No. 889,689. PATENTED JUNE 2, 1908.

J. E. JONES.

FOOT WARMER ATTACHMENT FOR RADIATORS.

APPLICATION FILED DEC. 27, 1905.

Fig. 1.

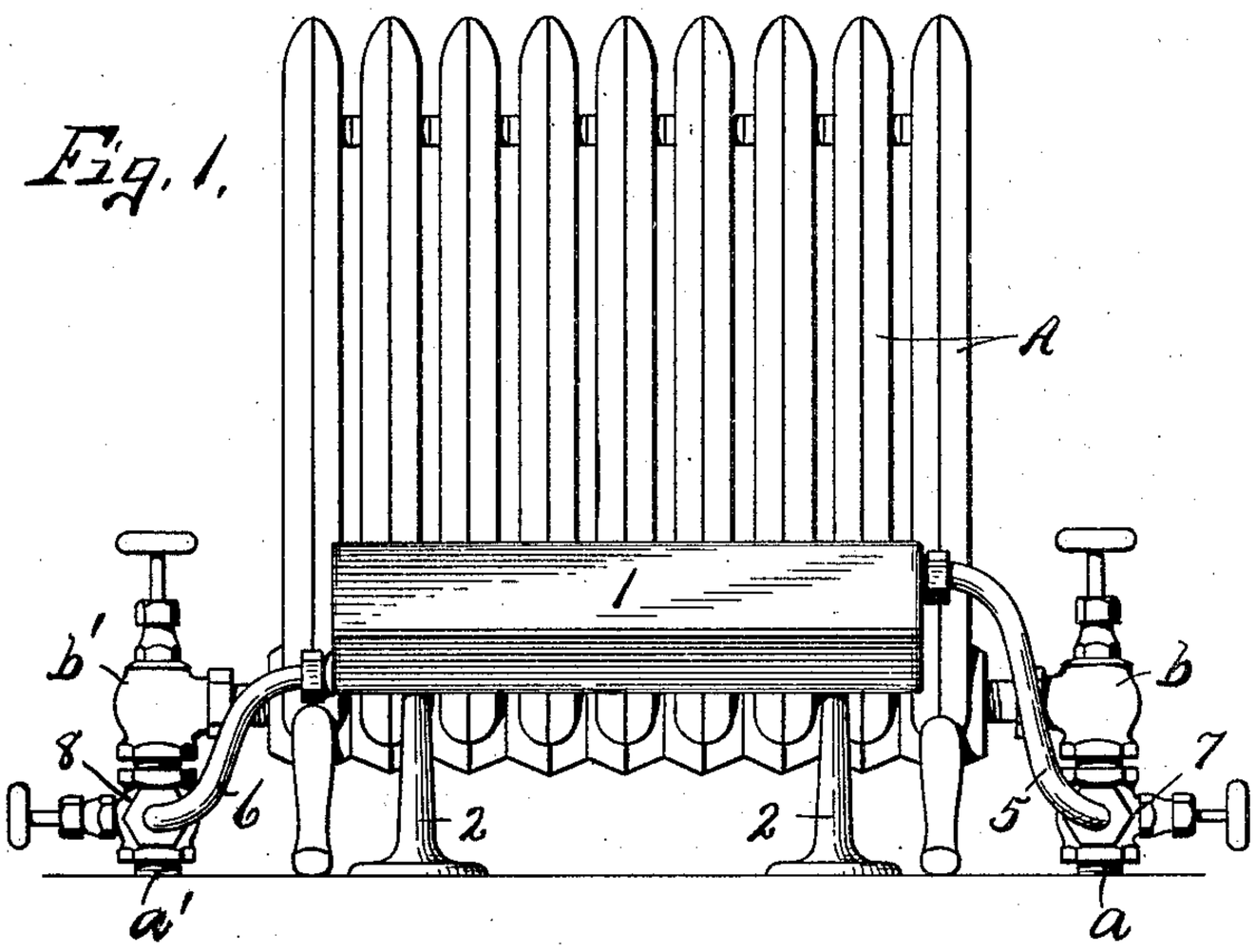


Fig. 2.

