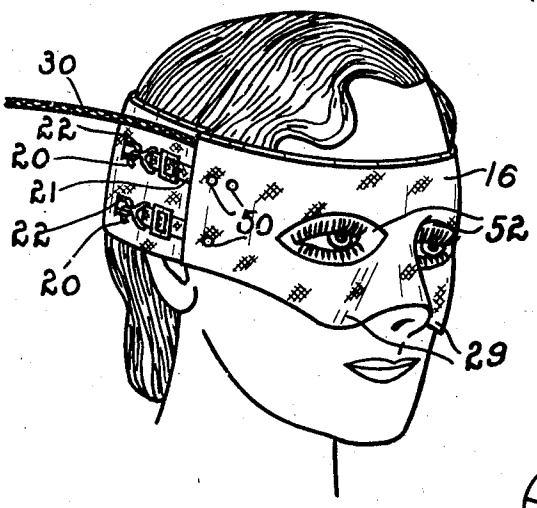
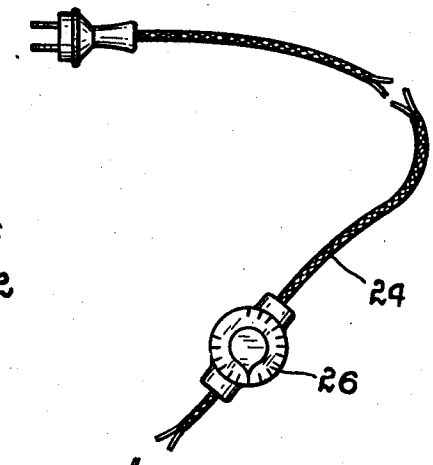
April 21, 1936. D. K. FOGG 2,038,275

PAD FOR APPLYING HEAT TO PORTION OF A PERSON'S HEAD

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Fig. 1





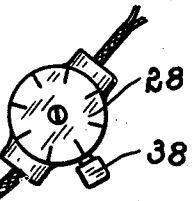
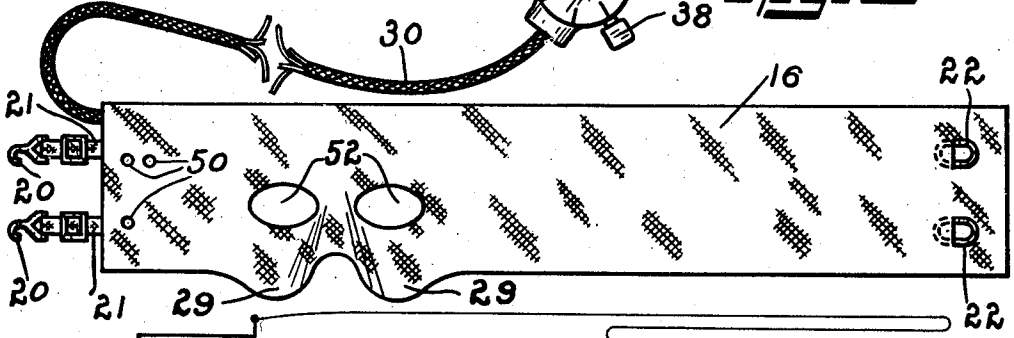


