No. 820,846. PATENTED MAY 15, 1906.

W. S. BATE.

VALVE ACTUATING MECHANISM FOR RADIATORS.

APPLICATION FILED APR. 11, 1905.

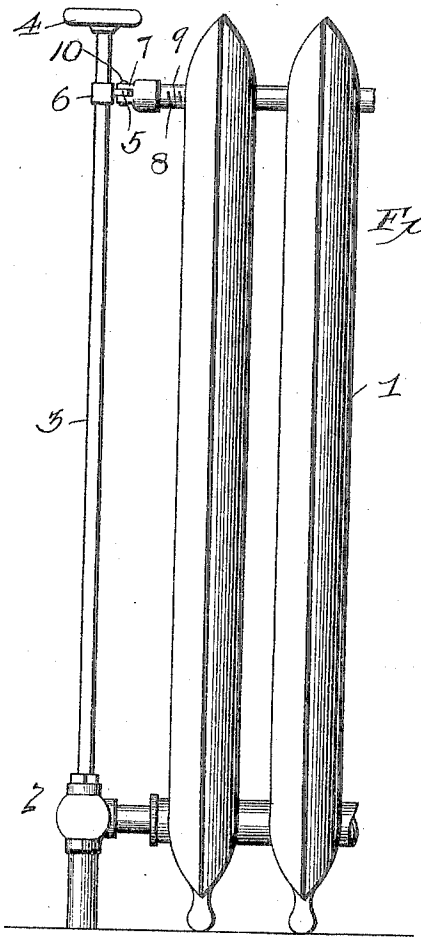

Fig. 1.

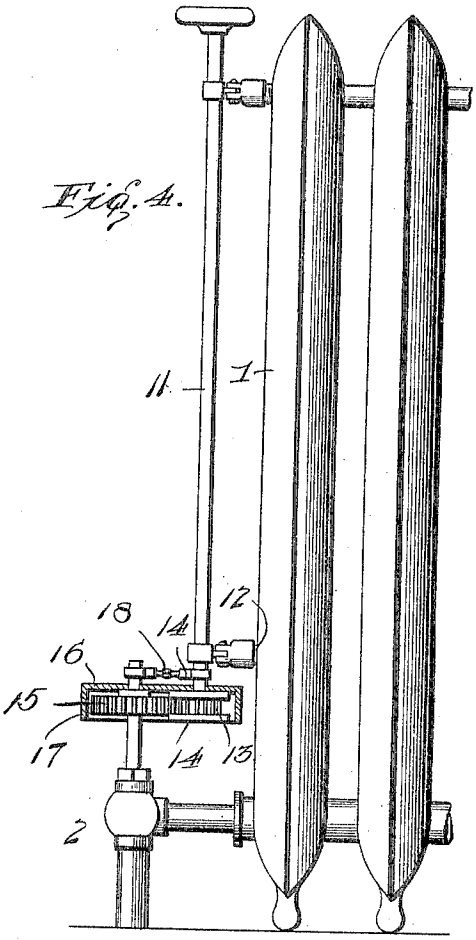

Fig. 4.

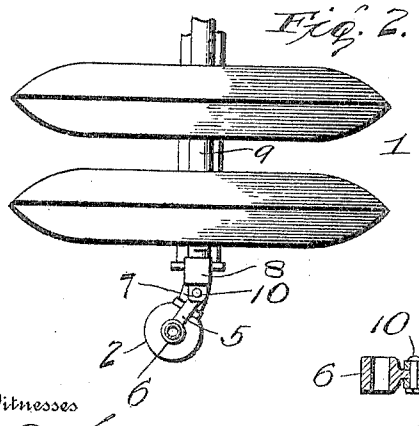

Fig. 2.

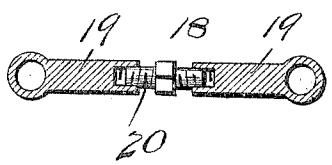

Fig. 5.

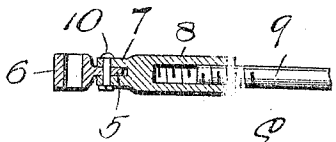

Fig. 3.

Witnesses

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VALVE-ACTUATING MECHANISM FOR RADIATORS.

No. 820,846. Specification of Letters Patent. Patented May 15, 1906.

Application filed April 11, 1905. Serial No. 254,978.

To all whom it may concern:

Be it known that I, WILLIAM S. BATE, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Valve-Actuating Mechanism for Radiators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in valve-actuating mechanism for radiators.

It has for its object to provide a simple, practical, and readily applied and operated device of this character whereby the valve may be easily operated without stooping or bending over.

The invention consists in the features of construction and combinations of parts hereinafter described, and more particularly pointed out in the claims concluding this specification.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is an elevation of a radiator provided with my attachment for operating the valve. Fig. 2 is a plan view thereof. Fig. 3 is a detail sectional view of the device for connecting the upper end of the valve-stem extension to the radiator. Fig. 4 is an elevation of a modified form of a valve-operating device whereby the operating-rod is brought in closer to the radiator, part of the cover-plate for the gears being broken away; and Fig. 5 is a detail view of the connecting-link used with the construction shown in Fig. 4.

