

J. G. WALLMANN.
RADIATOR.

APPLICATION FILED MAR. 24, 1913.

1,124,366.

Patented Jan. 12, 1915.

3 SHEETS—SHEET 1.

Fig. 1.

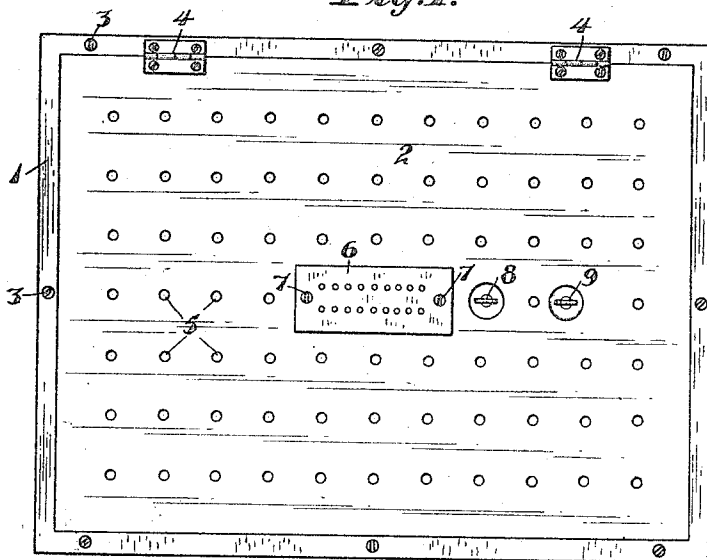
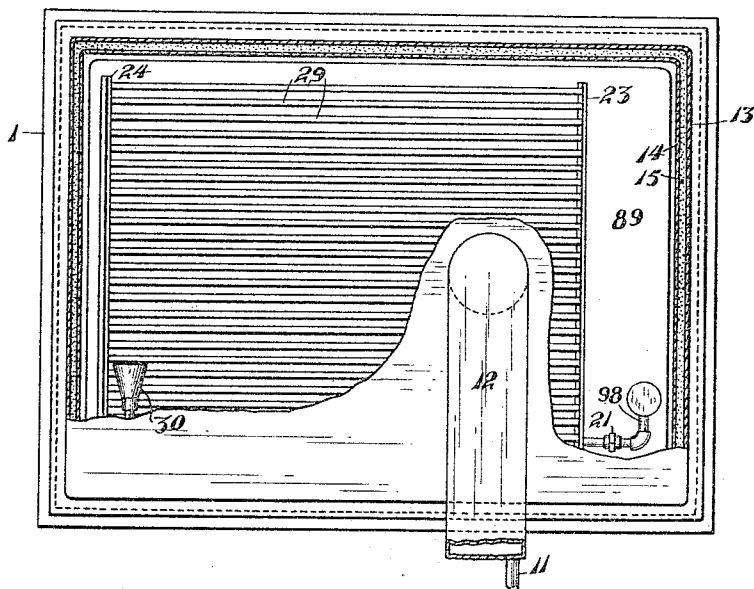


Fig. 2.



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3 SHEETS—SHEET 2.

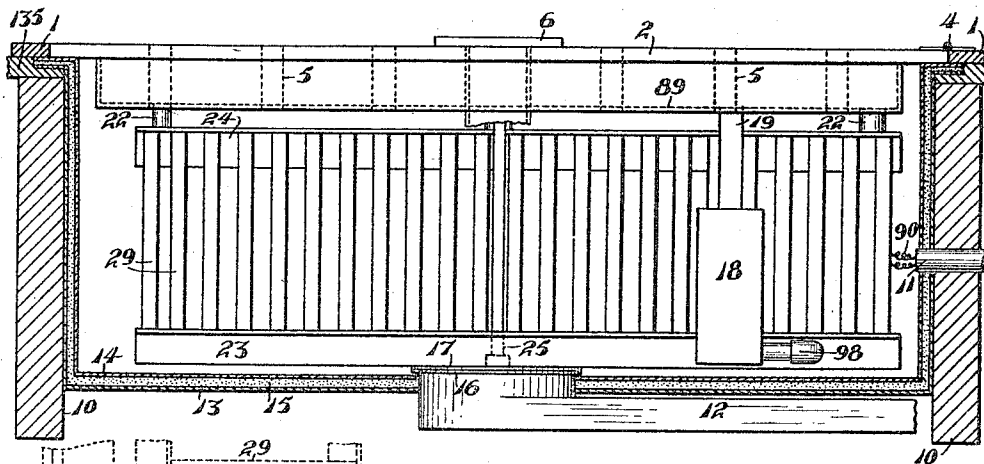


Fig. 3.

