H. D. PARKER.

VIBRATORY ELECTRIC BATH BLANKET.

APPLICATION FILED OCT. 21, 1914.

1,158,834.

Patented Nov. 2, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

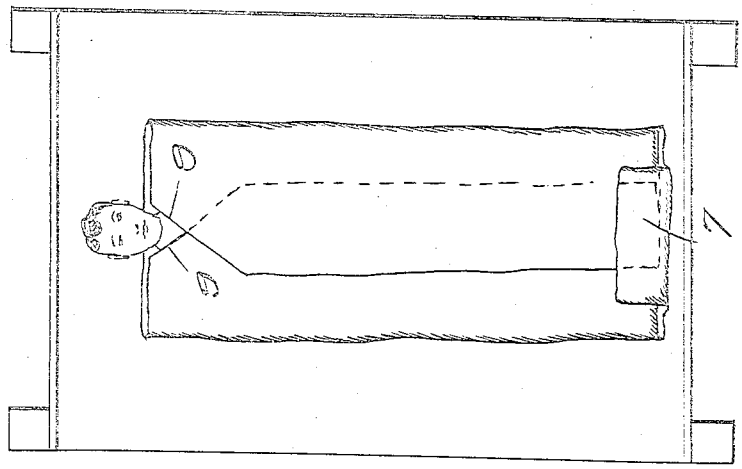
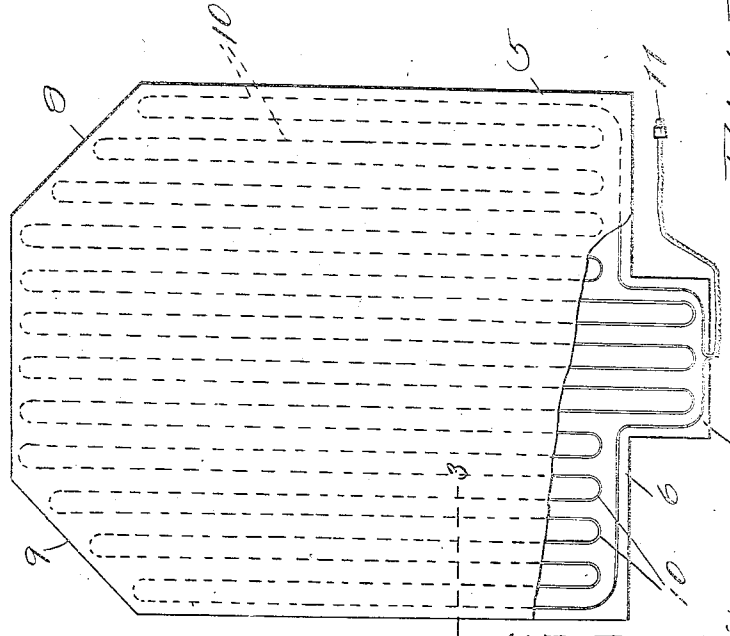


Fig. 3.



Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

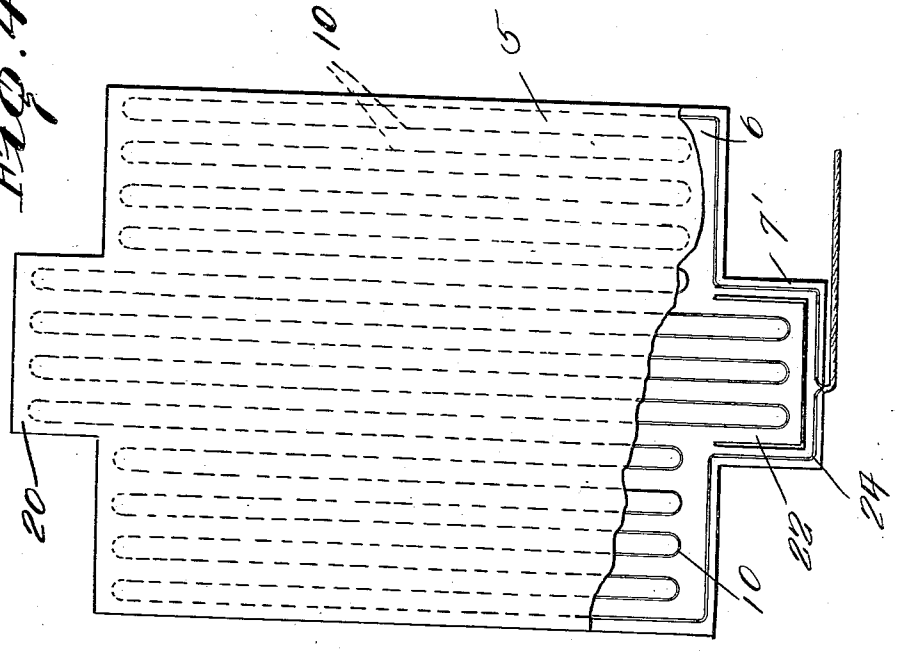


Fig. 6.

