(No Model.)

S. E. RHODES.

STEAM RADIATOR.

No. 381,954. Patented May 1, 1888.

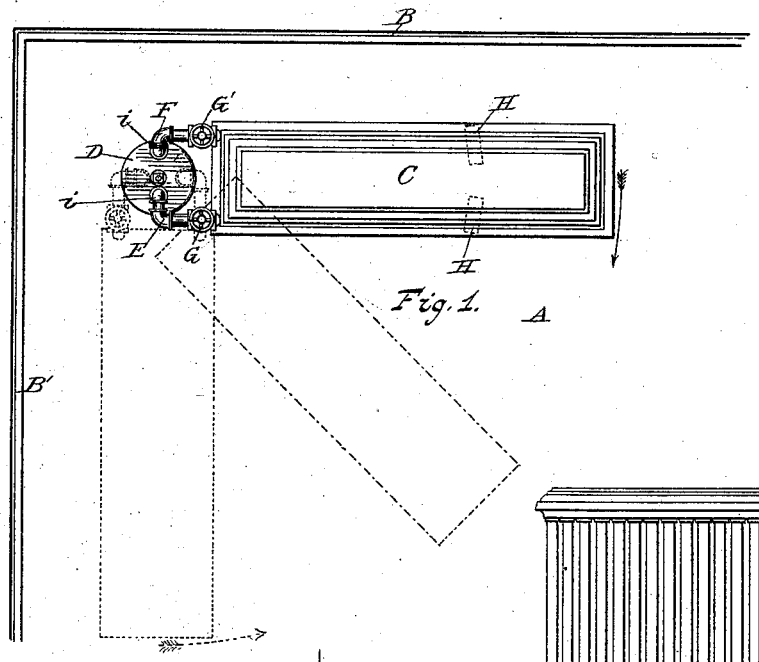

Fig. 1.

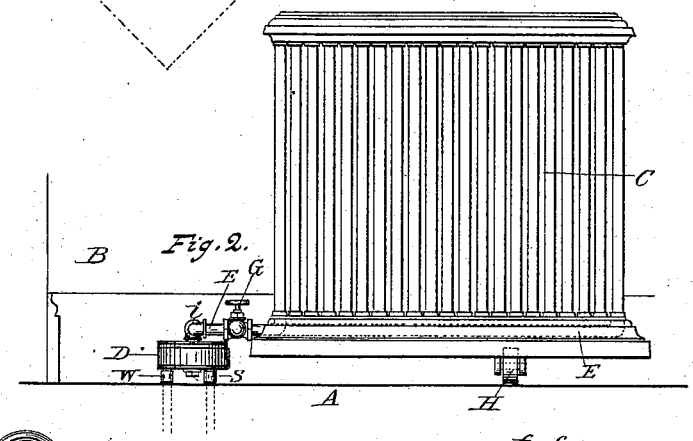

Fig. 2.

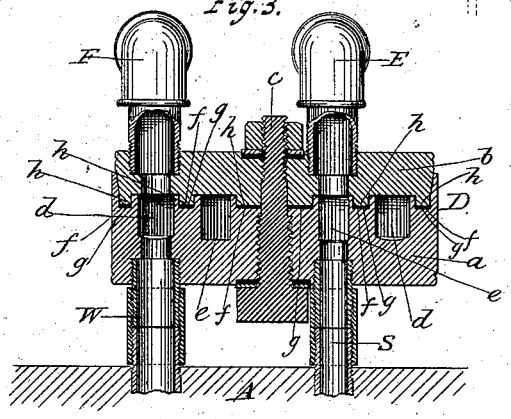

Fig. 3.

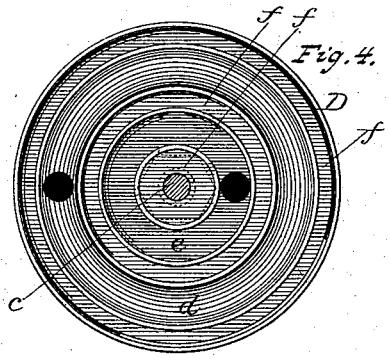

Fig. 4.

