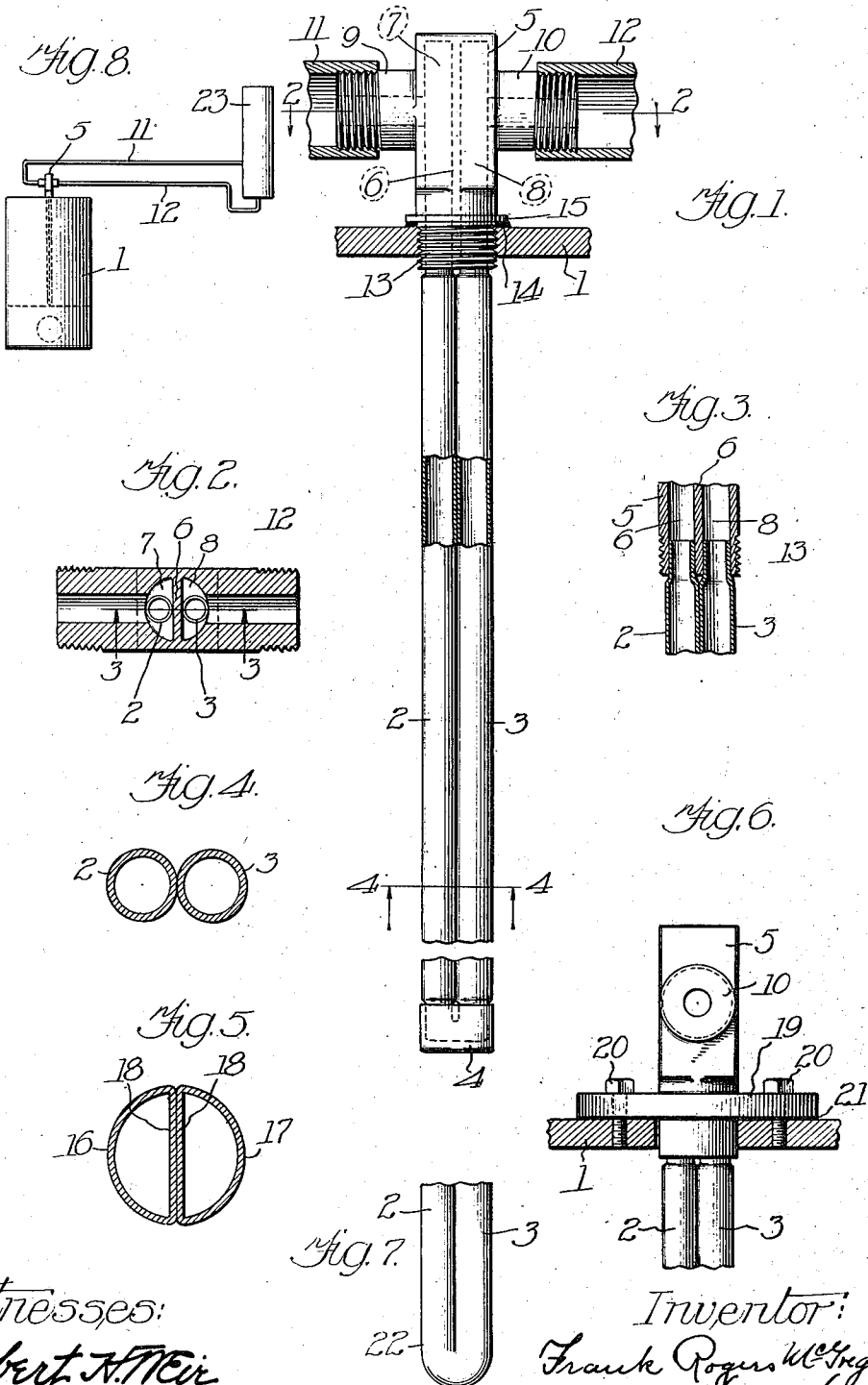


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HEATER OR THE LIKE.
APPLICATION FILED SEPT. 17, 1909.

996,657.

Patented July 4, 1911.



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UNITED STATES PATENT OFFICE.

FRANK ROGERS MCGREGOR, OF CHICAGO, ILLINOIS.

HEATER OR THE LIKE.

996,657.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed September 17, 1909. Serial No. 518,175.