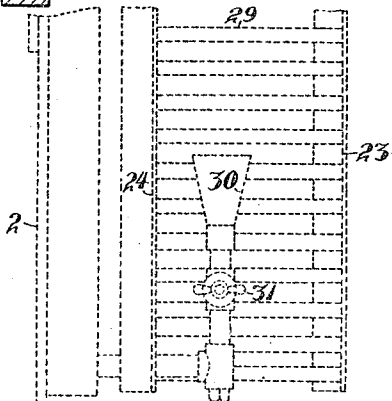
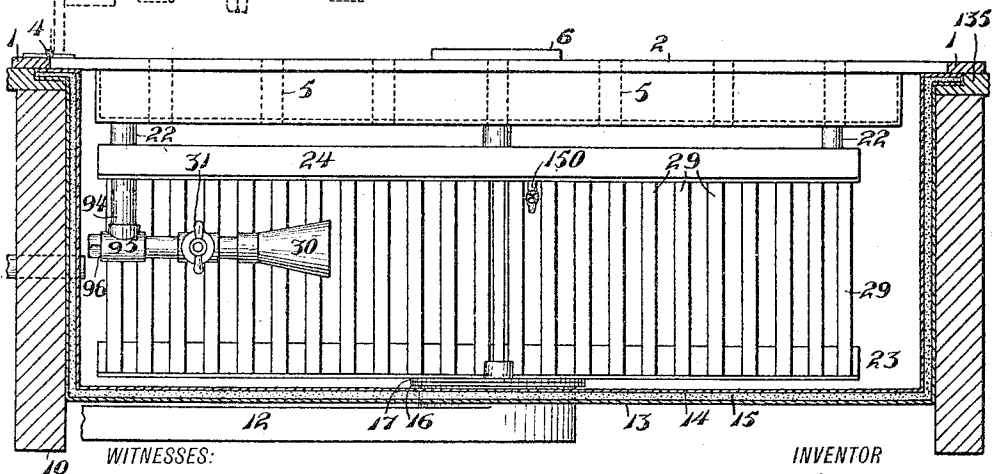


Fig. 4.



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3 SHEETS—SHEET 3.

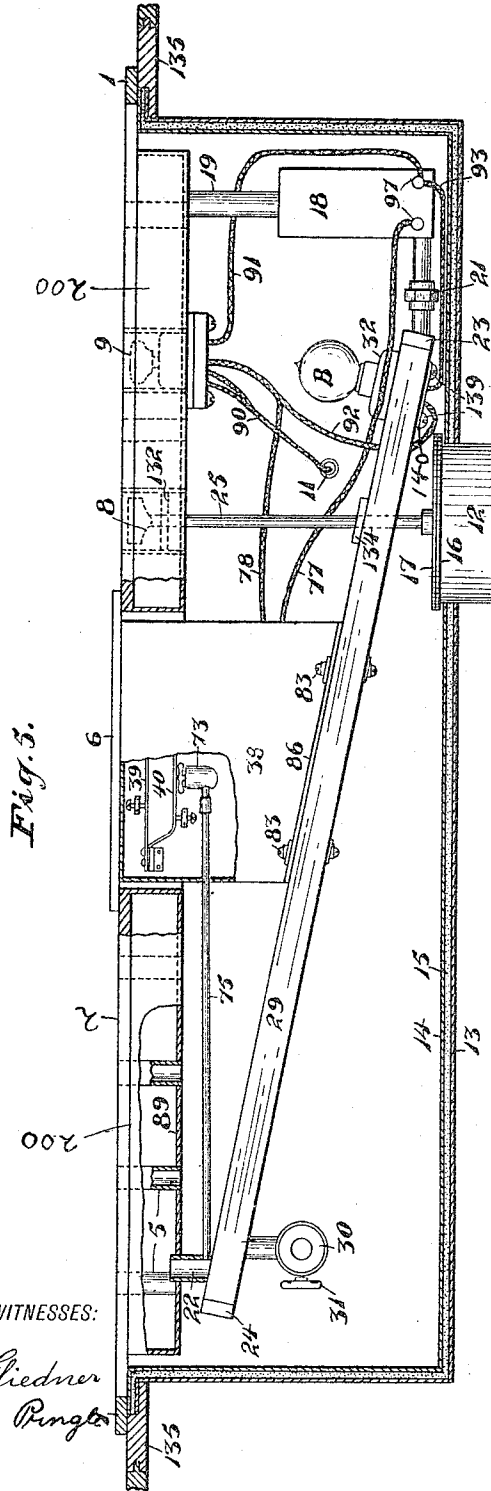


Fig. 5.

