

Sept. 29, 1953

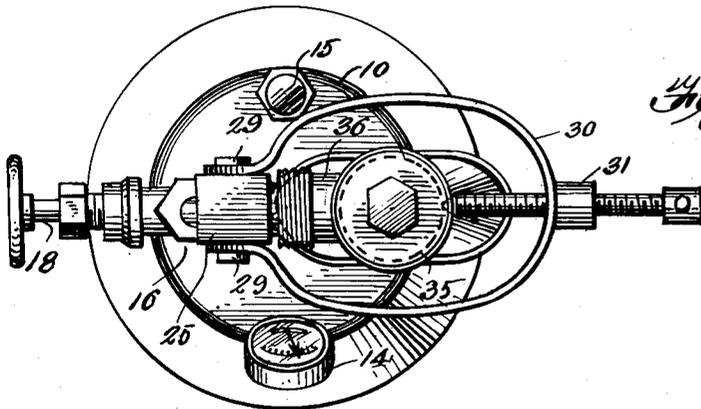
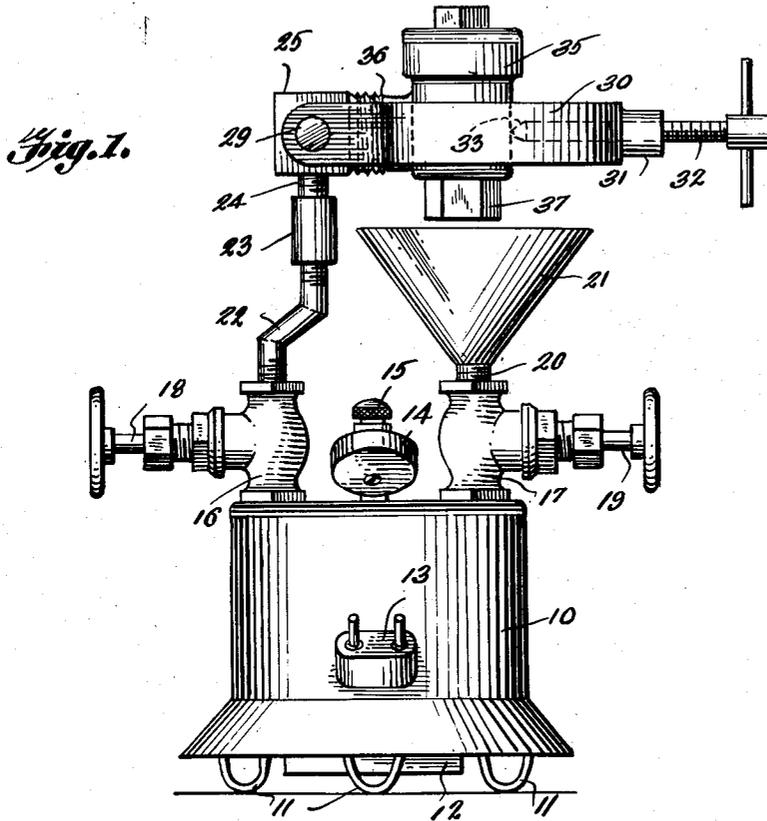
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2,653,470

RADIATOR VALVE TESTER

Filed Aug. 13, 1948

2 Sheets-Sheet 1



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Fig. 3.

