

G. B. STEWART.
WATER HEATING DEVICE.
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1,056,467.

Patented Mar. 18, 1913.

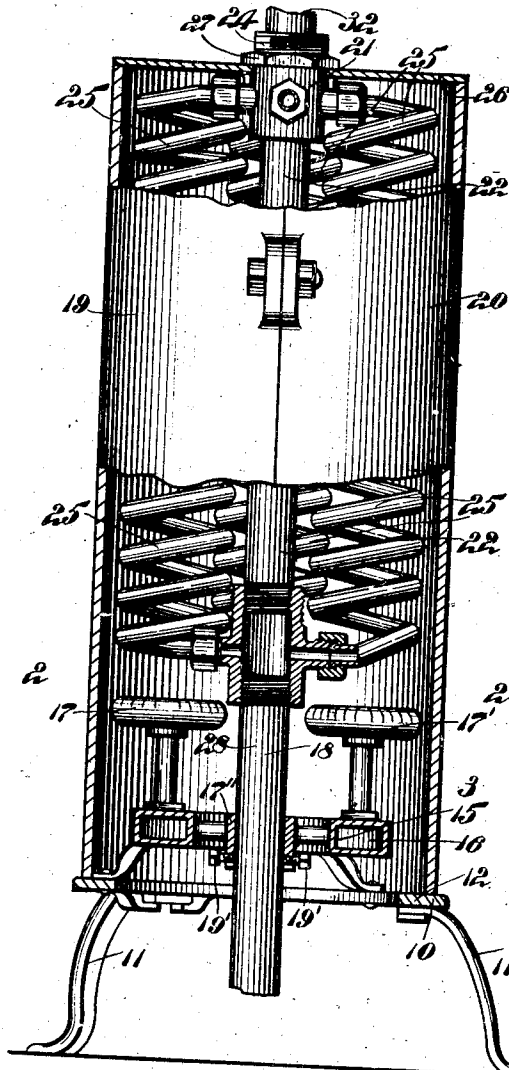


Fig. 1.

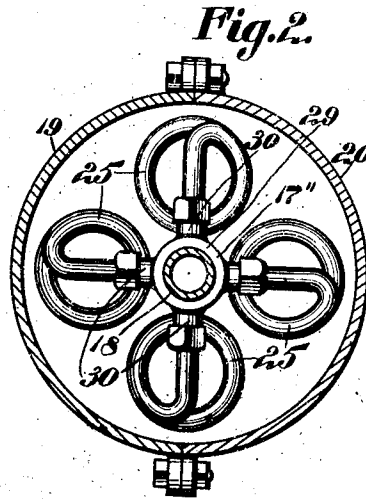


Fig. 2.

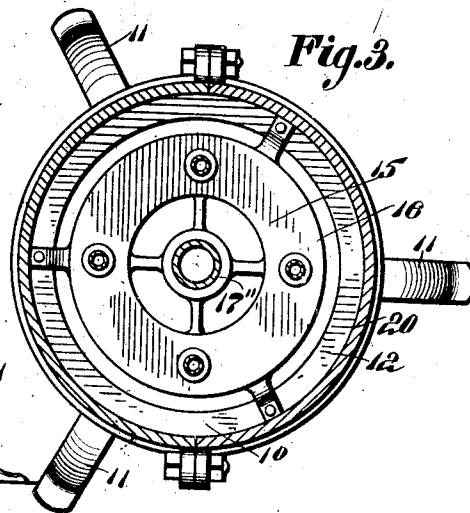


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE B. STEWART, OF PITTSBURGH, PENNSYLVANIA.

WATER-HEATING DEVICE.

1,056,467.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE B. STEWART, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Water-Heating Device, of which the following is a specification.

This invention relates to an improvement in heating apparatus for hot water heating systems.

The primary object of the invention is to provide a heater in which the proper circulation of water will be secured, regardless of the temperature to which the water is heated.

A further object of the invention is to provide a construction in which the heating coils and the heat producing mechanism, which may be a gas or other suitable heater, are accessible at all times, without disconnecting either the gas supply pipe or the water circulating pipe.

A still further object of the invention is to provide a structure which includes a vertically disposed by-pass or conduit which will be supported by the base of the heater and which will support the heating coils and the top of the casing which incloses the same, independent of the sides of said casing.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 is an elevation, a portion of the casing and the lower connection of the centrally disposed water conduit being shown in section; Fig. 2 is a section on the line 2—2 of Fig. 1; and Fig. 3 is a section on the line 3—3 of Fig. 1.

In the drawings, 10 designates a stand or support which consists of the legs 11 and the plate 12, which forms the base of the heating apparatus, the plate 12 being provided with suitable apertures 14 to admit air to the casing. A heating apparatus 15 is supported by the plate 12, the heating apparatus shown in the drawings consisting of a gas supply 16 on which the burners 17 are mounted. The gas supplying member 17 is formed with a collar 17' which is secured to the vertically disposed pipe 18 by set screws 19.

the pipe thus being adjustably supported with respect to said support. The pipe 18 extends through the base of the heater and connects to the return of the heating system. This pipe extends through the casing which is formed by semi-circular side walls 19 and 20 which are bolted or otherwise secured together. A coupling 21 is interposed between the sections 22 and 24 of the pipe 18, said coupling being formed with a plurality of extensions, the number of said extensions being consistent with the number of coils 25 which are used. The plate 26 which forms the top of the casing rests upon this coupling or upon members supported by the same and is held in contact with the same by the jam nut 27. The semi-circular side walls 19 and 20 may thus be clamped in position and removed without disturbing the heating apparatus.

The sections 22 and 28 of the by-pass 18 are connected by the coupling 25 which is formed by a plurality of extensions 30, to which the lower terminals of the coils are connected by means of couplings such as shown particularly in Fig. 1. In the drawings, four coils are shown, but it will be noted that any number of coils may be employed, and that certain coils may be removed or replaced or left off and the connection to said coil closed. The water enters at 31 and passes up through the pipe 28, some of the water continuing through the coupling 29 and to the outlet 32 to the system. A portion of the water passes to the coils and circulates therethrough, co-mingling with the cold water in the coupling 21 and passing to the system. It will be noted by this construction that the heated water is supplied to the system at the desired pressure and that when it is desired to reduce the temperature of the water, the reduction in heat of the water will not affect the pressure, the necessary circulation of water to feed to all of the radiators being secured as when the water is raised to a high temperature. The many advantages of a construction of this character will be clearly apparent, as it will be noted that the same provides means for maintaining the proper circulation of water, regardless of the temperature of the same. Attention is also called to the fact that the structure is such as will allow a ready access to the apparatus at all times, without disconnecting the coils or water pipes.

By utilizing couplings for connecting the

coils to the extensions 30 and 21, any one of the coils can be readily placed in or removed from position without disturbing the remaining coils. Furthermore it will be noted
5 that each coil is located directly above one of the burners, a separate circular burner being provided for each coil.

What is claimed is:

10 A water heater including a straight water conducting pipe made up of spaced sections, upper and lower couplings connecting the sections, each coupling having a plurality of radial extensions, upwardly extending coils
15 interspersed between the extensions, the terminals of each coil being extended radially

toward the couplings, and means detachably connecting said terminals to the extensions whereby any one of the coils can be placed in or removed from position without disturbing the remaining coils, said coils being dupli- 20 cates and having their axes parallel with and equidistant from the pipe.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE B. STEWART.

Witnesses:

SELINA WILLSON,
ERNEST F. RILEY.