

W. R. JONES.

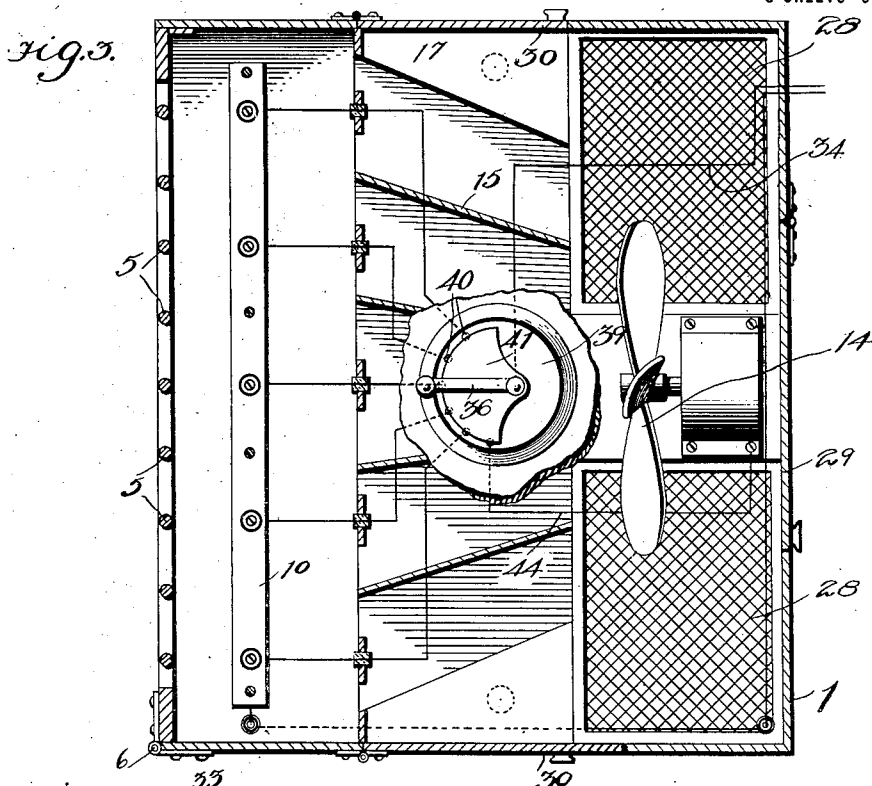
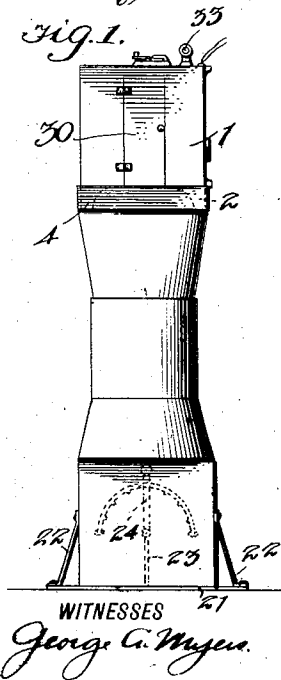
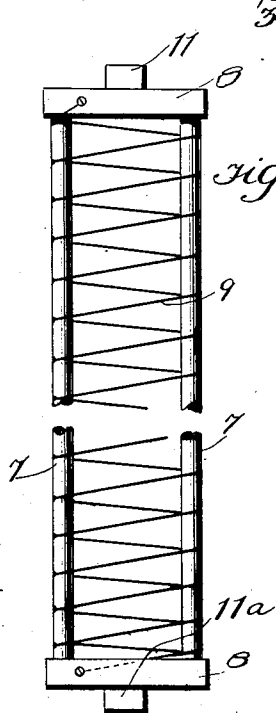
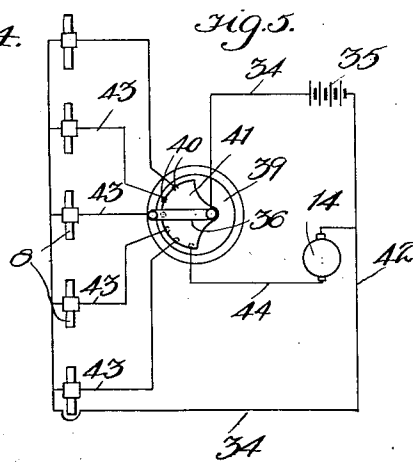
RADIATOR.

