

Nov. 18, 1924.

1,515,730

E. P. COLE

HEATER

Filed June 23, 1921

Fig. 1

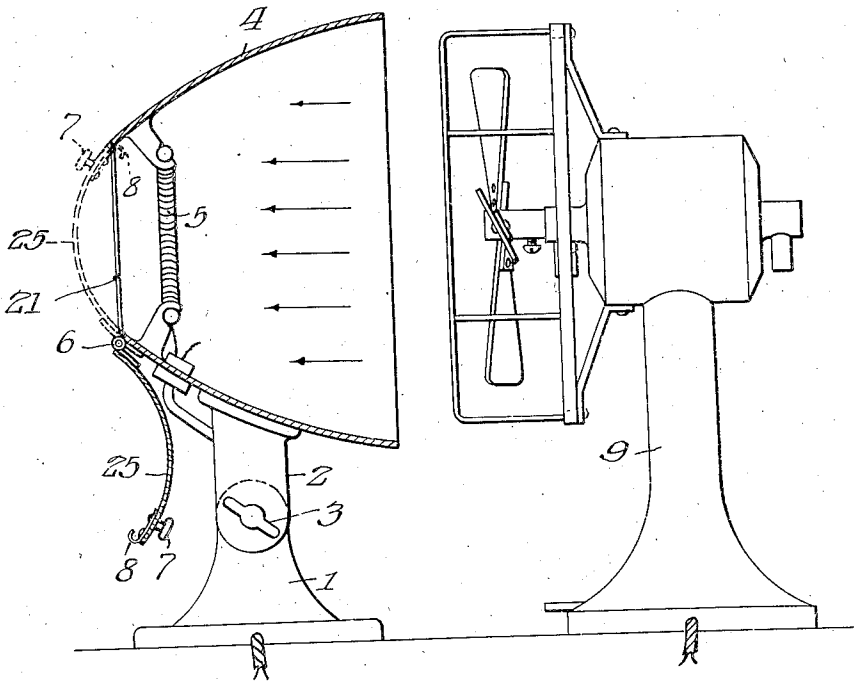


Fig. 2

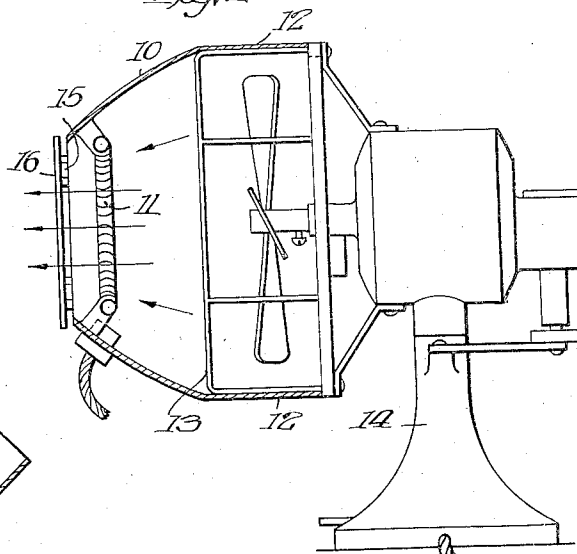
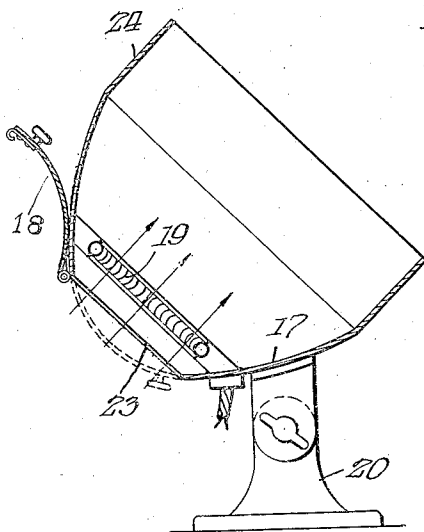


Fig. 3



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attys.

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UNITED STATES PATENT OFFICE.

EDWARD P. COLE, OF CHICAGO, ILLINOIS.

HEATER.

Application filed June 23, 1921. Serial No. 479,770.

To all whom it may concern:

Be it known that I, EDWARD P. COLE, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Heaters, of which the following is a specification.

My invention has reference more particularly to a heater of the reflector type which is capable of being used to furnish a current of heated air.

Electrical heating devices comprising a heating element mounted in front of a heat reflector so as to concentrate and project the rays of heat from the element have come into extensive use. These devices, however, as heretofore designed, have been capable of transmitting heat only by reflection and could not be used to afford a current of heated air, although the latter use is often desirable, particularly for drying purposes, for example, drying the hair.