Fig. 2



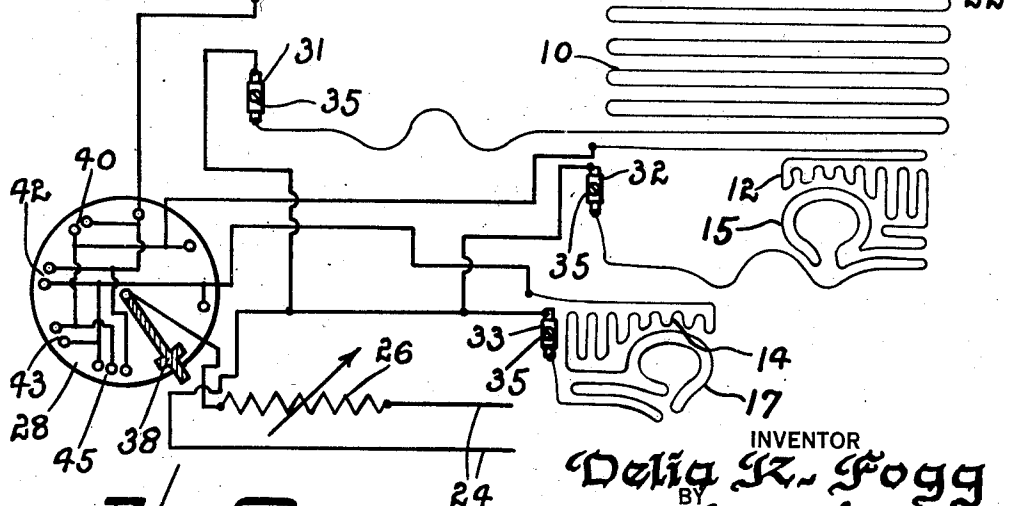


Fig. 3

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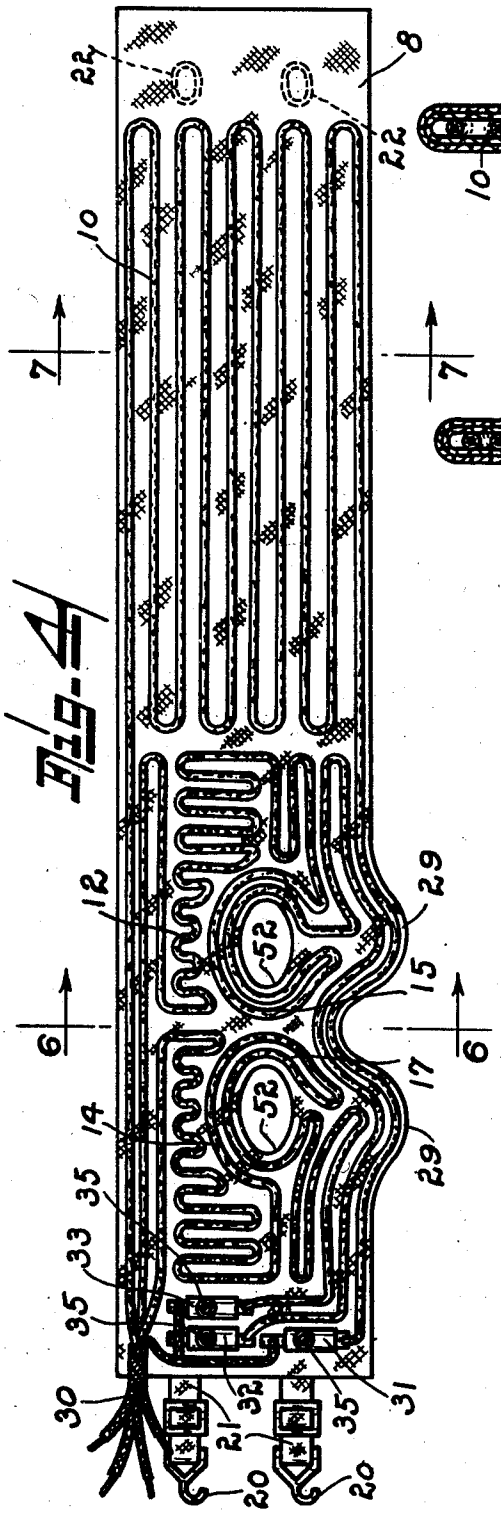


FIG. 4

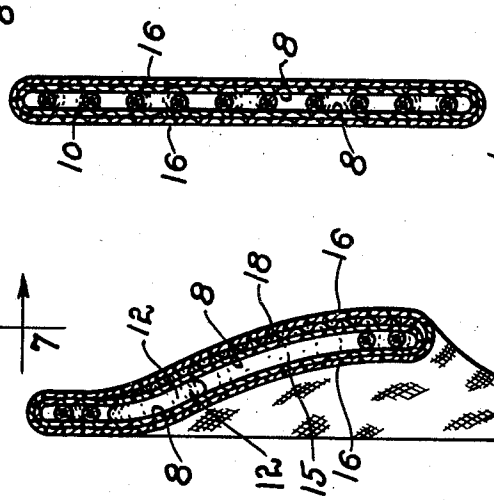


FIG. 7

FIG. 6

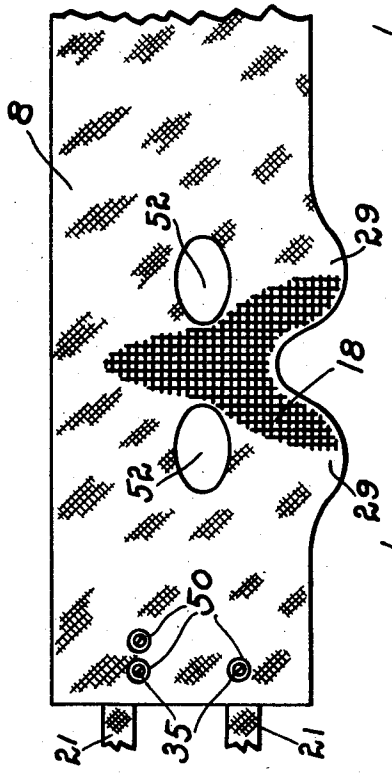


FIG. 5

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2,038,275

PAD FOR APPLYING HEAT TO PORTION OF A PERSON'S HEAD

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Application March 21, 1935, Serial No. 12,280