APPLICATION FILED JUNE 21, 1918.

Patented Apr. 8, 1919.

3 SHEETS—SHEET 1.

1,300,172.



WITNESSES
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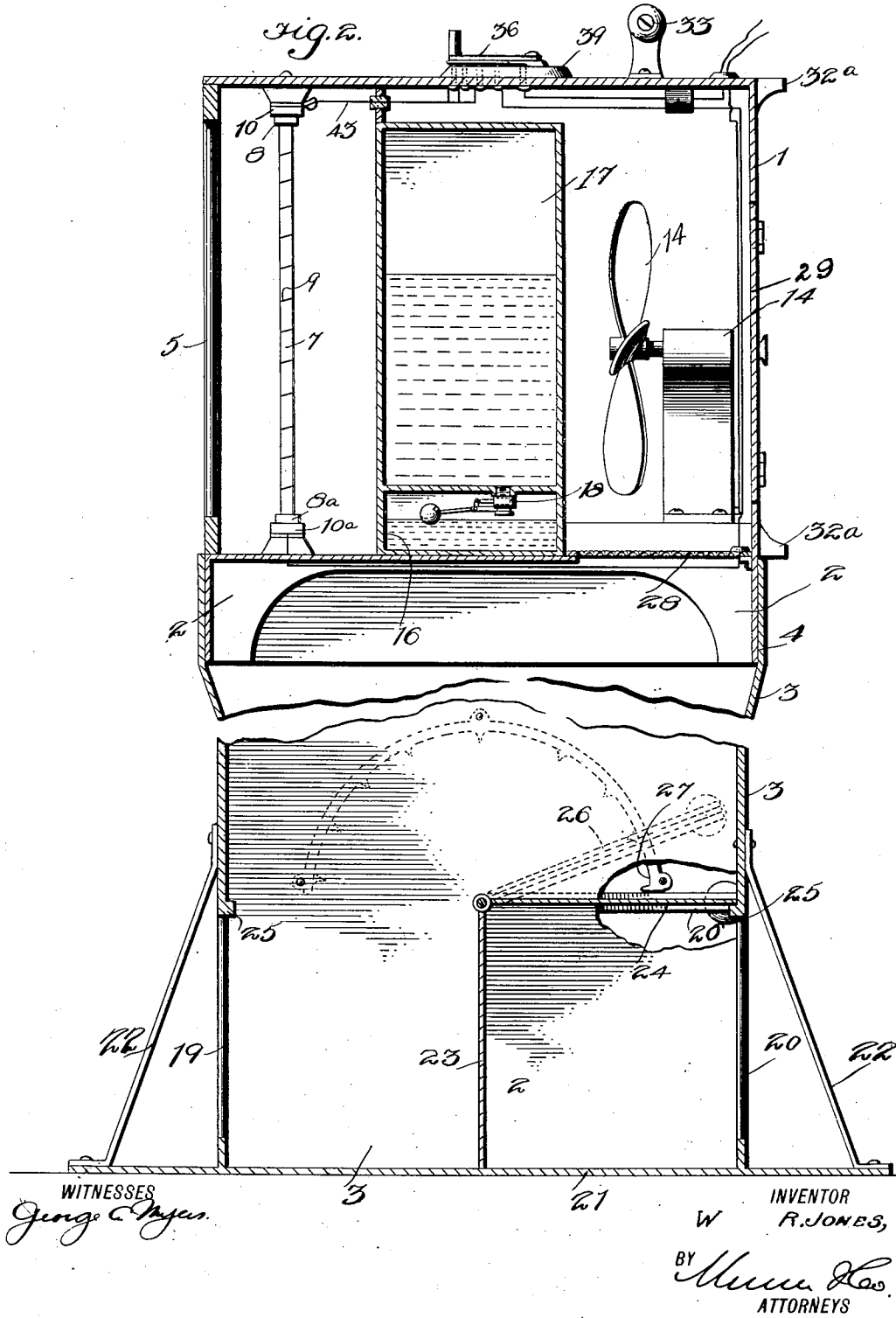
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