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UNITED STATES PATENT OFFICE.

STEPHEN E. RHODES, OF SARATOGA SPRINGS, NEW YORK, ASSIGNOR OF ONE-HALF TO EDMUND G. RAWSON, OF SAME PLACE.

STEAM-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 381,954, dated May 1, 1888.

Application filed February 26, 1887. Serial No. 229,039. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN E. RHODES, a citizen of the United States, residing at Saratoga Springs, in the county of Saratoga and State of New York, have invented certain new and useful Improvements in Steam-Radiators, of which the following is a specification.

My invention relates to steam-radiators for warming rooms of buildings; and it consists in providing the steam-radiator with a swivel-joint connection at one of its ends for connection of the radiator with the fixed live steam pipe and condense-water pipe, and also in providing means which will support the radiator clear from the floor of the room, and adapt it to be moved at will from one situation to another without being disconnected from said stationary steam and water pipe, all of which will be hereinafter particularly described, and set forth in the claims.

The object of my invention is to provide a simple and economical means for connecting the radiator with the stationary steam and water pipes, and adapt it to be moved at will from near a side of one wall of a room to a side of another wall at right angles with the first, or to a situation between the two walls, as may be preferred. I attain this object by the means illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of a steam-radiator and my device for carrying my invention into effect, and illustrating different situations to which the radiator can be moved at will without being disconnected from the live-steam pipe and condense-water pipe. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional view of the swivel-joint connection between the radiator and the stationary steam and water pipes. Fig. 4 is a plan view of the lower half of the said connection. The last two figures represent the said connection on an enlarged scale.

The same letters of reference refer to like parts throughout the several views.

In the drawings, A represents the floor of a room. B is one of the walls of the same.

B′ is an intersecting wall, and C is a steam-radiator of any known construction, and which can be made with an oblong form, as shown, or square, or circular, as may be selected.

D is the swivel-jointed device with which the radiator is connected with the stationary live-steam pipe S and condense-water pipe W, which pipes are suitably secured in the floor or other suitable part of the building. The steam pipe S running from the floor is connected with a suitable steam generator or chamber or receptacle, (not shown,) and the water-pipe W leads to any suitable trap or other device for receiving the condense water. This device D, I denominate the "turn-stand," which turn-stand is formed by the stationary piece or half *a* and the rotary moving piece or half *b*. These two parts are secured together by the pivot-bolt *c*. One of these pieces, as *a*, has made in it two circular chambers, *d* and *e*, Figs. 3 and 4, which chambers are concentric to the pivot-bolt *c*, as shown in Fig. 4. I prefer to make the innermost chamber, *e*, the live-steam chamber, as it lies nearer to the pivot-bolt, and the pressure of the steam on the upper and lower sides of that chamber will not operate as forcibly on the pivot-bolt connection as it would were the steam admitted into the outermost chamber, *d*. The other chamber, as *d*, is the condense-water chamber.

Made preferably in piece *a* are packing recesses or grooves *f f*, in which are placed suitable packing-rings, *g g*, made of any suitable material; and made with piece *b* are glands *h h*, which have bearing or packing rings *g*, as shown in Fig. 3.

E is the live-steam supply pipe leading from the steam-chamber *e* in turn stand D to the radiator, and F is the water-discharge pipe leading from the base of the radiator to the water-chamber *d* in turn-stand D. These pipes E and F respectively are connected in a suitable manner with the upper half, *b*, of said turn stand, as shown in Fig. 3, and have in them suitable elbows for turning the pipes in proper directions and angles for suitable connection with the base of the radiator, as shown in Figs. 1, 2, and 3.

A joint-coupling elbow, as joint *i*, Fig. 1, made with the pipes, allows the pipes E and F to be turned upwardly (or downwardly) from a horizontal line.

G G′ are suitable valves in pipes E and F, which valves can be operated at will as practiced for letting on or cutting off steam with the radiator, and letting the condense water escape from the radiator.