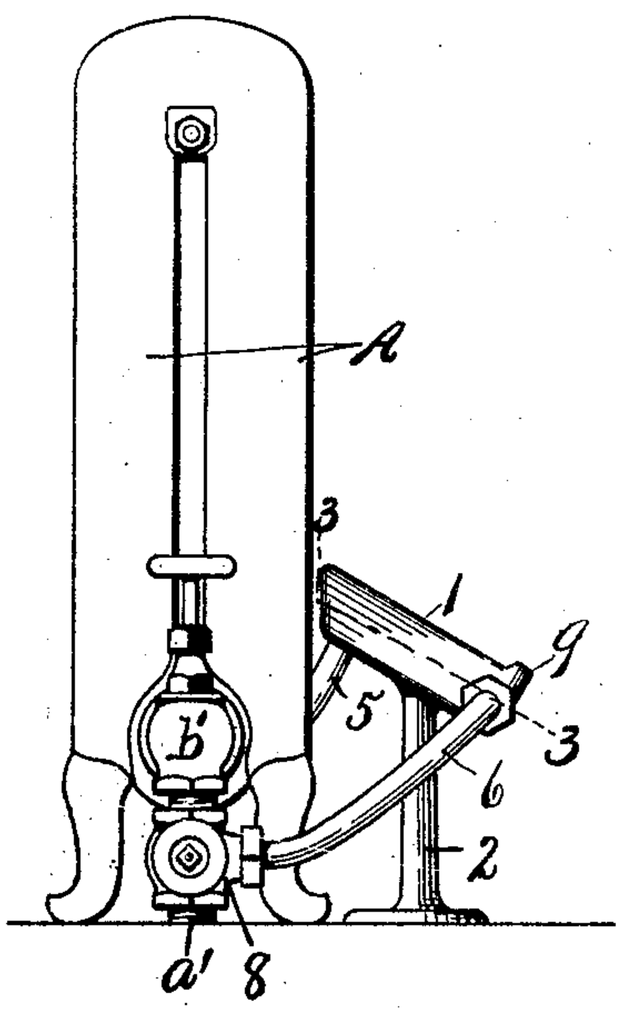


Fig. 3.

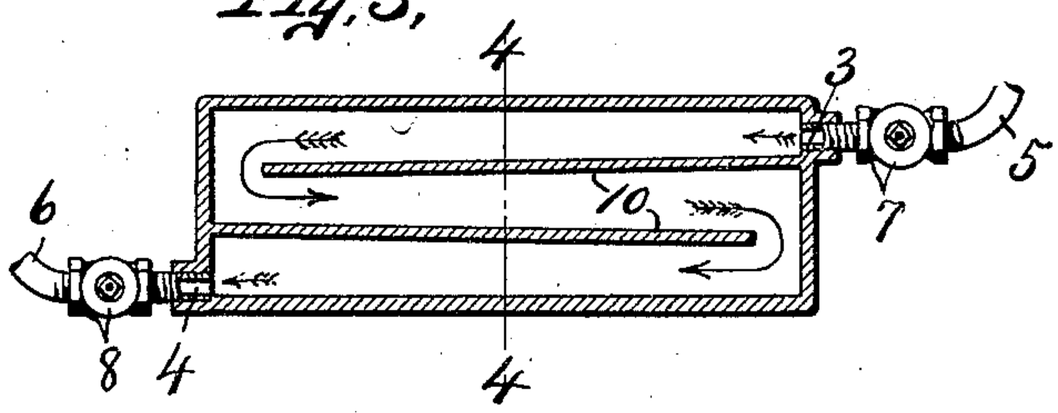
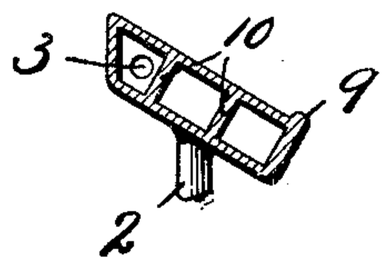


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FOOT-WARMER ATTACHMENT FOR RADIATORS.

No. 889,689. Specification of Letters Patent. Patented June 2, 1908.

Application filed December 27, 1905. Serial No. 293,452.

To all whom it may concern:

Be it known that I, JAMES E. JONES, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Foot-Warmer Attachments for Radiators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in foot-warmers for steam-heating systems and is especially useful as an attachment for steam and hot water radiators.

My object is to connect a hollow, but comparatively shallow foot-rest in the steam or hot water circulating system in close proximity to the radiator, and in such manner that the steam or hot water may be caused to circulate through the foot-rest independently of the radiator for the purpose of producing a more rapid radiation in the foot-rest than would be possible if the steam were allowed to circulate entirely through the radiator at the same time, thereby not only economizing in steam when such heating agent is used, but also producing an almost instantaneous radiation for warming the feet, the circulation through the foot-warmer being much more direct and rapid than through the loops of the radiator proper.

Other objects and uses will appear in the following description.