2 Claims. (Cl. 219—46)

My present invention relates to the art of electrically heated, flexible pads and more specifically to a heating pad which, because of its peculiar construction and arrangement is particularly adapted as a pad for applying heat to portion of a person's head.

Electric heating pads of flexible or semi-flexible construction have long been provided for supplying heat to certain parts of the body. The various devices of this character, however, which have been subject to examination are not arranged for convenient application to the head of a person suffering from sinus or antrum infections or from painful congestions or inflammation located in those parts or portions of the face and head lying in the horizontal plane embracing the eyes and nose. The usual form of pad can be used in the same manner as a hot water bottle. In other words a patient can lie on the pad or hold the same in position. Other pads which have been examined are adapted to apply heat to one localized area. Such devices are not satisfactory for the treatment of certain infections, however, as it has been found that head congestion and inflammation tends to affect a large area, and further that treatment must be maintained for relatively long periods, and further it is desirable to vary the intensity of the applied heat for different portions of the head.

It is believed that the device illustrated in the accompanying drawings and more fully described in the accompanying specification overcomes the objections to the devices at present available and further provides a means for the application of heat which can be worn by a patient for a long period without seriously affecting their ability to do certain kinds of work or to read or amuse themselves.

The principal object of my present invention, therefore, is to provide an electric heating mask or pad for therapeutic and other purposes which applies a selective, controlled heat to certain predetermined areas of the human face and/or head, being so constructed as to conform closely to the forehead, nose, cheeks and head of any wearer, extending around the back of the head and fastening at one side, so that when it is adjusted and fastened in place, the wearer may receive the full benefit of the heat furnished thereby whether he be reclining, lying prone, or sitting upright, the mask remaining in position without further effort or attention from the wearer.

A further object is to provide a heating mask or pad for therapeutic and other purposes with apertures, or eyeholes, therein whereby the wearer may have full use of the eyes while at the same time receiving full benefit of the heat provided by such mask.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, wherein

Figure 1 illustrates, in perspective view, the general appearance of my device as applied to a patient's head.

Figure 2 illustrates in plan view my complete unit.

Figure 3 illustrates in schematic diagram arrangement, the electrical circuit, switching and control means therefor.

Figure 4 is a plan view of my heating pad with the covering on one side of the pad removed to disclose the exact placement of the wires forming the various circuits and the controlling thermostats therefor.

Figure 5 is a fragmentary plan view showing the reinforcement applied over the nose area so as to define and position the nasal ridge.

Figures 6 and 7 are cross-sectional views taken along the lines 6—6 and 7—7 respectively of Figure 4.

Referring to the drawings, throughout which like reference characters indicate like parts, 8 designates the backing or foundation of my mask. This I normally prefer to make of material such as duck or canvas so that it will have considerable resistance to injury and will have sufficient body to hold the device in the desired general shape. Between the two layers of body 8 I provide a plurality of electric resistant wires which I prefer to divide into 3 circuits as 10, 12 and 14. The wire forming these circuits is of that general type now in common use in electric heating pads, it is a flexible resistance wire covered with a resisting insulation such as asbestos.

After the heating wires are encased in the canvas covering case I prefer to cover this again with a softer material indicated in the sectional views at 16. This may be material such as outing or Canton flannel or probably, more preferably, a soft woolen material.

Disposed between the outer layer 8 and the outer layer of covering material 16 I provide in that area which will normally cover the nose, a reinforcing material as 18. At present the most suitable material for this reinforcing is a non-ferrous wire screen which should be of a character that it will have considerable initial strength, which will not be affected by moderate

temperatures, and which can be distorted or molded to fit quite closely the contour of the nose of the individual wearing the device. This reinforcement has been found to be very desirable if tight engagement between the mask and the wearer's flesh in immediate proximity of the nose is desired. Normally the tension of the securing means tends to flatten out the mask at this point and raise the same off the flesh adjacent the nose. With this screen reinforcement of sufficient strength, however, this difficulty is overcome and the usefulness of the mask is greatly enhanced.