To all whom it may concern:

Be it known that I, FRANK ROGERS MCGREGOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Heaters or the Like, of which the following is a description.

My invention belongs to that general class of devices known as heaters or the like, and relates particularly to a water heater of the kind described, and has among its objects the production of a simple, convenient, efficient and satisfactory device of the kind described for use wherever found applicable.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claim.

Referring to the drawings in which like reference characters indicate like or corresponding parts, Figure 1 is a side elevation and partial sectional view of my device, Fig. 2 is a sectional view taken substantially on line 2—2 of Fig. 1, Fig. 3 is a sectional view taken substantially on line 3—3 of Fig. 2, Fig. 4 is a sectional view taken substantially on line 4—4 of Fig. 1, Fig. 5 is a sectional view taken substantially similar to Fig. 4, showing a slightly modified construction. Fig. 6 shows a modified construction of head and means for securing the same to the boiler, Fig. 7 is a view in elevation of a slightly modified arrangement of the pipes, and Fig. 8 is a diagrammatic view illustrating the use of the heater.

Referring to the drawings, 1 represents the wall of a boiler for supplying hot water or steam for heating or other purposes, and 2 and 3 or 16 and 17 suitable pipes forming a heating coil adapted to be positioned within the heater 1. The two pipes may be connected at one end by means of a suitable cap 4 or its equivalent, or made integral and bent substantially similar to the form shown in Fig. 7. At the opposite ends of the pipes I preferably use a suitable head 5, the same being chambered with a chamber divided by a partition 6 to form substantially two chambers 7 and 8, which chambers are suitably connected by openings through the extensions 9 and 10 to pipes 11 and 12 or the equivalent, forming part of a piping system. The pipes 2 and 3 may be secured in the end

piece 4 and in the head 5 in any suitable way.

Any suitable means may be employed for securing the coil in the heater. As shown in Fig. 1, a small hole is provided in the wall 1 of the heater and the same tapped and arranged to be engaged by suitable threads 13 on the head. If desired, suitable packing material 14 may be arranged as shown, the same being retained in position, by means of a flange 15 or its equivalent on the head 5. With this construction the heater may be applied to any boiler by boring a hole through the wall and tapping the same, and then inserting the coil and turning it into position, the coil comprising the two pipes being inserted and secured in position at one operation and requiring only one hole through the boiler wall.

Referring to Fig. 5, the tubes 2 and 3 represented by the numerals 16 and 17 are increased in size and flattened as at 18. Figs. 4 and 5 show the two extremes, it of course being obvious that the proportions of the tubes may be varied. Owing to the increased cross sectional area of the tubes they are preferably flattened to some extent rather than as shown in Fig. 4.

In the modified construction shown in Fig. 6, the head 5 is provided with a flange 19, the coil being secured in position by securing the flange to the boiler wall 1 by means of suitable bolts 20 or their equivalent for the purpose, suitable packing material 21 being preferably arranged between the flange 19 and the wall 1.

Fig. 8 shows the heater as applied to the boiler 1 and connected by suitable piping 11 and 12 to a storage tank 23, the contents of the tank 23 being heated by the contents of the boiler 1. When the coil is so arranged in the heating chamber of the boiler rather than in the fire box, the contents of tank 23 are at a more uniform temperature since in the fire box there is a high fire in cool weather and a low fire in warm weather. Another advantage is that there is no pounding from excessive heat as when the heating coil is inserted into the fire box.

Having thus described my invention it is obvious that various immaterial modifications may be made in the form, arrangement, construction, combination of parts shown or described, or that the device may be used wherever found applicable, hence I

do not wish to be understood as limiting myself to the exact form, arrangement, construction, combination of parts or uses shown, described or mentioned.

5 What I claim as new and desire to secure by Letters Patent is:

The combination with a receptacle for containing a heated fluid, of an auxiliary heater comprising a head formed with a
10 pair of separate chambers, said head having its lower portion threaded into an opening in the wall of said receptacle, separate pipes leading from the separate chambers of said head and projecting into said receptacle,
15 and means for connecting the inner ends of

said pipes, said pipes lying within the plane of the outer walls of the threaded portion of said head, said pipes being parallel and in juxtaposition to each other throughout their length, said pipes and said head there- 20 by being removable together, through the opening into which the head is threaded.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

FRANK ROGERS MCGREGOR.

Witnesses:

ROY W. HILL,

CHARLES I. COBB.