While the preferred embodiments of my invention are illustrated in the accompanying drawings and the constructions and operations thereof are described in this specification, the right is reserved to make such changes from the construction shown and described herein as the scope of the claims hereto appended will permit.

In carrying out my invention in the form shown in Fig. 1 instead of cutting off the valve-stem short, as is ordinarily done, I extend it up to near the top of the radiator and fasten the handle on the upper end of said stem or rod, so that the valve can be turned on or off without the annoyance of stooping or bending down. The upper portion of said rod is guided and held in a vertical position over the valve by a connection comprising a link portion provided at one end with a collar fitting around said stem and an internally-screw-threaded socket-piece having flanges or ears between which the other end of the link is secured by means of a bolt or set-screw. The socket-piece is screwed upon the extended end of the bar used in bolting the sections of the radiator together. By making the links of various lengths and by screwing the socket-piece upon this bar the required adjustment to bring the stem of each particular radiator perpendicular over the valve can readily be made, no matter whether the valve is arranged opposite the center of the radiator or to one side or the other thereof.

As shown in Fig. 4, in order to bring the operating-rod closer in to the radiator I cut the valve-stem off near the valve and mount a gear thereon. The operating-rod, which is mounted in upper and lower collars on connecting devices similar to that described, carries a flanged gear on its lower end, meshing with the gear on the valve-stem. The flanges on the gear carried by the operating-rod keep said gear in contact with the other one when the latter rises and falls as the valve is either opened or closed. To prevent the gears from separating under strain I use a connecting-bar between the valve-stem and the operating-shaft. Said connecting-bar may be adjustable to take up any wear of the gears. The use of this connecting-bar with the adjustable means for securing the operating-rod to the body of the radiator permits of the ready adjustment of said operating-rod, so that the gear carried thereby may be arranged at any point around the gear on the valve-stem within the radius of the connecting-bar. I may also use a flanged cover-plate over the gears, as shown, to keep them from contact with the clothes of the operator, &c. Said cover-plate also tends to hold said gears together under strain, and when it is used the adjustable connecting-bar need not be used, although both can be used, as shown.

Referring more particularly to the drawings, 1 is the radiator, 2 the valve, and 3, Fig. 1, the upward extension of the valve-stem, carrying the handle 4. The link portion 5 of the connecting device has the collar 6 at one end, and its other end extends between the flanges or ears 7 on the screw-threaded socket-piece 8, screwed upon the end of the bar 9, bolting the sections of the radiator together. The end of said link is clamped between said ears of the socket-piece by means of bolt 10.

In Fig. 4 the operating-rod 11 is mounted in similar connecting devices, in this case a second one being arranged near the bottom of the radiator, the socket-piece being screwed upon a projecting lug 12, secured to the radiator for that purpose. 13 is the gear on the lower end of the operating-rod, said gear being provided with the upper and lower flanges 14 and meshing with the gear 15 on the valve-stem. Said gears may be made of different diameters, the smaller the size of the flanged gear, of course, the easier but slower the valve can be operated. The cover-plate 16, provided with the downwardly-extending flange 17 around its edge, is provided with passages or eyes which fit closely around the valve-stem and operating-rod. The connecting-bar 18 comprises end eyepieces 19, connected by the oppositely-screw-threaded bolt 20, whereby the gears are held in mesh under strain.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A radiator, a valve therefor, a rod for operating the valve, and a member connected to the radiator and having means for guiding and allowing lateral adjustment of the rod whereby the latter may be placed in proper operative relation to the valve.

2. A radiator, a valve therefor, a screw-threaded lug on said radiator, a rod for operating the valve, a link for guiding and allowing lateral adjustment of the rod, said link having a collar at one end adapted to fit around said rod, a screw-threaded socket-piece adapted to engage said lug, and means to secure the other end of the link to said socket-piece.

3. A radiator, a valve therefor, a screw-threaded lug on said radiator, a rod for operating the valve, a link for guiding and allowing lateral adjustment of the rod, said link having a collar at one end adapted to fit around said rod, a screw-threaded socket-piece adapted to engage said lug, and provided with ears, and means for securing the other end of the link between the ears.

4. A radiator, a valve therefor, a bar connecting the sections of the radiator together and having a projecting screw-threaded end, a rod for operating the valve, a link for guiding and allowing lateral adjustment of the rod, said link having a collar at one end adapted to fit around said rod, a screw-threaded socket-piece adapted to engage the screw-threaded end of said bar, and means to secure the other end of the link to said socket.

5. A radiator, a valve therefor, a rod for operating the valve, a member connected to the radiator and having means for guiding and allowing lateral adjustment of the rod whereby the latter may be placed in proper operative relation to the valve, and adjustable means for holding the valve and operating-rod together under strain.

In testimony whereof I affix my signature in presence of two witnesses.

WM. S. BATE.

Witnesses:

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HENRY L. DANT.