J. D. ZIELEY.

ELECTRIC DEVICE.

APPLICATION FILED DEC 20, 1918.

1,389,235. **Patented Aug. 30, 1921.**

2 SHEETS—SHEET 1.

Fig. 1

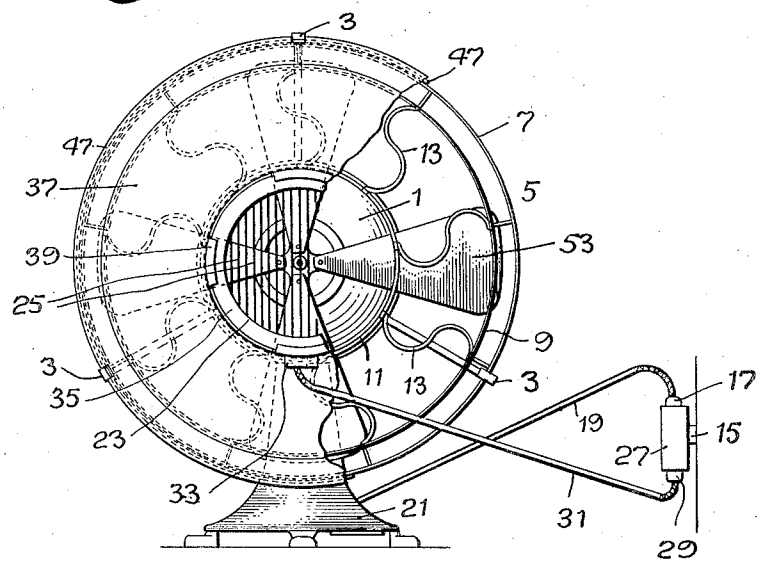


Fig. 2

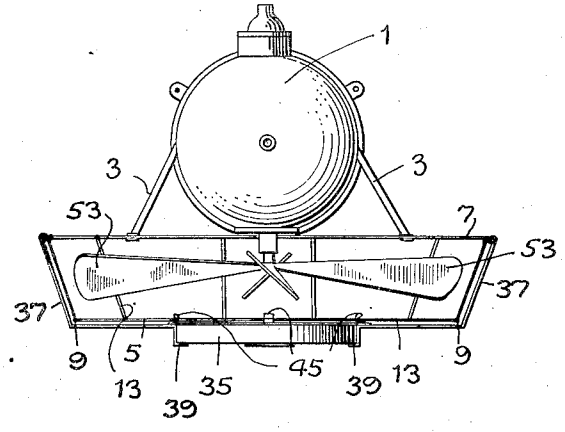
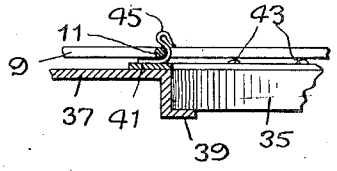


Fig. 3



John D. Zieley, Inventor,

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2 SHEETS—SHEET 2.