The mask may be held in the desired position by any suitable means. I have found however that hook members as 20 secured to the mask by adjustable straps 21 form a very convenient and readily adjustable securing means when engaged in rings or loops 22 at the opposite ends of the mask, after the showing particularly of Figure 1.

The electrical circuit arrangement I have provided gives a wide range of adjustability and adaptability to the particular problem of the individual user of this device. First of all the usual two-conductor cable 24 is provided so as to connect with any suitable source of electric energy. This I prefer to lead through a rheostat 26 so that the total current supplied to the mask may be changed from full intensity down by steps to zero intensity. After the current leaves the rheostat 26 I provide a selective switching means 28 which may be provided to take care of such switching arrangements as are necessary. From switch 28 a multi-conductor cable 30 leads to the mask proper.

One desirable circuit arrangement is illustrated in Figures 3 and 4. Here one circuit 10 is provided to take care of the area at the back of the head extending forward to approximately each ear. Circuits 12 and 14 are then provided to take care respectively of the left hand and the right hand sinus areas. It will be noted, particularly in Figure 4, that the heating elements are brought down well below the lower level of the nose so as to provide effective treatment of that area, as indicated at 29.

Each circuit, as 10, 12 and 14, is provided with an adjustable coupling unit as 31, 32 and 33. These units are independently adjustable as by means of the slotted screw 35. They can thus be set so that the temperature in any one circuit cannot rise above a certain predetermined value. There are many devices that might be used in this position, I prefer as at present advised, to use thermostatic units which open the circuit at this point when the temperature rises to a certain point and, then when it falls down to normal, to reconnect the circuit.

Switch 28 provides for seven circuit arrangements. When the switch arm 38 is moved in a counter clock-wise direction it energizes one only at a time, circuits 14, 12 and 10. When it progresses sufficiently far to engage the pair of contact points 40, circuits 10 and 12 are energized together, at points 42 circuits 10 and 14 are energized together, at point 43 circuits 12 and 14 are energized together and, when the arm is in contact with the three contacts at 45 all three circuits are energized at the same time.

Method of operation

In using my mask it is first desirable to set thermostats 31, 32 and 33 to the maximum temperature allowable for the treatment of the ailment in question. This adjustment is effected by turning the adjustment screw 35 for each of the thermostats. These can be reached through opening 50 provided in the fabric covering of my device. The mask is then adjusted to the wearer's head by means of the adjustment provided in tapes 21 and the device is secured after the showing of Figure 1. Switch 28 should then be set to pass the current to the desired heating area. This control, however, can be made after the mask is in place and at any time after commencing to use the same. Rheostat 26 should then be adjusted for any variation in temperature the patient may desire from zero to the full capacity for which the thermostats 31, 32 and 33 have been previously adjusted. In the treatment of certain ailments it may be desirable to gradually bring the heat up to a certain point and then to decrease the same after a certain period of treatment. Thus full range of control is provided in my mask arrangement. If, however, the mask is worn by an invalid or if the wearer should fall asleep with the mask in place no excessive or dangerous temperatures can build up owing to the protective control provided by the thermostatic members.

Eye openings 52 are provided so the wearer can use my pad for long periods and still be able to read or work without undue hindrance except for the limitations imposed by the electrical conductor 24. A special loop of circuits 12 and 14, as 15 and 17, respectively, encircle openings 52 to insure treatment of the area immediately adjacent the eye without interfering with the vision or subjecting the eye itself to undesirable heat.

The foregoing description and the accompanying drawings are believed to clearly disclose a preferred embodiment of my invention but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims:

I claim:

1. An electric heating mask for therapeutic purposes consisting of a flexible band adapted to be adjusted and secured to the head of a patient, said band containing a plurality of electric circuits, thermostatic elements connected in series with each of said circuits, selective switching means controlling the energizing of said circuits, means for varying the intensity of the current in said circuits, and a portion intermediate said band including a reinforcement of non-ferrous wire screen built into said mask permitting the molding of said mask to conform to the particular outline of the wearer's nose.

2. A canvas electric heating mask having spaced eye-openings and an intermediate portion conforming to the contour of the nose, said intermediate portion having a reinforcement of non-ferrous wire screen, electric heating units mounted in the mask and control means therefor, and adjustable fastening means at opposite ends of the mask for fastening the latter in position.

DELIA K. FOGG.