

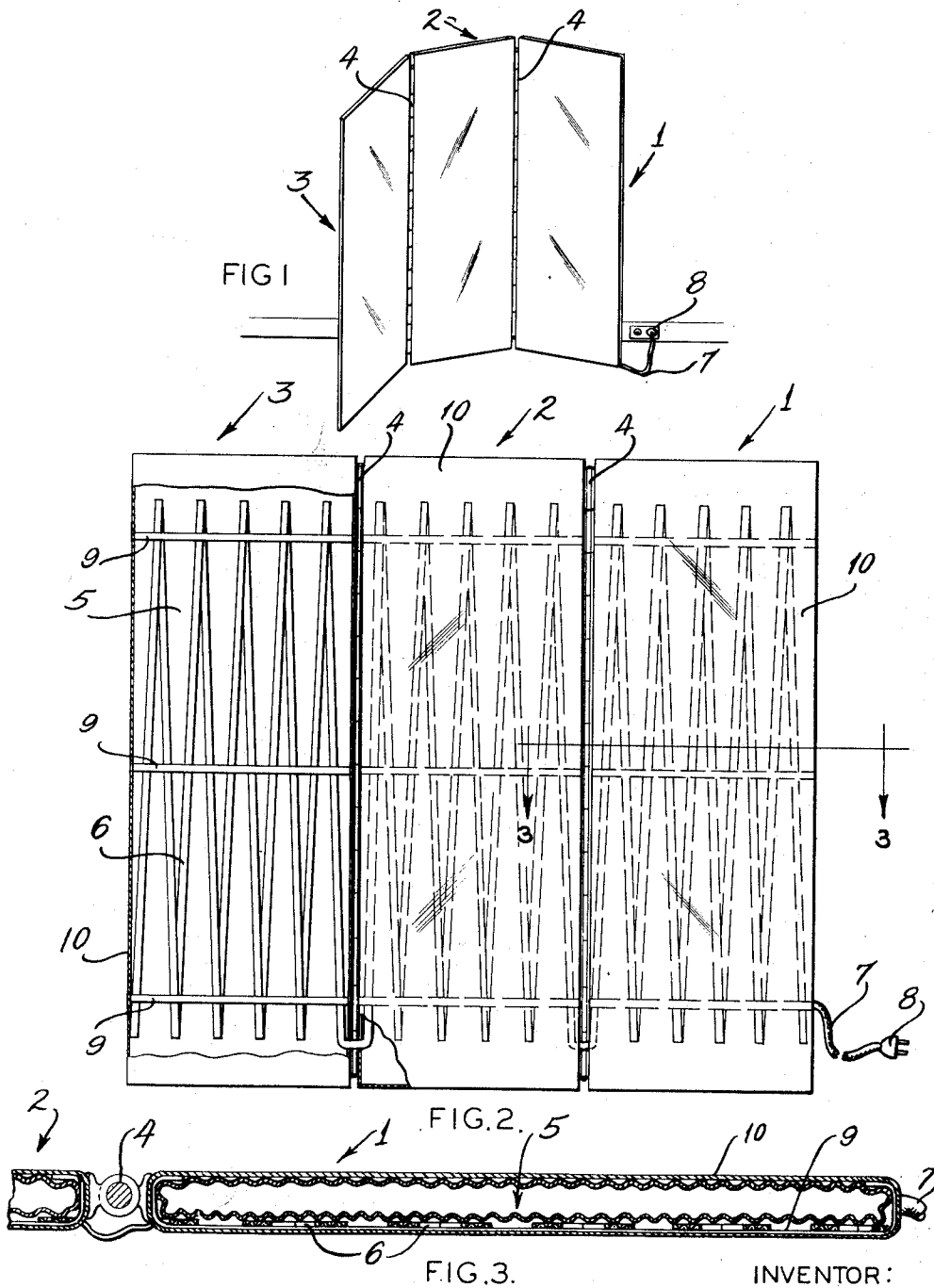
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HEATING SCREEN

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HEATING SCREEN

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2 Claims. (Cl. 219—34)

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The invention relates to heating devices and more particularly to a radiant heating device used to promote the comfort of an individual rather than as a space heater.