Fig. 4

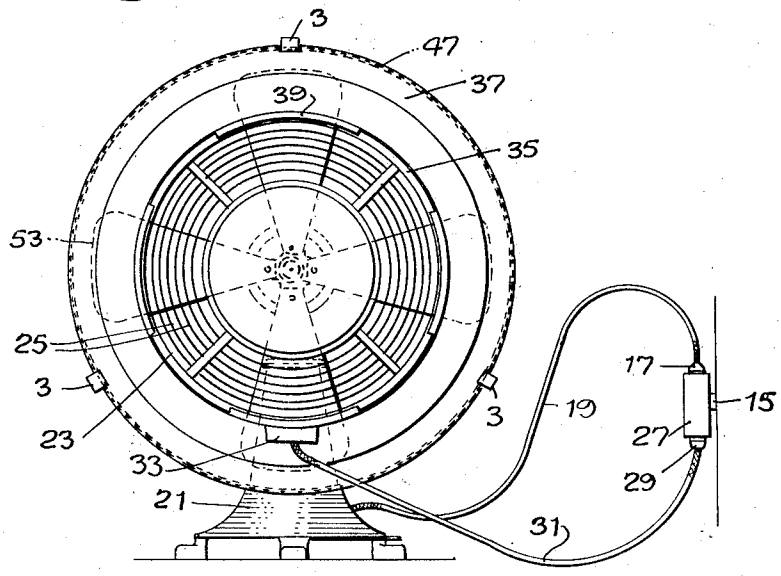


Fig. 7

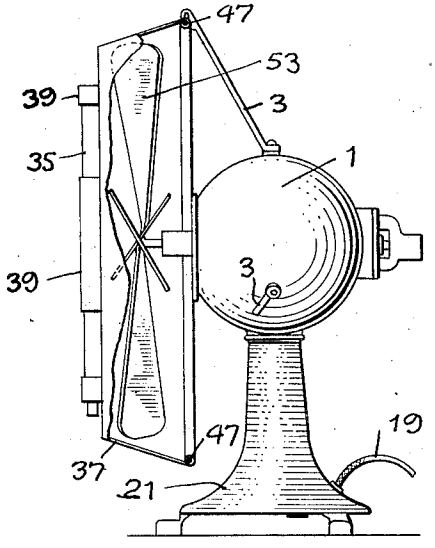


Fig. 5

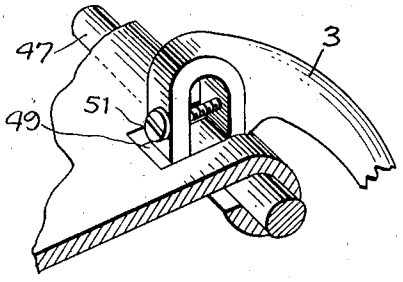
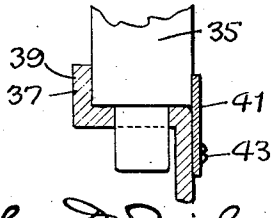


Fig. 6



John D. Zieley, Inventor,

By his Attorneys,

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UNITED STATES PATENT OFFICE.

JOHN D. ZIELEY, OF SUMMIT, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNIVERSAL INTERESTS, INC., OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

ELECTRIC DEVICE.

1,389,235. Specification of Letters Patent. Patented Aug. 30, 1921.

Application filed December 20, 1918. Serial No. 267,695.

To all whom it may concern:

Be it known that I, JOHN D. ZIELEY, a citizen of the United States, and a resident of Summit, in the county of Union and State of New Jersey, have invented an Improvement in Electric Devices, of which the following is a specification.

This invention relates to heaters, and with regard to certain more specific features, to a heater adapted for use in connection with the ordinary electric fan.

One of the objects of the invention is to provide a simple and durable device that is adapted to furnish heat at a low cost and to distribute the heat effectively wherever it may be needed. Another object is to provide a heater that can be set up, dismantled, and operated by persons having no electrical skill. Another object is to provide a heater that can be readily attached to a standard fan. Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction and operation and combinations of elements and arrangements of parts which will be exemplified in the structures hereinafter described and the scope of the application of which will be pointed out in the accompanying claims.

In the accompanying drawings, illustrating one or more of various possible embodiments of the invention,

Figure 1 is a front elevation of a preferred type of apparatus, with parts broken away to show the interior structure.

Fig. 2 is a plan of Fig. 1, with parts broken away for the same purpose.

Fig. 3 is a detail showing one of the clips and its associated parts.

Fig. 4 is a front elevation of a modified type of apparatus.

Fig. 5 is a detail of one of the braces and its associated parts, showing the ring out of engagement with the bracket.

Fig. 6 is a detail showing the manner in which the heater unit is attached to the hood.

Fig. 7 is a side elevation of Fig. 4 with parts broken away to show the interior structure.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring now more particularly to Figs. 1, 2, and 3, there is illustrated at 1 a fan of ordinary construction provided with the usual braces 3 and guard 5, the latter comprising a rear ring 7, a front outer ring 9, an inner ring 11, and the spaced wires 13 connecting these three rings. The fan motor is supplied with current from a wall socket 15 or other source of power through a plug 17, leads 19, and speed control device 21 of any desired construction. When the fan is used without the heater, the plug 17 is inserted in the socket 15 in the usual manner (not shown).

The heater 23 is illustrated as comprising one or more series of conductors 25 adapted to become heated when supplied with electrical energy from a suitable source, such as the outlet socket 15, with which connection is made by the two-way socket 27, heater plug 29, leads 31, and switching device 33. This switching device is preferably constructed to permit the heater current to be turned on and off and also to permit it to be turned on to give more than one degree of heat: For example, the conductors 25 are preferably in two sets, one of large wires and one of small wires, and the switching device is adapted to energize one or the other or both sets to thus give any one of three degrees of heat.

The conductors 25 are mounted on an insulating and heat-resisting frame 35 which is attached to the hood 37 by means of lips 39 projecting inwardly from the hood 37, as illustrated on an enlarged scale in Fig. 3, to prevent movement of the heater away from the fan, and by a ring 41 secured to the hood 37 and projecting inwardly past the outer edge of the frame 35 to keep the latter from moving toward the fan. This ring may be attached to the hood 37 by screws 43.

