

Nov. 13, 1951

W. C. WELLMAN
THERMOSTAT MOUNTING ASSEMBLY FOR
HOT WATER HEATERS AND THE LIKE

2,575,150

Filed Feb. 17, 1949

2 SHEETS—SHEET 1

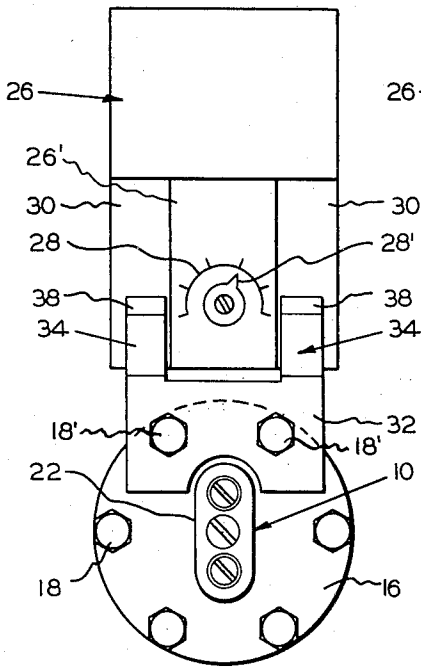


FIG. II.

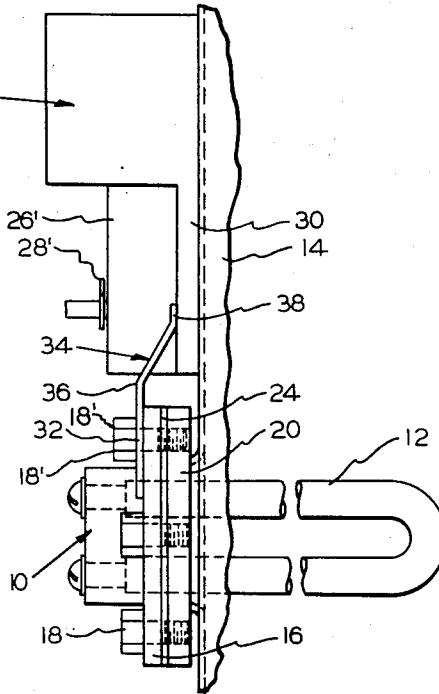


FIG. I.

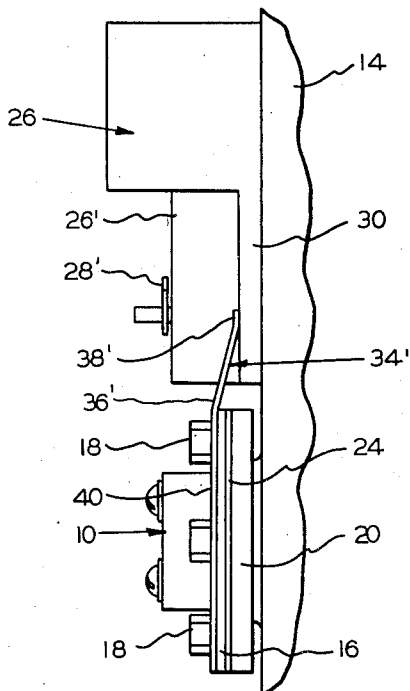


FIG. III.

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2 SHEETS—SHEET 2

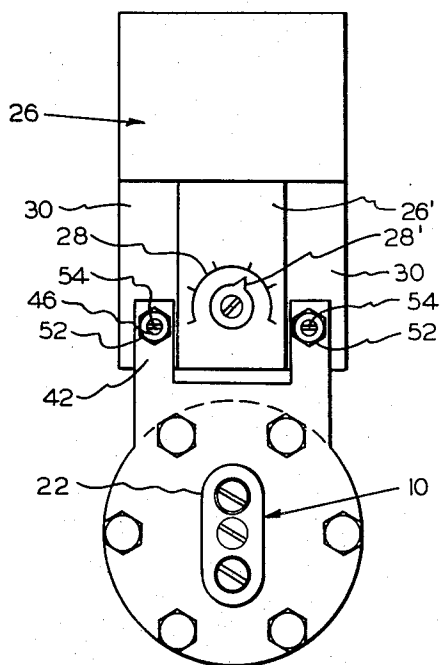


FIG. VI.

