June 16, 1953 W. C. WELLMAN 2,642,391

ANODIC ROD HOLDER

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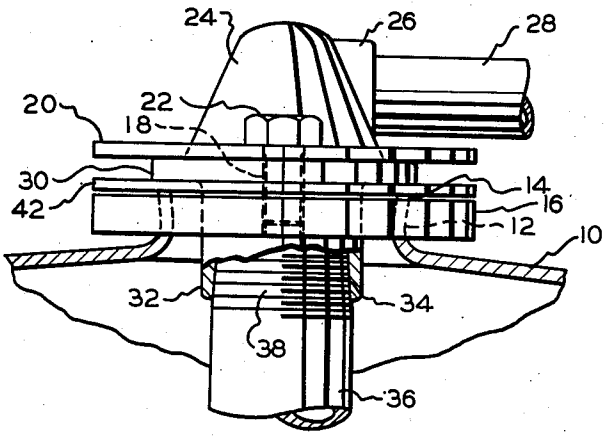


FIG. I.

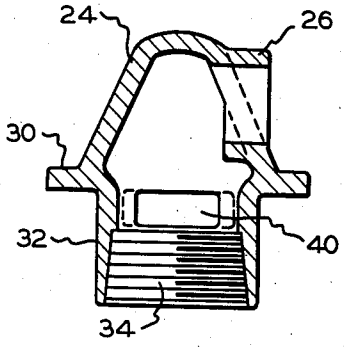


FIG. II.

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ANODIC ROD HOLDER

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1 Claim. (Cl. 204—197)

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This invention relates to attachment fittings for liquid containing vessels, and more particularly to a fitting employed as a liquid passage and as a mounting member supporting a sacrificial anode within the confines of the vessel.

For a long time it has been recognized that steel tanks, even though galvanized or treated in other ways, are subject to internal corrosion when used as hot water heaters and storage tanks. It has been discovered that this corrosion may be considerably reduced through the use of a sacrificial anode, preferably formed from one of the light metals, such as magnesium, suspended in the water in the tank and electrically connected to the tank wall. Under these conditions, with the electrical circuit being completed by the water, the tank wall acts as a cathode and the sacrificial member acts as an anode in the well known manner.

Problems previously encountered in the mounting of anodic members in hot water tanks have been largely concerned with establishing a proper electrical contact between the rod and the tank member, a connection which must be of a permanent character and not subject to deterioration, and of constructing a small mounting which is readily removable and by means of which the anode member may be replaced when needed.

I have provided a combination anodic rod holder and water connector member of small size, formed so that it is easily removable from the tank for inspection or replacement of the anode.

I have also provided a novel mounting by means of which my combination anodic rod holder and water connection is held to the tank member.

It is an object of this invention to provide an anodic rod holder which may easily be installed in or removed from a hot water storage tank.

A further object is to provide a combination anodic rod holder and water connection having exceptional electrical conductive characteristics.

Further objects and advantages in my invention will be apparent from a consideration of the following specification in connection with the appended claim and the accompanying drawings in which:

Fig. I is a view partially in section, with certain parts broken away, and showing my anodic rod holder and water connection mounted in the wall of a hot water storage tank, and

Fig. II is a transverse section of the anodic rod holder and water connector, particularly showing the water conducting ports therein.

As particularly shown in Fig. I, in mounting

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my anodic rod holder and water connector I have used the invention shown in Patent No. 2,473,669 to Gerald E. White, which discloses a tank port formed in the wall of a tank. In the wall, or preferably the head 10 of a tank, there is formed, by extrusion, a draw neck 12 having an outwardly inclined extremity 14 to hold in place a port ring 16. The port ring 16 is fashioned with a plurality of threaded attachment holes 18, so that it may be used in combination with a clamping ring 20 and suitable attachment means such as the cap screws 22 for maintaining a fitting thereon. It will be appreciated that the outwardly flared end 14 of the draw neck 12 is finished to form an annular sealing surface.

The anodic rod holder and water connector is preferably of cast formation having a main hollow body 24 presenting a hollow connector portion 26 adapted to be connected to a water pipe 28 as shown.

The lower end of the body 24 presents a flange 30, and, subtending therefrom, the tubular fitting portion 32, which is internally threaded with a standard tapered pipe thread 34. The anodic rod 36, of any desired length, is externally threaded with the standard tapered pipe thread 38 by means of which it is attached to the fitting member 32 of the holder. The sacrificial anodic rod 36 may be installed tightly enough in the tapered thread 34 so that water does not enter the thread to build up corroded salts which are very poor electrical conductors.

The shank 32 of the holder is formed with a pair of apertures 40 situated above the thread 34 and below the flange 30 to serve as water passages to permit water to enter the inside of the hollow body 24 and to exit therefrom through the pipe 28. The two apertures 40 should be of sufficient size in total area as to permit a flow therethrough of the full capacity of the pipe 28.

Referring again to Fig. I, it will be appreciated that the anodic rod holder and water connector is positioned with a gasket 42 clamped between the sealing surface 14 and the flange 30. The clamping action between the tank port ring 16 and the clamping ring 20 is accomplished by use of the cap screws 22. With the anodic rod 36 securely screwed into the thread 34, water will enter the hollow body part 24 through the apertures 40 and leave via the pipe 28.

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

In combination, a tank having a wall with an opening defined by an outwardly projecting neck carrying a mounting ring on the outer side of the

tank, a sacrificial rod holder and liquid connector comprising a liquid conduit fitting in the form of a hollow body part having a flange imposed upon said mounting ring, said body having a relatively short internally threaded neck projecting inwardly of said flange to receive the threaded end of a sacrificial rod to be disposed in the interior of the tank with said threaded neck at the point of connection with said rod being substantially flush with the tank wall, said neck having substantial clearance with the inside of said outwardly projecting flange, said neck having radial openings above the rod receiving threaded portion and disposed opposite said outwardly projecting neck for the flow of liquid

through said clearance between the interior of said body part and the tank, said body part having an exterior opening on the outward side of said flange connecting with said radial openings through the hollow interior of the said body part.

WALTER C. WELLMAN.

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Number	Name	Date
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