Every normal healthy person must surrender a given amount of heat energy every hour; otherwise, he would expire with fever. It is when a person cools off at a rate in excess of four hundred heat units an hour that he experiences a sensation of chill and discomfort. During the seasons when heat is employed for comfort, a person may lose heat from his body by four methods: (1) conduction from the body to any surface it may be in contact with, (2) respiration—heating the air that is breathed, (3) convection—the carrying away of heat from the body by air that passes over the body, (4) radiation from the body to whatever surface surrounds it, such as walls, floors and ceilings. The greatest amount of body heat loss is by radiation from the body through the air to the surrounding surfaces; therefore, the temperature of surfaces surrounding a person is the controlling factor in his comfort rather than the temperature of the air or the humidity of the air. If the temperature of the surrounding surfaces is very low it is not possible to maintain comfort, e. g., if one sits near a cold window the body heat loss by radiation is so great as to cause him to experience chilly discomfort regardless of the room air temperature. If the body is surrounded by or adjacent to a surface the temperature of which is approximately that of the body, there is no chance for the body to lose much heat by radiation and, therefore, greater comfort is obtained.

The main object of the invention is to provide a body opposing surface in the form of a screen or shield of such area and of such temperature as to avoid undue loss of heat by radiation from the body of an individual using the screen without requiring the heating of space about the body or the sense of discomfort or uneven temperature as may result from using an ordinary small, high-temperature radiant heater as is common practice when the room temperature is not high enough to provide comfort for a person whose activity or physical condition, surroundings or working requirements make a higher-than-room temperature desirable. The heater is especially suited for localized heating in inadequately heated buildings by placing the screen in an upright position and preferably arranging it in sections set at an angle to each other so as to partially surround a person. The heater may be used to heat a person who sits at a desk or assembly bench, to

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heat semi-invalids and older people who are generally inactive, or to heat a baby in its crib or a person as he bathes in a cool bathroom. Or the screen may be suspended horizontally a short distance above a bed and provide sleeping comfort in cool weather without the use of an excessive amount of blankets.

Other objects and uses will be apparent to those skilled in the art from the following description and accompanying drawings, in which:

Figure 1 is a perspective of a device constructed according to the invention.

Figure 2 is a front view drawn to an enlarged scale, the flats or sections being positioned in substantially longitudinal alignment and the flat at the left hand end being sectioned vertically to show the arrangement of the heating element.

Figure 3 is a transverse horizontal section taken approximately on line 3—3 of Figure 2 and drawn to an enlarged scale.

The heater comprises preferably a plurality of substantially rectangular box-like flats 1, 2 and 3 having adjacent vertical sides attached by reversible hinges 4 so that the flats may be arranged at an angle to one another and stand in an upright position to partially surround a person or object. The flats are made of a rigid corrugated heat insulating material 5 having the corrugations extending lengthwise of the flats. Each flat mounts a sinuous electric resistance element 6 extending over approximately the entire surface of one face of the corrugated material 5 and heat is radiated from this face only. The elements are attached to the flats by strips 9 which are of insulating material and may be made of adhesive tape, paper or other suitable material. The elements of flats 1, 2 and 3 are connected in series to a convenient 110 volt electrical outlet by a cord 7 and a plug 8. The elements heat the screen to a temperature not exceeding 115° F. at room temperatures of 70° F. or less, and together deliver approximately 3000 B.t.u. per hour.

Elements 6 are covered by sheets of paper or other suitable material which is electrically insulating but not of sufficient thickness to be a heat insulator. The cover 10 may be wallpaper, or be painted with water mixed paints, or stenciled to give it an attractive appearance.

The details of the construction may be varied substantially without departing from the spirit of the invention and the exclusive use of modifications coming within the scope of the claims is contemplated.

What is claimed is:

1. An electric heating unit comprising a closed

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box-like flat of substantial width and length with front and rear walls spaced apart a relatively small distance, a strip of electrical resistance current-conducting metal applied to the front wall and forming a circuit extending back and forth over substantially the entire width and length of said front wall and having terminals for connection to a current supply, a thin cover of electrically non-conducting material overlying said front wall and strip, the rear wall of the unit and the closed air space within the flat forming heat insulating structure resisting the radiation of heat generated by said strip rearwardly from said front wall.

2. An electric heating unit of hollow box type comprising sheets of insulating material spaced apart a substantial distance, a strip of electrical resistance metal disposed back and forth substantially the entire width and length of the outer face of one of said sheets and having terminals for plugging into a house electrical wiring outlet,

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and a thin cover sheet of electrically non-conducting material applied to the outer face of said sheet and over said strip, the box sheets consisting of corrugated cardboard and the metal strip and the cover sheet being applied to the high ridges of the corrugations and the cover sheet forming a flat surface for one side of the unit.

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