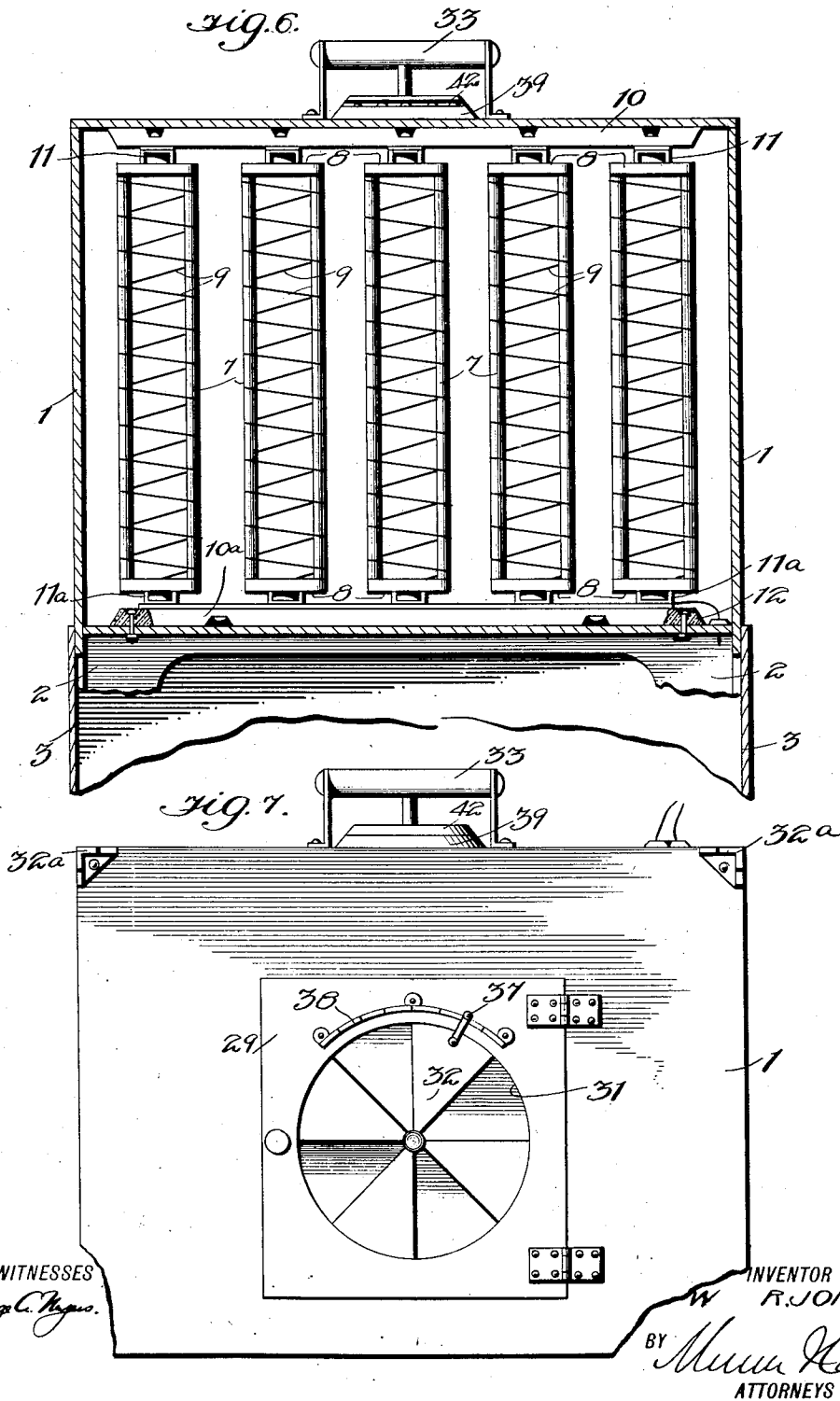
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UNITED STATES PATENT OFFICE.

WILLIAM RUFUS JONES, OF SUMMITVILLE, INDIANA.

RADIATOR.

1,300,172.

Specification of Letters Patent.

Patented Apr. 8, 1919.