In the drawings—Figure 1 is a front elevation of a radiator and my improved foot-warming device attached thereto, or rather as connected in the circulating system. Fig. 2 is an end view of the apparatus seen in Fig. 1. Figs. 3 and 4 are sectional views taken respectively on lines 3—3, Fig. 2, and 4—4, Fig. 3, except that the valves 7 and 8 are shown as connected in the conduits 5 and 6 near the foot rest instead of in the upflow return pipes —*a*— and —*a'*— as shown in Figs. 1 and 2.

In demonstrating the practicability of my invention, I have shown an ordinary radiator —A— as provided with the usual flow and return pipes —*a*— and —*a'*— and valves *b*—*b*—*b'*— for controlling the inflow and return of the hot water or steam to and from the radiator.

A hollow foot-rest —1— is shown as supported upon suitable standards or brackets —2— directly in front of and in close proximity to the radiator, and preferably consists of an elongated hollow casting disposed in a substantially horizontal position lengthwise of the radiator and as provided with an inlet —3— and an outlet —4—, the inlet —3— being connected by a pipe —5— to the upflow pipe —*a*— below the valve —*b*— while the outlet —4— is connected by a pipe —6— to the return-flow pipe —*a'*— below the valve —*b'*—. The hollow foot-rest —1— is, therefore, connected in a steam or hot-water circulating system in parallel with the radiator, but separately therefrom, the pipes or conduits —5— and —6— being provided with separate valves —7— and —8— to allow the heating agent, as steam or hot water to circulate through the foot-rest —1— independently of the means for controlling the circulation through the radiator —A—. This is an important feature of my invention for the reason that by connecting the foot-warmer —1— to the same upflow and return pipes to which the radiator is connected, but below the radiator valves —*b*— and —*b'*— the latter valves may remain closed, while the valves controlling the circulation of steam or hot water through the hollow foot rest —1— may be opened, thereby establishing direct circulation of the live steam or hot water through the comparatively shallow foot-rest, which is therefore more rapidly heated than would be possible if the larger part of the steam or hot water were allowed to circulate through the radiator loops.

It is well known that the circulation of the heating agent through a greater or less number of loops of the ordinary radiator is necessarily retarded by the water of condensation and air in such loops which it is necessary to displace before the steam or hot water can enter and therefore a considerable period of time elapses before the radiator loops are sufficiently warm to radiate heat, and by connecting a hollow, comparatively shallow foot-rest in the system so as to be controlled separately from the valves which control the circulation of the heating agent through the radiators, it is evident that a foot warmer is provided which is at once available and effective without waiting for the heating of the entire radiator.

In order to increase the efficiency of this foot-rest it is preferably disposed in an inclined position transversely and its upper face is usually of sufficient width to receive and support the greater part of the foot, and it is formed at its front edge with a lengthwise

rib —9— to retain the foot upon the rest. As a further means of increasing the efficiency of the foot-warmer, I provide its interior with lengthwise partitions or baffle-plates —10— each leading from one end and terminating short of the opposite end between the inlet —3— and outlet —4— to cause the circulating medium to travel in tortuous paths from said inlet toward the outlet in the direction indicated by the arrows, thereby expediting the heating of the foot-rest.

If it is desired to heat the foot-warmer separately from the radiator —A— the valves —*b*— and —*b'*— are closed, and the valves —7— and —8— are opened, thereby causing a direct circulation of the heating agent through the foot-warmer —1—, which, of course, is rapidly heated.

When it is desired to heat the radiator it is simply necessary to open the valves —*b*— and —*b'*— to allow the heating agent to circulate through the radiator loops. It is obvious, however that in some instances as shown in Fig. 3, I may prefer to place the valves —7— and —8— in the conduits —5— and —6— between the upflow and return pipes —*a*— and —*a'*— respectively and the adjacent ends of the foot-warmer —1— instead of placing such valves —7— and —8— directly in the pipes —*a*— and —*a'*—, which would enable me to shut off the circulation through the foot-warmer and to maintain a circulation through the radiator, or vice versa, or the circulating medium might be allowed to pass through both the radiator and foot-warmer simultaneously.

What I claim:

The combination with a radiator having pipes connected into its opposite ends, valves in said radiator pipes, a foot-warmer comprising a hollow shell, said shell provided with an upper and lower wall connected by internal partitions alternately spaced from the opposite ends of the shell, said partitions separating the parts of a continuous passage through said shell, pipes connecting the ends of said internal passage at the diagonally opposite corners of said shell with said radiator pipes beyond the valves of the latter, valves provided in said foot-warmer pipes whereby the heating medium may be conducted through the radiator or through the foot warmer and feet for supporting said shell above the floor and with said walls in inclined positions.

In witness whereof I have hereunto set my hand this 19th day of December 1905.

JAMES E. JONES.

Witnesses:
H. E. CHASE,
M. M. NOTT.