the inner burners of the heater, and wherein the constant draft of air is secured over the surface of the water in the pan in order to hasten the evaporation. My construction also lessens the danger of injury to the boiler in case of an explosion.

Referring to the drawings, 1 is the heater casing which may be of any approved type and is supplied at its base with openings 2 for the passage of air to the burners, 3 is the boiler which may be of any approved type, 4 are the burners, which are mounted in two rows on the annular base ring 5, 6 is the drip pan hinged at its rear edge on the pivot rod 8, and 7 is an annular casting on which the casing 1 is mounted and which is provided with legs and downwardly projecting lugs 11 for engaging the ends of the pivot rod 8. The pan 6 is spaced away from the lower edge of the casting 7 by means of the lugs 9, and is held in the position shown in Figure 1, by means of the coiled spring 10 carried by the rod 8. The spring 10 is of such strength, that it not only holds the pan 6 in its upper position when empty, but continues to hold it in such upper position until a quantity of water has collected in the pan at which time the pan tilts and automatically discharges the water. As a considerable portion of the water which collects in the pan is evaporated, the pan discharges automatically only at comparatively long intervals, and the entire discharge of the water onto a floor provided with a drain is much less objectionable than a continuous gradual discharge which keeps the floor continually damp. In cases where the floor is not provided with a drain the pan will probably ordinarily be discharged manually from time to time into a receptacle. The upper edge of the pan 6 is spaced away from the lower edge of the casting 7 by the lug 9 in order to provide an air space, so that a current of air from the bottom of the heater may be supplied to the burners and especially to the inner row thereof, which inner row of burners have, in heaters heretofore constructed, been inadequately supplied from side openings in the casing such as the openings 2, which arrangement has resulted in an inner set of burners of low efficiency. By my construction a proper supply of air is secured for the inner set of burners as well as the outer set. In case of an explosion the spring supported pan 6, will of course swing down, thereby relieving the pressure in the boiler, and minimizing the danger of a rupture to the casing and other injuries. The invention is obviously not confined to the use of a coiled spring, as any suitable means for holding the pan yieldingly in its upper position might be substituted

without departing from the invention. Such modifications and others which will occur to those familiar with the art, are comprehended by the invention and intended to be covered by the claims.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

10 1. The combination in a water heater provided with a set of burners and a casing, of a hinged drip pan mounted beneath the casing and yieldingly held in position to collect and hold the condensation from the heater and
15 adapted to incline downwardly and discharge when a sufficient quantity of water collects therein.

2. The combination in a water heater provided with a set of burners and a casing, of a
20 hinged drip pan mounted beneath the casing, spring held in substantially horizontal position, whereby a sufficient weight of water will cause the pan to incline downwardly and discharge.

25 3. The combination in a water heater provided with a set of burners and a casing, of a drip pan mounted beneath the lower end of the casing with an air admission space adjacent its edge, and deflecting means for directing the air admitted through such space
30 inwardly over the surface of the water in the pan.

4. The combination in a water heater provided with a set of burners and a casing of a
35 drip pan hinged adjacent the lower end of the casing and adapted to incline downwardly to discharge its contents, and means for holding the pan with its edges spaced

away from the edge of the casing whereby an air passage is provided.

5. The combination in a water heater provided with a set of burners and a casing, of a hinged drip pan mounted beneath the casing, and yielding means for moving the pan into
40 position to catch the condensation from the heater and keeping it in such position until a sufficient weight of water collects to incline the pan downwardly and permit an emptying thereof.

6. The combination in a water heater having a set of burners arranged in a circle and a casing provided with admission openings, for supplying air to the burners, of a drip
50 pan mounted at the lower end of the casing beneath the burners with its edge spaced away from the edge of the casing, and deflecting means for directing the air admitted between the edge of the pan and the edge of the casing across the surface of the water in
55 the pan.

7. The combination in a water heater provided with a set of burners and a casing, of a drip pan mounted beneath the lower end of the casing with an air admission space adjacent its edge, and deflecting means for directing the air admitted through such space,
60 downwardly and inwardly over the surface of the water in the pan.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

R. C. FRAMPTON.

Witnesses:

J. C. BRADLEY,
F. E. GAITHER.