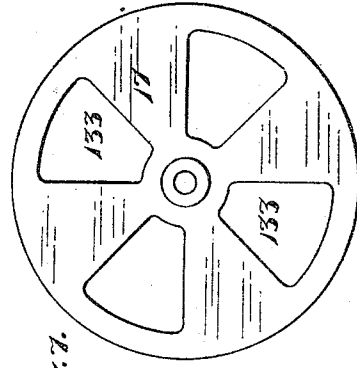


Fig. 7.

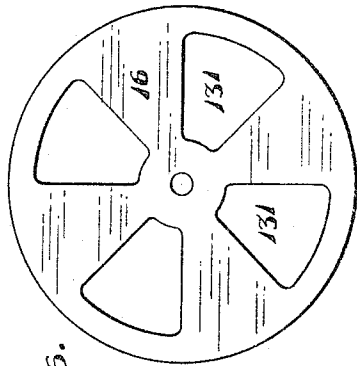


Fig. 6.

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UNITED STATES PATENT OFFICE.

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RADIATOR.

1,124,366.

Specification of Letters Patent.

Patented Jan. 12, 1915.

Application filed March 24, 1913. Serial No. 756,591.

To all whom it may concern:

Be it known that I, JOHANN G. WALLMANN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Radiators, of which the following is a specification.

My invention relates to improvements in radiators.

The object of my invention is to provide a radiator wherein liability to explosion is removed; which is easy to operate; which need be filled with water but once a year; which has an electric thermo-switch of a suitable type connected thereto which shuts off the electric current when such radiator becomes very hot, and which turns on said current when the radiator becomes cool; which may be placed under a desk or table or other "out-of-the-way" place; which has working parts which are easy of access for the purpose of cleaning, or otherwise, and which has other advantages which will hereinafter appear.

My invention consists in the combination and arrangement of parts shown in the accompanying drawing, described in the following specification and claimed in the appended claims.

In the drawings; Figure 1 is a top plan of said radiator; Fig. 2 is a bottom plan of said radiator, part of which is broken away and shown in section; Fig. 3 is a vertical sectional view looking from the right of Fig. 5, the radiator being shown in full lines; Fig. 4 is a similar view to Fig. 3 looking from the left of Fig. 5; the radiator being shown in dotted lines in the position when ready for filling. Fig. 5 is a longitudinal sectional view, the radiator being shown in side elevation and parts being broken away and shown in section, the said radiator as hereinafter mentioned comprising two parts, being an upper radiator marked 200 and a lower radiator consisting of tubes marked 29. Fig. 6 and Fig. 7 are plan views of the air regulating disks 16 and 17.

In the drawings, 1 is a metal frame or casing secured to a floor by screws 3.

2 is the outer wall of the radiator, and the same is hinged to frame 1 by hinges 4.

5 are the air tubes for the radiator.

6 is a perforated plate covering a space in

which a thermostatic switch is located, and said plate may be removed by removing screws 7 when it is desired to regulate the switch.

9 represents the electric switch of a suitable type.

Floor joists 10 support a galvanized box which is preferably constructed of two thicknesses of galvanized iron, numbered 13 and 14. Between said thicknesses or sheets lies asbestos sheeting 15.

16 represents a ventilator.

An air pipe 12 runs to the outside of a house or other place wherein the device is used.

An iron conduit pipe 11 is provided for electric feed wires.

135 represents flooring.

17 shows the disk of the ventilator 16, which is turnable by the thumb-piece 8, and which thumb-piece is connected to the disk 17 by the shaft 25. The said shaft 25 is held in place by the bearings 134 and 132.

18 shows a casing containing an electric boiler, and 19 is an outlet tube to the upper radiator 200. 98 is an inlet tube from the lower radiator; 21 shows a union, and 22 represents connecting tubes between the upper radiator and the lower radiator.

