March 30, 1948. J. NEISER 2,438,861

ELECTRIC HEATER

Filed March 12, 1945

Fig. 2.

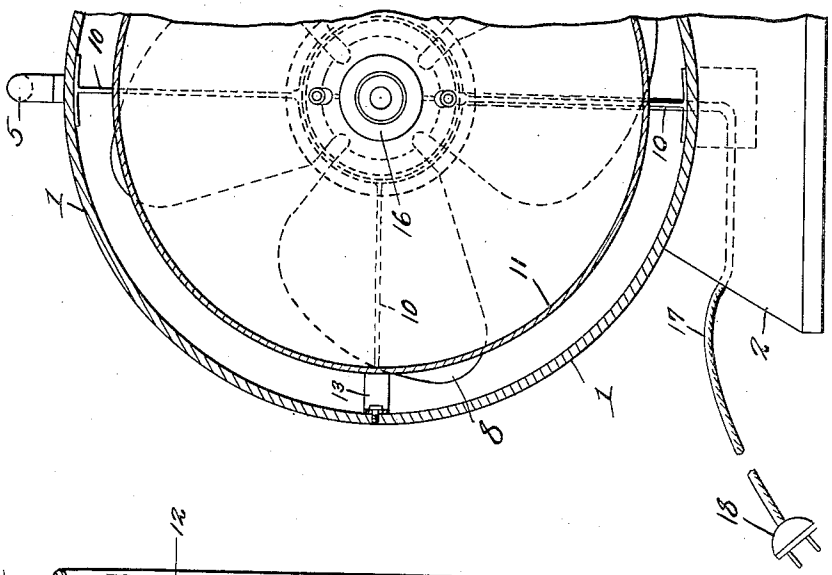
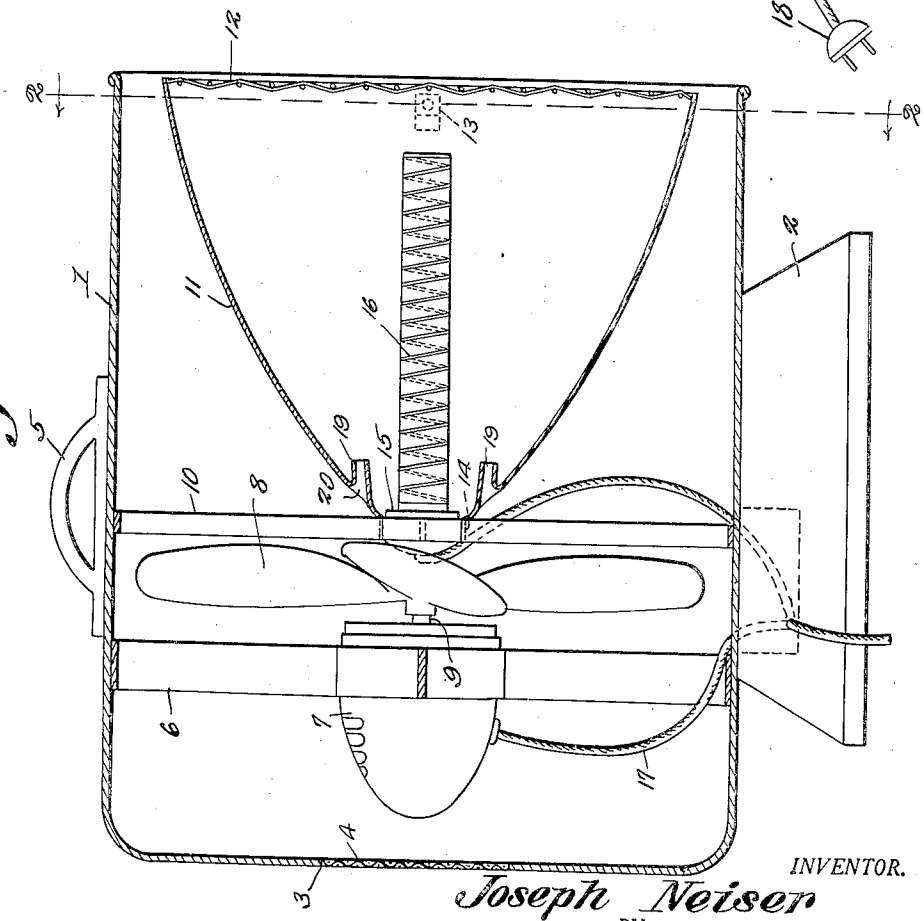


Fig. 1.