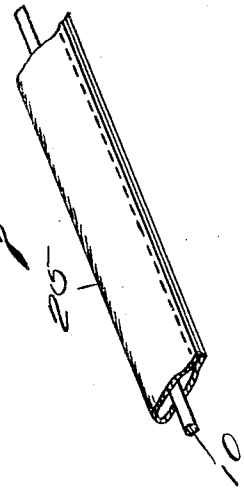
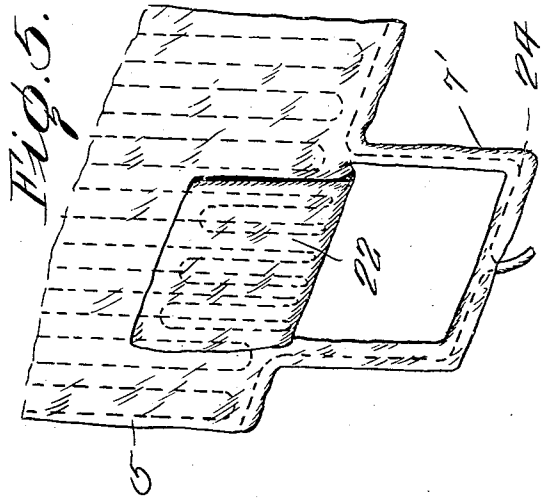


Fig. 5.



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VIBRATORY ELECTRIC BATH-BLANKET.

1,158,834. Specification of Letters Patent. Patented Nov. 2, 1915.

Application filed October 21, 1914. Serial No. 867,846.

To all whom it may concern:

Be it known that I, HARLOW D. PARKER, a citizen of the United States, residing at Buffalo, in the county of Erie, State of New York, have invented certain new and useful Improvements in Vibratory Electric Bath-Blankets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in electric blankets, and more particularly to the type employed for administering what is known as electric treatment. It is well known that most devices of this kind are constructed with one principle in view namely to heat the body of the patient until perspiration begins, the treatment being held beneficial in congestive symptoms or in cases of defective circulation. The current employed with these devices is usually direct, and produces no other effect than that of heating the patient.

The present invention aims at the production of a device which is designed not only to heat the body of the patient but at the same time to produce a vibratory effect by the employment of an alternating current, it having been determined that the cycles surrounding a wire through which an alternating current is flowing, produce a beneficial result in nervous cases and the like as will later become apparent.

One object of the invention is the provision of an improved form of blanket in which the body of the patient may be wrapped and constructed with an appliance for the feet of the patient serving to keep these extremities at the same heat as the covered portion of the body, thus preventing sudden rushes of blood into the brain.

Another object is the provision of an improved method of wiring the blanket, so that the patient will have the greatest ease possible during the application of the treatment.

With these and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification: Figure 1 is a plan view of the device folded about a patient. Fig. 2 is a sectional plan view of the device. Fig. 3 is a transverse sectional view taken approximately on the line 3—3 of Fig. 2. Fig. 4 is a view similar to Fig. 2 showing a different shape of blanket to meet specific conditions. Fig. 5 is a detail view showing the flap at the bottom end of the blanket. Fig. 6 is a detail perspective view showing the arrangement of the asbestos tape insulation on a wire.

Similar numerals of reference are employed to designate corresponding parts throughout.

As shown in the drawings, the device consists of a bag or casing in which are arranged a number of coils of wire of comparatively low resistance. In forming the blanket, two layers of suitable material, preferably duck, are employed, and as shown in the drawings, each layer is oblong in facial contour. The layers are designated by the numerals 5 and 6, and at the medial portion of one end, each layer is provided with an integral tongue or projection 7, the length of which is considerably less than the length of the body of the blanket and the width of which is equal to about one-fourth the width of the blanket, or substantially so. The blanket is of a length corresponding to the length of that portion of the human body between the chin and soles of the feet, this of course, is exclusive of the tongue or projection 7; while the width of the blanket is sufficient to permit its being folded completely around the average human form.