The principal objects of my invention are to provide an electrical heater of the reflector type which may be used to supply a current or draft of heated air; to use my invention in connection with heat reflectors of the present type; to apply same so that it does not detract from the utility of the device as a heat reflector; and in general, to provide an inexpensive and convenient heater of the reflector type which is easily and quickly adaptable to permit or afford circulation of heated air.

On the drawings:

Fig. 1 is a side view of a heater constructed in accordance with my invention and having parts thereof in section, together with an electric fan placed in position to provide circulation of the heated air.

Fig. 2, a similar view partly in section, showing a modified form of heater which is designed to be used as an attachment for the ordinary electric fan, and

Fig. 3, a side view partly in section, of another modification of my heater.

Referring to the drawings, Fig. 1 shows my invention in the form in which heaters of this character are usually constructed and comprises a base 1 with an extension 2 pivoted thereto and adapted to be clamped in various positions of pivotal adjustment by a thumb screw or nut 3. At the upper end of the extension 2 is secured a parabolic reflector 4, which has a heating element 5 mounted in the base thereof so that the heat

rays emanating from the element are re-directed by the reflector 4 out through the open end of the reflector.

The reflector thus described is substantially the same as reflectors of this type which have been heretofore provided, my invention consisting essentially in the provision of an opening 21 in the base of the reflector and a door 25 for closing same. The inner face of the door 25 is curved to correspond to the curvature of the reflector 4 and in the closed position, fits into the opening 21 so as to form a continuation of the inner surface of the reflector. This door may be mounted in any manner which permits convenient opening and closing as for example, by the hinge 6, and there is also a knob 7 for manipulating the door and a latch 8 for holding same in the closed position.

This heater is constructed so that the reflector 4 is at a suitable height to be placed directly in front of an electric fan 9 of a standard type, and when it is desired to provide a draft or circulation of heated air the fan is placed in front of the reflector 4 substantially as shown in Fig. 1, and the door 25 is opened. Upon supplying current to the heating element 5 and operating the fan, the blast of air from the latter is directed into the reflector 4 into close contact with the heating element, and discharged through the opening afforded by opening of the door 25, thus affording a blast of heated air from the rear openings of the reflector which may be utilized for drying the hair or for any other purpose.

The construction shown in Fig. 2 is adapted to be used as an attachment for an electric fan and comprises the shell 10 with the heating element 11 at the outer end and a cylindrical portion 12 at the other end of suitable size to telescope onto the fan guard 13 of the fan 14, and this shell 10 has an opening 15 at the outer end which may be closed by a door 16, if desired.

This type of heater has the supporting base omitted so that it can be used in connection with an oscillating fan and as it is not particularly adapted to be used apart from the fan to provide reflected heat, the door 16 may be omitted or a plain flat plate used for the door, as the latter is not required to serve as a reflector as in the construction shown in Fig. 1.

The reflector 17 shown in Fig. 3, is de-

signed particularly to afford circulation through the reflector by natural draft caused by the heating element, and this end is hinged on the base 22 so that it normally occupies an upwardly directed position with the opening 23 at the bottom through which air is drawn and circulated around the heating element 19. The hinged mounting of the reflector however, permits adjustment thereof to horizontal and other positions, so that it may be used as an ordinary heat reflector or in connection with a fan to provide a draft of heated air. The opening 23 is, therefore, preferably provided with a door 18 of curved form to complete the reflector surface when closed, and the open end of the reflector may also be provided with the cylindrical shell so that the device is capable of being mounted on a fan guard in the manner shown in Fig. 2.

While I have shown and described my invention in a preferred form, I am aware that various changes and modifications may be made without departing from the principles of my invention, the scope of which is to be determined by the appended claims.

I claim as my invention:

1. In a device of the class described, the combination of a concave heat reflector having an opening in the bottom, a ring-shaped

heating element within the reflector and extending around the edge of the opening so as to afford a clear passage through the opening and heating element, and a door for closing said opening.

2. The combination of a concave reflector comprising an annular shell, the wall of which is convergently curved to form a large opening at one end to a smaller opening at the other end, a heating element positioned within the reflector so that the heat rays therefrom are re-directed by the reflector out through the large opening thereof, and a fan at the large opening of the shell and adapted to supply air into the reflector and discharge same through the smaller opening of the reflector.

3. In a device of the class described, the combination of a concave reflector having a heating element mounted therein so that the rays of heat emanating from said element are concentrated and projected in the direction of the focal axis of the reflector, a fan adjacent the mouth of the reflector operable to propel a current of air in a direction opposite to that of the reflected heat rays, and a restricted opening in the bottom of the reflector through which the current of air from the fan is discharged.

EDWARD P. COLE.