H are caster-wheels attached to the lower side of the base of the radiator and working beneath the same, preferably. The drawings show these caster-wheels to be set at a point a little past the middle of length of the radiator, yet they can be set at other points with the same result, and, if desired, a single caster only can be used.

It will be readily understood that live steam entering the radiator will first pass from the steam-generator (not shown) through steam-pipe S into the ring-form steam-chamber *e*, and thence through pipe E into the radiator, while the water resulting from the condensation of the steam in the radiator will pass through pipe F into ring-chamber *d* in the turn-stand, and escape from thence through pipe W.

By this above described arrangement the radiator C can be moved at will from situation shown by full lines in Fig. 1 to either of the situations indicated by dotted lines in the same figure, or at other situations intermediate, as may be desired.

It is to be understood that I do not confine myself to the exact form of construction of the parts producing the device for swiveling the radiator, or for adapting the radiator to be moved at will in a line of a section of a circle. At the same time it has connection with the stationary steam and condense-water pipes, as by ordinary skill and judgment the parts can be modified so as to produce the essential joint from which the radiator can be turned at the time it has connection with the stationary pipes S and W.

If desired, the chambers *d* and *e* for water and steam can be made in the upper half of the turn-stand, or one of said chambers can be made in one half and the other in the other half. The packing grooves or recesses *f* and glands *h* can be made in reversed order from that shown, if preferred. Again, if desired, the upper half or part of this turn-stand can be made with one end of the lower side plate of the base of the radiator, or be connected directly with the radiator, with the exercise of ordinary skill, in which case the pipes E and F would be dispensed with, and the valves G G′ would be applied to the stationary pipes S and W.

By means of the above-described invention the radiator can be turned or swung horizontally away from one wall to near the other, or to a situation between, and the reverse, so that access can be readily had to the walls, baseboards, and floor neighboring the radiator for operations for repairing those parts of the building, or papering, painting, or cleaning the same.

If preferred, the packing-rings can be omitted, and the joint of piece *a* with *b* can be made steam-tight by means of ground or rub joints. In the drawings, Fig. 2, the steam-pipe E (shown by dotted lines) is carried under the base to the off end of the radiator, where it connects with the usual pipes of the same, while the condense-water pipe will have connection with the base-chamber at the end near the turn-stand.

Having described my invention, what I claim is—

1. The combination, with a steam-radiator having a steam delivery or supply pipe and an exhaust or water-return pipe, and the stationary steam-supply pipe and stationary exhaust or water-escape pipe, of a swivel-joint connection composed of a stationary piece and a rotary piece which are connected by a pivot-bolt, one of said pieces containing a circular or ring-form steam-chamber and a circular or ring-form water-chamber, which are so arranged as to communicate, respectively, with the said two sets of steam delivery and water-return pipes, whereby the said swivel-connection will adapt the radiator to be turned horizontally at will in either direction and permit the delivery of live steam to the radiator and a discharge from the latter of the exhaust or water from the condensation of the steam, substantially as and for the purpose set forth.

2. The combination, with a stationary steam-supply pipe and a stationary exhaust or water-escape pipe, and a steam-radiator which has one of its ends free to be moved horizontally in either direction, of the swivel-joint device D, constructed as described, and adapted to support the end of the radiator opposite its moving end and connect its steam-supply pipe and water-escape pipe, respectively, with the said stationary steam-supply pipe and stationary water-escape pipe, substantially as and for the purposes set forth.

3. The combination, with a steam-radiator and the stationary steam-supply pipe and stationary water-pipe, of the swivel-joint connection at one end of the radiator and the supporting-wheel H, substantially as and for the purposes set forth.

4. The combination, with a steam-radiator and stationary steam-supply pipe and exhaust or water-escape pipe, of a swivel-joint connection composed of a stationary piece connected with said stationary steam-supply pipe and exhaust or water-return pipe, and a horizontally-rotary piece pivoted with said stationary piece, and connected with the live-steam and return-water or exhaust pipe of said radiator, whereby the radiator can be turned at will from one situation to another without uncoupling the said steam-supply and exhaust pipes from the corresponding pipes in the radiator, substantially as and for the purposes set forth.

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