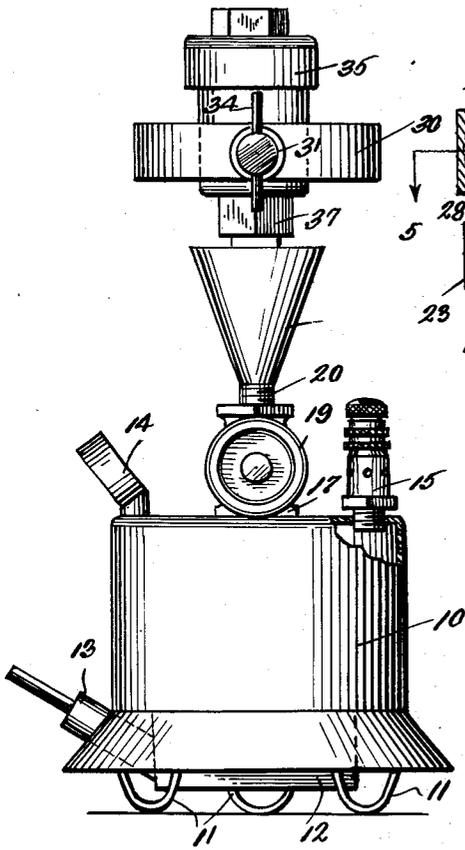


Fig. 4.

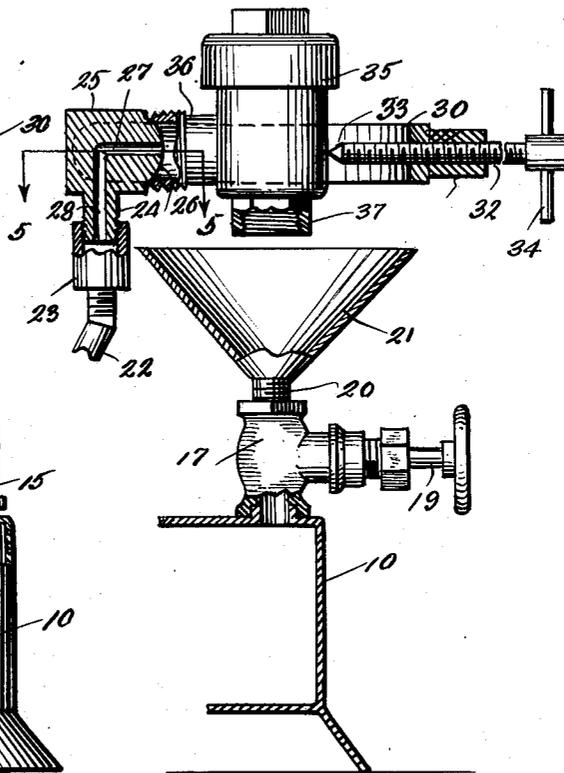


Fig. 5.

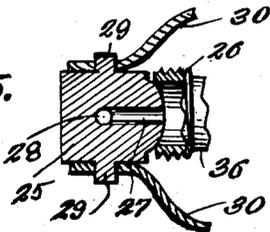
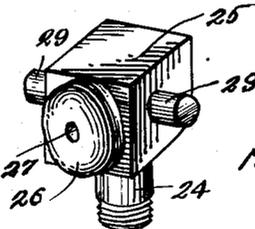


Fig. 6.



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UNITED STATES PATENT OFFICE

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RADIATOR VALVE TESTER

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1 Claim. (Cl. 73—1)

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The present invention relates to radiator valve testers and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

It is an object of the present invention to provide an apparatus for the testing of the conventional radiator valves which are thermostatically controlled and which are commonly called "traps."

Another object of the invention is to provide an apparatus of the character set forth which is wholly portable, simple and inexpensive in its construction and effective and efficient in use.

Another object of the invention is the provision of novel means, in an apparatus of the character set forth, for determining the functioning of a radiator valve.

Another object of the invention is the provision of novel means for holding a valve to be tested in an apparatus of the character set forth.

A further object of the invention is the provision of a novel arrangement of boiler and control valves for steam-testing conventional radiator valves.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a rear elevational view of an embodiment of the invention,

Figure 2 is a plan view of Figure 1,

Figure 3 is a side elevational view of the apparatus shown in Figures 1 and 2,

Figure 4 is a fragmentary rear elevational view, partly in section, illustrating certain details of construction,

Figure 5 is a sectional view taken along line 5—5 of Figure 4, and

Figure 6 is a perspective view of an element of the invention.

