Sept. 6, 1932. L. B. HYDE 1,876,053

ELECTRIC HOT WATER HEATER

Filed March 17, 1930

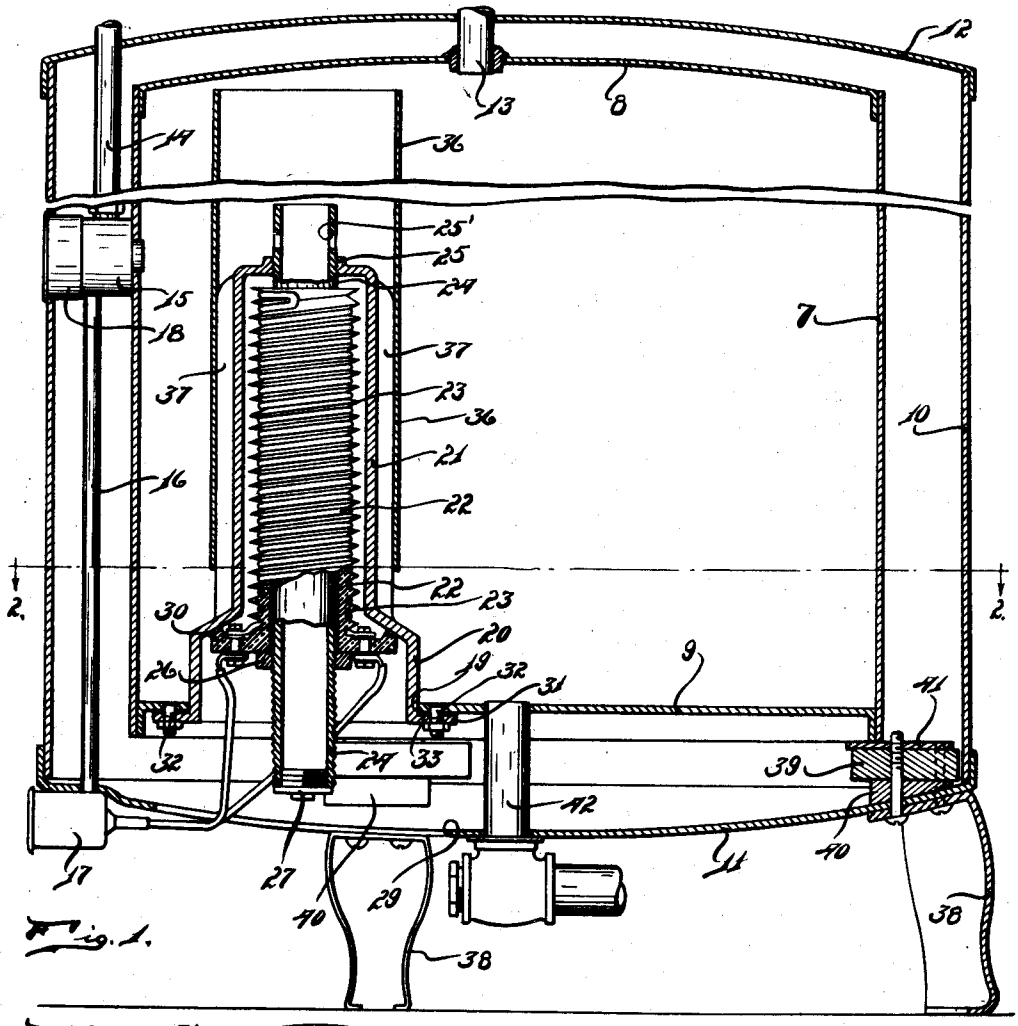


Fig. 1.

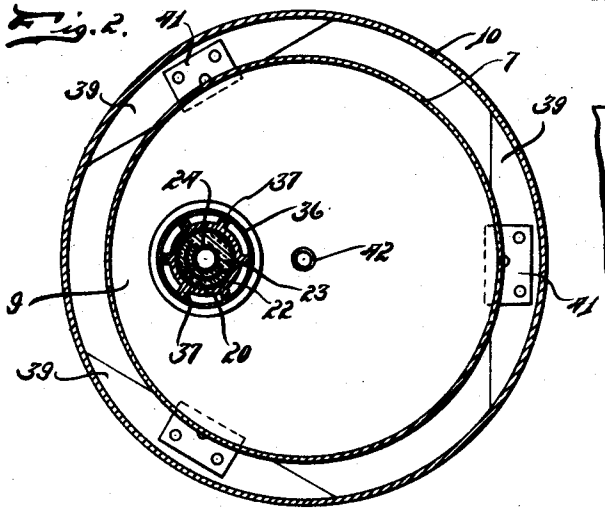


Fig. 2.

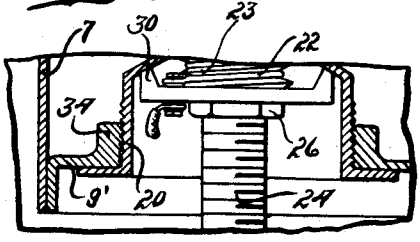


Fig. 3.