The heater is mounted on the fan by suitable connecting devices, such as the clips 45 secured to the ring 41 and engaging the inner ring 11 of the fan guard. It is understood that suitable heat insulators are provided if necessary to prevent the transmission of an undue amount of heat from the heater frame 35 to the hood, fan guard, and associated parts. However, since the heater frame is of heat-insulating material or is covered with heat-insulating material, additional insulation is ordinarily not required. The hood may be attached to the outer ring of the guard by suitable clips, not shown, or by making the hood of resilient material of such size that it will snap over said ring.

The operation of the device will be clear from the above description. In applying the heater it is simply necessary to snap the

clips 45 over the inner ring 11 of the fan guard, the hood positioning itself as above indicated, or being attached to the rear guard ring 7 by clips. The electrical connection is effected by simply detaching the fan plug 17 from its socket 15, inserting the plug of the two-way socket 27 in the latter, and then inserting the fan and heater plugs 17 and 29 in the two-way socket. The higher fan speeds will ordinarily be found suitable for the higher degrees of heat, and likewise the lowest fan speed will be best adapted to the lowest degree of heat, although this relation is one that can be varied according to the proportions of the apparatus. And it will be noted that the heater can be detached from the fan without difficulty, leaving the fan intact for subsequent use without the heater.

For fans having name plates, or other obstructions across the central portion of the guard, or where for any other reason the above manner of attaching the heater to the fan would be undesirable or inconvenient, the fan guard may be removed from the braces 3 and the heater applied directly to the braces by attaching the hood to the braces in the manner indicated in Fig. 5, where it will be seen that the U-shaped end of each brace can be readily slipped over the ring 47 at the rear of the hood, through the slot 49 in the hood, after which the screw 51 is tightened to lock the parts in position.

In case the braces 3 supplied with the fan are not strong enough or otherwise unsuited for attachment of the heater thereto, additional braces may be furnished with the heater to replace the braces furnished with the fan.

A modification of the device above described is illustrated in Fig. 4, wherein the heater 23 is formed of conductors arranged around the central portion of the fan instead of being formed of conductors in the central portion of the fan. This embodiment, it will be noted, illustrates the above-described connection of the heater hood to the fan brace, as in this embodiment the heater is shown as supplied after the fan guard has been removed. However, this form of annular heater can be applied to the fan guard if desired.

The devices above described may be modified by having the heater extend over the entire area traversed by the fan blades 53.

I claim:

1. An electric device combining an electric fan, braces thereon, a guard supported by the braces and provided with a front inner ring, an electric heater, and means for mounting said heater on said front inner ring.

2. An electric device combining an electric fan, braces thereon, a guard supported by the braces, an electric heater, and means for mounting said heater directly on said braces.

3. An electric device combining an electric heater, a hood on which said heater is mounted, and means for detachably mounting said hood directly on the usual guard-braces of an electric fan.

4. An electric device combining an electric fan, braces thereon, a guard supported by said braces and provided with an inner front ring, a hood surrounding said guard and having an annular extension in front of said guard, a heater mounted across the opening in said annular extension, and means for securing said hood to said inner front ring.

5. An electric device combining an electric fan, a hood having an annular portion extending in front of said fan, a heater mounted on said annular portion across the opening thereof, and means for mounting said hood directly on the usual guard braces on said fan.

6. An electric device combining an electric fan having a guard provided with an inner front ring and braces supporting said guard from the body of the fan, an electric heater, a hood on which said heater is mounted, and clips for mounting said hood on said inner front ring.

7. An attachment for an electric fan of the usual type, combining a hood, means for attaching said hood to the fan at the points where the usual fan guard is attached, said hood replacing the guard, the hood being inclosed at its outer periphery, and a heating device mounted at the front of the hood, whereby the air blown by said fan passes through said heating device.

8. An attachment for an electric fan of the usual type, combining a hood, means for attaching said hood to the fan at the points where the usual fan guard is attached, said hood replacing the guard, the hood being inclosed at its outer periphery and having a frusto-conical closed portion extending forwardly, and a heating device mounted at the front of the frusto-conical portion, whereby the air blown by said fan passes through said heating device.

9. An attachment for an electric fan of the usual type, combining a hood, means for attaching said hood to the fan, the hood being inclosed at its outer periphery and having a frusto-conical closed portion extending forwardly, and an annular portion extending inwardly over the face of said fan, and an electric heater mounted on said hood, whereby the air blown by said fan passes through said heater.

In testimony whereof I have signed my name to this specification this 19th day of December, 1918.

JOHN D. ZIELEY.