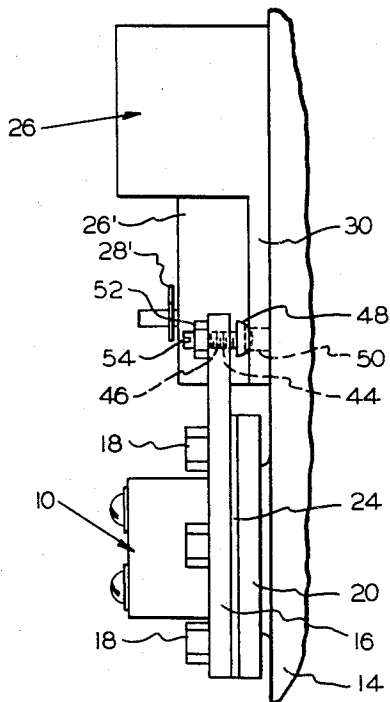


FIG. V.

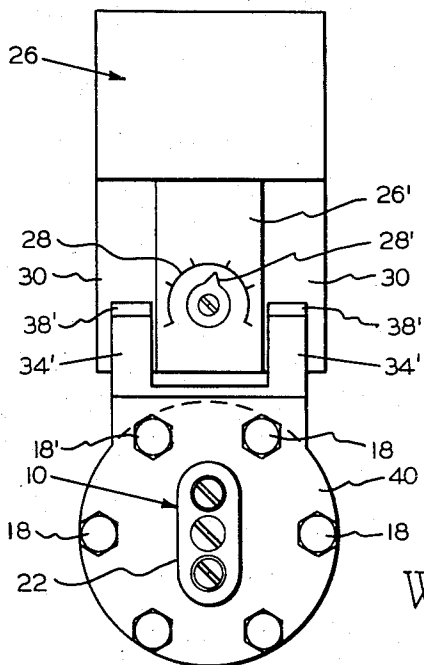


FIG. IV.

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UNITED STATES PATENT OFFICE

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THERMOSTAT MOUNTING ASSEMBLY FOR
HOT-WATER HEATERS AND THE LIKEWalter C. Wellman, Middleville, Mich., assignor
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1 Claim. (Cl. 219—38)

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This invention relates to mounting assembly means for securing a thermostat unit in position against a tank or like vessel in proximity to a heating unit assembly operatively associated with the vessel.

An object of the invention is to provide for the mounting of a thermostat unit in position upon a tank or like vessel in proximity to a heater unit in a simple and readily demountable manner without the necessity of penetrating the tank wall or like structure separate to such penetration as is employed to secure the heater unit in position.

It is also an object of the invention to utilize a heater unit mounting by which the heater unit is secured upon a tank or like vessel, for the purpose of supporting clamping means for securing a thermostat unit against the outside of the wall of the tank or like vessel without the need for penetrating the latter, as to the mounting of the thermostat unit, and which enables the latter to be readily mounted in position or de-mounted, as desired.

These and other objects and advantages of the invention, residing in the construction, arrangement and combination of parts, will appear clear from a consideration of the following detail description and the appended claim, taken in conjunction with the accompanying drawings in which:

Fig. I is a side elevation showing one form of the invention, employing spring tensioned arms for clamping the thermostat unit against the wall of a tank, the latter being shown broken-away.

Fig. II is a front view of Fig. I.

Fig. III is a similar view of Fig. I, but of a modified form of the invention.

Fig. IV is a front view of Fig. III.

Fig. V is a similar view to Fig. I, but of another modified form of the invention, utilizing rigid clamping bracket arms and adjustable pressure clamping screws, and

Fig. VI is a front view of Fig. V.