Application filed June 21, 1918. Serial No. 241,201.

To all whom it may concern:

Be it known that I, WILLIAM R. JONES, a citizen of the United States, and a resident of Summitville, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Radiators, of which the following is a specification.

My invention is an improvement in radiators, and has for its object to provide a device of the character specified adapted to utilize the electric current, wherein a series of heating units is provided, with a suitable casing for supporting the same, the casing carrying also a tank or reservoir for water and absorbent wicks arranged adjacent to the heating units and dipping into the water, together with an electrically controlled fan beyond the wicks, for driving the current of air over the wicks and over the heating units to thoroughly heat and moisten the same, the casing having means for regulating the amount of air supplied by the fan.

In the drawings:

Figure 1 is a side view of the improved radiator;

Fig. 2 is a vertical section;

Fig. 3 is a top plan view, with parts in section;

Fig. 4 is a front view of one of the heating units;

Fig. 5 is a diagram of the wiring.

Fig. 6 is a front view of the heater units, with the casing in section;

Fig. 7 is a partial rear view.

In the present embodiment of the invention, a suitable casing is provided, consisting of an upper section 1 substantially rectangular in cross section, the said section having its lower portion cylindrical, as indicated at 2, and cut away to form legs at the corners for supporting the said upper section apart and detached from the lower section 3. This lower section 3 has a cylindrical portion 4 at its top into which the portion 2 of the section 1 is adapted to fit and turn.

The front of the section 1 has a grating 5 and this grating is hinged to the section as indicated at 6 to swing outwardly into open or inwardly into closed position. The grating is formed by a substantially rectangular frame having cross rods or bars connected to the frame. Just behind this grating is supported a series of heating units, which may be of any usual or desired construction, the said units being formed in the present instance by spaced parallel rods or bars 7,

connected at their ends by cross bars 8, and the resistance wire 9 is coiled about the bars 7, the said bars having notches, as shown, for properly spacing the wire, and each end of the wire is connected with the adjacent bar 8.

A cross bar 10 and a bus bar 10^a are provided for supporting the units, all of the bars being connected to the cross bar and the bus bar. This connection is by means of clips 11 and 11^a, similar to those used in retaining cartridge fuses, to permit the heating units to be removed or replaced independently of each other. The bus bar is supported by insulating blocks as shown.

An electrically driven fan 14 is arranged at the opposite side of the upper section of the casing from the heating units for driving a current of air over the units and through the grating, and between the fan and the grating is arranged a series of depending sheets 15 of absorbent wicking, the said sheets being spaced apart from each other and dipping at their lower ends into a container 16 for water. These sheets of wicking are, as before stated, arranged in spaced relation and in such manner as to form a series of passages between the fan and the heating units, the passages diverging from the fan to spread the air driven by the fan.

At each end of the upper section of the casing a tank or reservoir 17 is provided, and each of these tanks or reservoirs has a valve 18 at its lower end which is float controlled to feed water to the container 16 when the water in the container falls below a predetermined level.

The lower section 3 of the casing has gratings 19 and 20 at its front and rear and near the bottom 21 of the said section. It will be noted that this bottom extends beyond the periphery of the section in every direction, forming thus a broad base for the heater, and the lower section is braced against this extended base by inclined braces 22. A vertical partition 23 is provided at the center of the lower section and extending from the bottom to approximately the height of the top of the grating, and a damper door 24 is hinged to the top of the partition for closing the space between the partition and the casing wall at either grating 19 or 20. The free edge of this damper door is adapted to rest upon a ledge 25 just above each grating, and it is operated by means of a handle 26

outside of the casing section. A toothed sector 27 is provided for engagement by the handle to hold the handle in adjusted position, and it will be obvious that the damper door may be used to close either grating, or to leave both open or one open and one partly open. The air entering the gratings 19 and 20 passes upwardly through screens 28 which are arranged upon each side of the fan as shown more particularly in Fig. 3. The air entering through the gratings passes upwardly through the lower section and through the screens 28, and it is driven by the fan over the wicking and the heating units and delivered to the room to be heated through the grating 5.