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# UNITED STATES PATENT OFFICE

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## ELECTRIC HOT WATER HEATER

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My invention relates to a new and useful improvement in an electric hot water heater and has for its object the provision of a hot water heater comprising a tank and having projected inwardly of the tank a heating element encased in a water proof housing and adapted for easy and quick removal therefrom and replacement therein.

Another object of the invention is the provision in an electric hot water heater of a supporting member for the hot water tank which will serve to generally support the tank in upright position and permit the easy and quick removal and replacement of the electric heating element from its enclosing housing.

Another object of the invention is the provision of a supporting base for a hot water tank and provided with securing mechanism which will prevent rattling and relative movement of the various parts.

Another object of the invention is the provision of a supporting base for hot water tanks so constructed and arranged that the base, while made of light material, will possess a maximum strength and be provided with reinforcement at those parts which are subjected to strain.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood by a reference to the accompanying drawing which forms a part of this specification and in which,

Fig. 1 is a central vertical sectional view of the invention showing it applied with a part of the tank broken away.

Fig. 2 is a view taken on line 2—2 of Fig. 1 reduced in size.

Fig. 3 is a fragmentary view of a modified form of attaching the heating element housing in positon.

In the drawing I have illustrated the invention used with a hot water tank 7 having a top 8 and a base 9. The tank is enclosed in an outer shell or casing 10 having the base 11 and the top 12, the base 11 serving as a support for the hot water tank. The tank 7 is provided with the inlet pipe 14 which leads into the thermostat water jacket 15 which communicates with the interior of the tank 7 and to which leads the conduit 16 from the box 17 to conduct the cables to the thermostat housing 18. The bottom 9 is provided with an opening 19 in which is engaged the open end 20 of the housing 21 which is used to enclose the heating element 22 which is wound on the core 23. Extended through the core 23 is a pipe 24 which engages in the neck 25 of the inner end of the housing 21. A lateral opening 25′ is formed in the upper end of the pipe 24 thus permitting the water to enter the pipe 24 from the side so as to render less interference with the upward flow of the heated water. A plug 27 serves to close the lower end of the pipe 24. The pipe 24 conducts the water centrally of the heating element so as to increase the heating efficiency thereof and may be drained of scale and other solid material which may accumulate therein upon removal of the plug 27. An opening 29 is formed in the base 11 through which the plug 27 is accessible so that this draining may be effected without dismantling the structure. The lock nut 26 is threaded on the pipe 24 and serves to retain the core 23 in position, the flange 30 engaging the inner surface of the housing 21. This housing 21 is provided with a peripheral flange 31 and is secured, in Fig. 1, by the bolts 32 to the base 9, a gasket 33 being positioned therebetween. In the form shown in Fig. 3 this housing is threaded into the base 9′, the base 9′ being provided with an inwardly projecting boss 34. A pipe 36 is positioned in embracing relation on the housing 21 so as to engage the outwardly projecting radiating ribs 37. The base 11 is mounted on legs 38 which serve to support the entire structure and at each of the legs 38 there is mounted in the base, the supporting blocks 39 and 40. A metal plate 41 is mounted on the upper surface of each of the blocks 39 and serves to engage the lower edge of the tank 7 for supporting the same. These blocks are positioned at each of the legs 38 and serve to reinforce the base at the points which support the tank 7.

A drain pipe 42 connects with the tank 7. This structure of supporting the base is one which may be easily assembled and cheaply manufactured while at the same time it is possessed of the necessary strength.

The opening 29 is sufficiently large for inserting the housing 21 therethrough so that this heating element may be removed and replaced without disturbing the mounting of the structure generally.

While I have illustrated and described the preferred form of construction I do not wish to limit myself to the precise details of structure shown but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a hot water heater of the class described: a water container having a bottom provided with an opening; a housing secured in said opening and projecting inwardly of said container; a tube projecting through the inner end of said housing in communication with the interior of said container and terminating at one end outwardly of said container; a removable plug for closing the outer end of said tube; an insulating core mounted on said tube; a heating element wound on said core; and means for retaining said core in position in said housing.

2. In a hot water heater of the class described: a water container; a bottom on said container; an insulating casing enclosing said container; a convex bottom on said casing in spaced relation to the bottom of said container; supporting legs secured to and projecting outwardly from said casing bottom adjacent the periphery thereof; supporting blocks mounted on the inner surface of said casing bottom at the location of said legs, the upper surface of said blocks being extended horizontally and the lower face of the outermost of said blocks being shaped to conform with the curvature of the inner surface of said casing bottom.

3. In a hot water heater of the class described: a water container having a bottom provided with an opening; a housing secured in said opening and forming a closure therefor and projecting inwardly of said container, the outer end of said housing being of larger diameter than the inner portion of said housing; a tube projecting through the inner end of said housing and communicating with the interior of said container, one end of said tube extending outwardly of said housing and said container; an insulating core engaging in said housing and embracing said tube; a flange on the outer end of said core engaging the enlarged portion of said tube and serving as an outer closure for the inner portion of said tube; and means threaded on said tube engageable with said core for maintaining said flange in engagement with said enlarged portion.

In testimony whereof I have signed the foregoing specification:

LOUIS B. HYDE.