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Patented Mar. 30, 1948

2,438,861

UNITED STATES PATENT OFFICE

2,438,861

ELECTRIC HEATER

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Application March 12, 1945, Serial No. 582,315

1 Claim. (Cl. 219—39)

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This invention relates to electric heaters, one of the objects being to provide a space heater which is portable and which has means whereby its heating efficiency is materially increased.

Another object is to provide a heater which is simple and compact in construction and will not readily get out of order.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing:

Figure 1 is a vertical longitudinal section through the heater.

Figure 2 is a section through a portion of the heater taken on the line 2—2 Figure 1.

Referring to the figures by characters of reference, 1 designates a drum which can be suitably mounted on a base 2. This drum has an air intake opening 3 at one end which can be provided with a screen 4. The other end of the drum is open. A handle 5 is located on the drum so that it can be readily carried.

A spider 6 is secured in the back portion of the drum and supports an electric motor 7. Fan blades 8 are secured to the shaft 9 of the motor and are mounted for rotation close to but back of, the spider 10 to which is secured a semi-ovoid reflector 11, the large or open end of which is positioned within and concentric with the open end of the drum 1. This large end of the reflector carries a protecting screen 12 and is joined to and spaced from the drum by means of brackets 13.

A socket 14 is formed by the inner or small end portion of the reflector and receives the base 15 of electric heating element 16 which is extended toward but spaced from the screen 12. Both the motor and the heating element are electrically connected through cords 17 to a plug 18 so that the device can be coupled readily to a service outlet.

The reflector 11 is provided adjacent to the base of the heating unit 16 with tubular extensions 19 which open into the reflector at points adjacent to the heating unit and are so placed that jets of air issuing from these tubes or extensions will be projected along lines substantially parallel with the heating unit and in the direction of the screen 12. The rear ends of the tubes 19 are flared as at 20.

In practice, the heater is placed where it is

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to be used and the plug 18 is then inserted into a service outlet. Thus the fan 8 will be set in motion and the heating unit will be energized. As the fan operates, air will be expelled thereby around the reflector and through the space between the reflector and the open end of the drum. Other portions of the propelled air will enter the tubes 19 through the flared inlets thereof and be expelled in jets close to and along the heating unit 16. Thus the heating unit performs two functions, namely, that of heating the reflector and, consequently, the air flowing around the reflector and, in addition thereto, heating through direct contact, the air flowing through the tubes or nozzles 19 and within the reflector to and through the screen 12. It has been found in practice that by providing a structure such as described, the surrounding temperature will be raised quickly and the efficiency of the device as a space heater is materially enhanced.

What is claimed is:

An electric heater including a drum and a reflector each open at one end, the reflector being mounted in the drum with its open end substantially flush with the open end of the drum, said end of the reflector being relatively smaller than said end of the drum and concentric therewith, whereby to define a circumferential space surrounding the end of the reflector, relatively closely spaced and substantially parallel nozzles in the closed end of the reflector extending toward the open end thereof, a heating unit mounted in the closed end of the reflector between the nozzles and substantially parallel thereto, whereby air jets expelled through the nozzles will be directed longitudinally of the heating unit in lines close to and parallel with the heating unit, and a blower mounted in the drum back of the reflector, said blower constituting means for simultaneously expelling jets of air through the nozzles, and expelling air surrounding the reflector through the circumferential space between the open ends of the reflector and drum.

JOSEPH NEISER.

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