A hinged door 29 is provided in the upper section of the casing at the fan, the said door permitting access to the fan for any purpose. Other doors 30 are provided in the opposite side walls, at the wicks, for permitting access to the same and to the rear of the heating units. The casing has a screen opening 31 in the rear door 29. A rotary damper 32 is provided at this opening, and the section 1 is provided at its top with a handle 33 for convenience in carrying the same.

In Fig. 5 is shown the circuit connections for the units. The connections are such that any number of heating units from one to all may be thrown into the circuit and for this purpose a switch 39 is arranged on the top of the upper section 1. The switch has a switch arm 36, and a series of contact buttons 40, the base of the switch being circular and the contact buttons being arranged in an arc shaped series on the base. The switch arm has a substantially semi-circular plate 41 of conducting material secured thereto, and one of the wires leading from a source of electrical energy 35, as, for instance, a battery, is connected with the switch arm 36. The wire 42 leading from the other pole of the battery extends alongside the heating units and branch wires 43 extend between this wire 42 and the contact buttons 40, the heating units being interposed in these branch wires 43. A branch wire 44 leads from the wire 42 to one of the buttons on the switch for supplying the fan motor 14. The plate 41 is of a size to simultaneously engage all of the buttons 40, of which there is a button corresponding to each unit and a button for the fan, in the present instance six buttons. It will be evident that when the switch arm is moved so that the plate 41 contacts with the first button, namely, that connected with the fan, the current will pass from the battery through the fan motor, the switch arm and the wire 34 to battery. When the switch arm is moved farther the current will be passed through the first heating unit and as the movement of the switch arm is con-

tinued, the units will be brought into circuit in succession until all are in the circuit.

The upper section may be turned in any desired position with respect to the lower section, and the grating at 20 may be connected to an outside ventilator. With the water withdrawn, the radiator may be turned on its back and used to cook with if desired, even with the motor turned off, as the draft upward through the air intake 28 will prevent the heat units from burning out, and since the heating units are close to the grate 5, a very intense heat may be obtained. It will be noticed that the upper section has legs 32^a on its back, for supporting it in this position, and it may be easily converted into a toaster stove. These legs 32^a may be engaged with the lower section if desired.

It will be noticed that the heating units are placed with their planes parallel with the front of the radiator, to permit the air to pass between the wires and to be more thoroughly heated. The grating at 20 is for the purpose of permitting air from the outside or from an ozone generator to enter the radiator or to mix with the air within the room. The water container 17, together with the tanks and deflecting wicks, is removable, to permit the upper section to be used as a toaster. The damper 32 has a radial arm 37 which is adapted to engage a toothed sector 38 on the door to hold the damper in adjusted position.

I claim:

1. A radiator comprising a suitable casing, a grating closing one face of the casing, a series of electrically controlled heating units supported behind the grating, a tank supported at the bottom of the casing, means for maintaining a predetermined depth of water in the trough, a series of wicks depending at their lower ends into the water in the trough and arranged in spaced relation, an electrically controlled fan behind the wicks for driving air over the wicks and over the heating means, said casing having a cylindrical portion at its bottom, a base or pedestal having a cylindrical portion at its top in which the cylindrical portion of the casing engages to rotatably support the casing, said pedestal having oppositely arranged openings at its bottom, a transverse partition between the openings, and a damper hinged to the partition for closing the space at either side.
2. A radiator comprising a suitable casing, a grating closing one face of the casing, a series of electrically controlled heating units supported behind the grating, a tank supported at the bottom of the casing, means for maintaining a predetermined depth of water in the trough, a series of wicks depending at their lower ends into

the water in the trough and arranged in spaced relation, an electrically controlled fan behind the wicks for driving air over the wicks and over the heating means, said casing having a cylindrical portion at its bottom, and a base or pedestal having a cylindrical portion at its top in which the cylindrical portion of the casing engages to rotatably support the casing.

10 3. A radiator comprising a suitable casing having a tank, a series of electrically controlled heating units supported on one

side of the tank, a series of wicks depending at their lower ends into the water in the tank and arranged in spaced relation, an electrically controlled fan behind the wicks for driving air over the wicks and over the units, said casing having a cylindrical portion at its bottom, and a base or pedestal having a cylindrical portion at its top in which the cylindrical portion of the casing engages to rotatably support the casing.

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