Referring to the drawings, in all figures the heater unit is indicated generally at 10 and in well known manner comprises a copper hairpin element 12 (shown only in Fig. I) held inserted within the tank 14, and carried upon an outer disc plate 16 secured, by screw studs 18, to an inner disc plate 20, the latter being ported for the passage of the element 12 and being normally welded onto the outside of the tank. This heater unit includes an insulator block 22 conveniently of elongated rectangular form and dis-

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posed as shown. The inner and outer disc plates include the usual gasket 24 between them.

The heater unit itself forms no part of the present invention, excepting in so far as its mounting, constituted by the discs 16 and 20, is relied upon to form an anchorage for the means employed to clamp the thermostat unit upon the tank.

The thermostat is indicated generally at 26 in all the figures and in itself is also of known construction and comprises the indicator housing 26' carrying the indicator dial 28 and pointer 28', the housing 26' standing out from depending side portions 30 of the thermostat casing on either side of said housing 26'.

Turning now to Figs. I and II the thermostat unit 26 is shown clamped in position upon the tank 14 in proximity to the heater unit 10 by the outer disc plate 16 of the latter having a bracket clamping plate secure thereto, this clamping plate comprising a base portion 32 through the medium of which, and the top securing screw studs 18' for the disc plate 16, the clamping plate is secured in position where a pair of upstanding inwardly cranked and tensioned spring arms, indicated generally at 34, can be employed to engage the thermostat casing portions 30 to resiliently yet firmly clamp the thermostat unit 26 in position against the tank, as shown.

These spring arms may be formed integral with the base 32 and are shown inwardly cranked at 36 and terminating in flattened end pad portions 38 by which the desired clamping contact with the thermostat casing portions 30 is made and maintained, with the cranked arm portions in a stressed condition due to the engagement of the casing portions 30 between their flattened pressure pad ends 38 and the adjacent portion of the tank wall.

It will be appreciated, therefore, that I have provided a very simple yet efficient mounting means for holding a thermostat unit in position against a tank without the need for penetrating the tank for this purpose and while permitting the thermostat to be readily demounted if desired.

Figs. III and IV show a modified form of the invention, similar in many respects to Figs. I and II, but with the outer disc plate 16 shown thinner and clad on the outside by the base portion of the spring-armed thermostat clamping assembly being made of disc form, as indicated at 40, and secured against the disc plate 16 both by the screw studs 18' and the remaining screw

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studs 18. In this form of the invention the disc 40 carries upstanding spring clamping arms, indicated generally at 34', cranked at 36' and terminating in end pressure pads 38' in like manner and for the same purpose as disclosed with reference to Figs. I and II.

In Figs. V and VI the outside disc plate 16 of the heater unit assembly is shown provided with a pair of upstanding rigid arms 42 disposed to pass upon opposite sides of the thermostat casing portion 26' and each having a screw-tapped hole 44 in which a screw 46 engages with its head 48 adjustably engaged against an opening 50 in said casing portions 30 and held in the required clamping pressure applying relationship by the lock nuts 52. The screws are provided with slotted ends 54 by which they can be engaged by a screw-driver or the like for adjustment purposes, with appropriate adjustment of the lock nuts 52.

In all three forms of the invention I have provided a simple yet efficient means for securing a thermostat unit against a tank or like vessel in proximity to a heater unit without the need for separate penetration of the tank and which permits the thermostat unit to be readily removed without disturbing the means employed to secure the heater unit upon the tank.

Having thus described my invention what I claim as novel and wish to secure by Letters Patent is as follows:

In combination with a hot water heater tank having a wall defining a port for the mounting of a heater unit therethrough and a rigid mounting plate positioned adjacent said port and

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rigidly connected to said wall on the exterior thereof, a thermostat for controlling the heater unit and adapted to be positioned against the exterior wall of said tank, said thermostat having a casing with spaced abutment portions against which a force may be applied toward the exterior wall of the tank to hold the thermostat in intimate contact therewith, a clamp for holding said thermostat against the exterior wall of said tank having a portion imposed upon said mounting plate and a U-shaped portion projecting beyond said plate, and means for removably attaching said clamp to said plate with the legs of said U-shaped portion engaging said abutment portions.

WALTER C. WELLMAN.

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