23 shows the lower bar of the lower radiator into which hollow tubes 29 are brazed, and 24 is the upper hollow bar into which tubes 29 are brazed. A filling device is shown in Fig. 4 having a funnel 30, a valve 31 for controlling the passage of fluid there-through and a coupling 95 connecting it to pipe 94.

96 is a screw plug, by which water may be drawn from the radiator.

89 is the bottom of the upper radiator, and 75 is a tube running to the safety valve 73, said tube inclining slightly toward pipe 22, to which it is connected so that the condensed steam will flow back into the radiator.

B is a pilot lamp which burns when the heater mentioned is turned on. The said pilot light is preferably made of violet-colored glass and will throw off violet rays. A porcelain lamp base 32 is secured in place by screws 139.

91 is a wire running from the switch to the binding post 97 of boiler 18, and 93 is a wire running to the lamp B.

90 are duplex feed wires running to switch 9 from conduit tube 11.

60

65

70

75

80

85

90

95

100

105

110

77 and 78 are wires running to the thermo-switching device mentioned.

131 and 133 show the vents as cut in the ventilator disks 16 and 17. The said ventilator can be opened to admit warm air into a room, and it can be used when the heater is not in operation to ventilate the room. Said device does not deprive the air of a room of oxygen as is the result of using a gas or oil heater.

In the operation the radiator is first raised on its hinges 4 as shown, air valve 150 being opened to allow air to escape and valve 31 being also open. Water is then poured into funnel 30 until the radiator is filled, whereupon valve 31 and air valve 150 are turned off. Then the radiator is placed back into position and electric switch 9 is turned on, this act closing the circuit. The current then passes over wire 91 from switch 9 through certain suitable elements, not shown, about the boiler in casing 18, and thence outwardly over wire 77 to the thermostatic regulating device, and then returns over wire 78 to switch 9, completing such circuit. By the current passing through said elements about the boiler mentioned, the water in the boiler becomes heated, causing steam to enter the upper radiator through pipe 19.

The steam as generated heats the upper radiator and is then condensed, the water so condensed flowing back by way of the pipes 22 into the lower radiator bar 24, which is hollow, and tubes 29. The pilot light B is screwed into porcelain base 32, said base being held to radiator hollow bars or tubes 29 by screws 139 and washer 140, and is wired in multiple to wires 92 and 93 as shown and burns while the heater is in operation and in a dark room rays of light are emitted through air tubes 5, adding to the cheerful appearance of the radiator in a room in which it may be placed. The thermo-switch can be adjusted so that after the radiator has reached the desired temperature, it will open the circuit and will not close it until the radiator has cooled off to the extent of several degrees of heat. The circuit may be broken by hot steam escaping from said safety-valve contacting with the thermo-bars 39 and 40 of a suitable thermostatic regulating device, such as described in my application for Letters Patent of the United States, filed March 18, 1913, having Serial Number 755,223.

I claim:—

1. In combination, a casing having an air inlet, a radiator forming a cover for said casing and having a plurality of air tubes therethrough, a plurality of radiating pipes within said casing above said air inlet, a pipe connecting one end of said radiator with one end of said radiating pipes, and means connecting the other end of said radiator with the other end of said radiating pipes, said means including a boiler and means for heating said boiler.

2. In combination with a safety valve, a casing having an air inlet, a radiator forming a cover for said casing and having a plurality of air tubes therethrough, a plurality of radiating pipes within said casing above said air inlet, a pipe connecting one end of said radiator with one end of said radiating pipes and having a tube connecting said pipe with said safety valve, and means connecting the other end of said radiator with the other end of said radiating pipes, said means including a boiler and means for heating said boiler.

3. In combination with a safety valve, a casing having an air inlet, a radiator forming a cover for said casing and having a plurality of air tubes therethrough, a plurality of radiating pipes within said casing above said air inlet, a pipe connecting one end of said radiator with one end of said radiating pipes and having a tube connecting said pipe with said safety valve, means connecting the other end of said radiator with the other end of said radiating pipes, said means including a boiler and means for heating said boiler, means including a vertical shaft for opening and closing said air inlet, means for feeding said radiating pipes with fluid including a funnel and valve and in connection with said radiating pipes, and means for illuminating secured in the lower part of said casing and including a lamp, and current-conducting means leading to said lamp and in connection therewith.

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

JOHANN G. WALLMANN.

Witnesses:

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JAMES P. HOLMES.