Generally there is provided a radiator valve tester comprising a boiler having an electrical heating unit in the bottom thereof and provided with a pressure indicator at the top thereof. The top is also provided with a pair of valved fittings, one of which has connection with the bottom of a funnel and the other of which extends upwardly to connect with a radiator-valve receiving head which is provided with a hinged clamp of novel construction for holding a radiator valve rigidly in connection with the head and over the funnel. A relief valve is mounted in the upper end of the boiler and electrical connection is provided for the heating element.

Referring more particularly to the drawings, 55

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there is shown therein a radiator valve tester having a boiler 10 provided with supporting legs 11 and having a conventional electric heater element 12 affixed to the bottom thereof. A male electrical connector 13 is provided at one side of the boiler for connection with a source of electrical energy.

In the top of the boiler there is provided a pressure indicator 14 and a relief valve 15.

There is also provided a pair of fittings 16 and 17 provided with valves 18 and 19, respectively.

To the upper end of the fitting 17 there is threadably connected the spout 20 of a funnel 21 and to the upper end of the fitting 16 there is threadably connected a pipe 22 whose upper end is connected by a coupling 23 to a dependant connecting member 24 of a head 25 provided with a convex face 26. A passage 27 leads from the face 26 inwardly of the head to connect with a vertical passage 28 in the member 24 to thereby, in turn, communicate with the interior of the pipe 22.

The head 25 is provided with a pair of outwardly extending ears 29 to which are pivotally connected the ends of a strap-like substantially oval-shaped clamp 30 which is provided with a centrally disposed enlarged portion 31 in which is threaded a shaft 32 having a pointed inner end 33 and which has an operating handle 34 at its outer end.

In operation, a radiator valve 35 of the type having a thermostat incorporated therein as a part thereof is positioned with its horizontal fitting 36 in abutment with the face 26 of the head 25, after which the clamp 30 is brought to a horizontal position and the handle 34 turned to bring the pointed end 33 of the shaft 32 into engagement with the valve 35, the vertically dependant fitting 37 being positioned directly over the funnel 21 in the meantime. To test the valve 35 the connector 13 is connected to a source of electrical current preferably by means of a cord having a convenient switch therein. To speed up the testing operation the boiler may be filled with hot water, but if such is not available, then, of course, it may be filled with cold water and the filling operation is performed by opening both valves 18 and 19 and pouring the water into the funnel 21.

The valve 35 having been properly positioned, the valves 18 and 19 are then closed and when a reading of, for example, 10 pounds is had upon the indicator 14, the valve 18 will then be opened. If the valve 35 is in good and proper condition, water and steam will flow through the fitting

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16, pipe 22, passages 28 and 27, valve 35 and thence to the funnel 21. At this time, if the valve is in proper working order, its thermostat will act to close the same and hence the pressure indicator 14 will again register a rise in pressure in the boiler 10 and no further flow of steam and water will take place from the fitting 37 to the funnel 21. If, however, the valve 35 is defective, water and steam will continue to flow into the funnel and the pressure indicator 14 will show a zero reading. After a valve 35 has been tested the electrical supply is cut off and pressure allowed to return to zero after which the valve 19 is opened to allow any accumulation of water in the funnel to return to the boiler 10. The valve 35 is then removed and the apparatus is ready for the next test.

While but one form of the invention has been shown and described herein, it will be apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claim.

What is claimed is:

A radiator valve tester for valves having a laterally extending inlet port and a dependant outlet port comprising a boiler, an electrical heating unit affixed to the bottom of the boiler, a source of electrical energy for the heating unit, a pair

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of valved fittings in the top of the boiler, a funnel connected to one of the fittings, a head having a passage therethrough and adapted to receive the inlet port of a valve to be tested, a pipe interconnecting the head with the other valved fitting and a clamp for holding the valve to be tested with its discharge opening above the funnel said clamp being pivoted to the head and having an inwardly directed pointed shaft threadably mounted at a point opposite the pivotal connections with the head.

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