By referring now to Figs. 1 and 2 of the drawings, it will be seen that the opposite corners of that end of the blanket remote from the end on which the tongue 7 is disposed are cut away as shown at 8 and 9. With this construction it is obvious that the blanket will be narrower at one end than at the other, and that portion of the blanket disposed between the cut-away portion 8 and 9 is designed to embrace the base portion of the human head so that when the

cut-away portions overlap each other a V shaped opening will be provided for the patient's chin, as clearly shown in Fig. 1.

The edges of the layers 5 and 6 are secured together by rows of stitching and are further held secured by a plurality of seams or rows of stitching extending longitudinally of the blanket. As shown in Fig. 3, the last named rows of stitching are comparatively close together, the distance between each row being a trifle greater than the diameter of the wire to be employed. With this construction it is obvious that the blanket is divided longitudinally into a number of columns.

The wire to be employed is of annealed steel, or other suitable substance. The wire is designated by the numeral 10 and extends longitudinally of each of the columns formed by the rows of stitching through the body of the blanket, with the terminals brought together and insulated and extended through the medial portions of the outer end of the tongue 7. An ordinary socket 11 is combined with the terminals of the wire and provides a means for connecting up the blanket.

It will be noted that the wire is continuous and before being inserted in the manufactured article, it is provided with an insulation consisting of asbestos tape 25 upon which the wire is laid. The tape is then folded over the wire and its longitudinal edges are stitched together to form a casing as illustrated in Fig. 6 of the drawings. It is found that when the insulation is applied in this way, that the wire may be effectively insulated and burning of the material of the blanket prevented, while at the same time the wire is permitted movement within the insulated sheath so that the flexibility of the blanket is not reduced to that extent that would be if the insulating tape were wrapped closely upon the wire.

The device is intended to be used only with an alternating current and in use it is disposed over the top of the ordinary operating table and the patient occupies a position along the central portion of the blanket after which the tongue 7 is folded up and around the feet of the patient and the portions of the blanket on either side of the tongue 7 are folded one upon the other and around the body of the patient. As before stated, the cut-away portions 8 and 9 will present an opening or space for the patient's chin. The wire is now connected with a source of an alternating current by means of the plug 11.

The current passing through the wire raises its temperature to the predetermined point, and induces a perspiration in the body of the patient. At the same time there is a distinct therapeutic effect of the current flow with a result entirely distinct from that which is obtained when the temperature of the body of the patient is raised by other means, such as in the use of hot blankets as will later appear. Furthermore, the blanket provides means for maintaining a constant temperature of all parts of the body of the patient so that the circulation is equalized, thus of course relieving the work to be done by the heart. The institution of the easy heart condition of course relieves the patient of the smothering feeling that ordinarily comes from the application of hot blankets and the result is of course correspondingly advantageous.

Referring to Figs. 4 and 5 of the drawings, there is shown a form of the invention wherein there is employed a head extension 20 corresponding to the projection or extension 7 and at the opposite end of the blanket so that the fit of the device may be extended to the head also of the patient. In the construction shown in Figs. 4 and 5, the foot extension 7', is cut to form a flap 22 into which the heating wires extend, while the lead-in wires 24 are connected through the extension itself and do not connect with this flap. Thus the lead-in wires do not interfere with the folding of the flap over the feet of the patient.

By way of summary it is pointed out that the vibration of the blanket is caused by the vibration of the wire within the same. Now it is well known that when an electric current is passed through a conductor of high magnetic permeability that vibrations are set up in the conductor and having taken this fact into consideration I have incorporated the wire in a flexible blanket so that the vibrations of the wire will cause the vibrations in the blanket. Furthermore by arranging the conductor in the particular manner illustrated and claimed the magnitude of the vibrations is uniform throughout the whole extent of the blanket so that the circulation of blood will be equally induced throughout the body of the patient. It is of course to be understood that at the same time the vibrations are set up in the wire the temperature of the blanket will be raised due to the resistance of the wire.

What is claimed as new is:

1. A vibratory electric blanket consisting of layers of flexible material secured together at their outer edges and further secured together by means of longitudinally spaced rows of stitching and annealed steel current conducting wire arranged between the rows of stitching.

2. A vibratory electric blanket comprising layers of flexible material secured together at their outer edges and further secured together by means of longitudinally disposed rows of stitching, said blanket being provided at one end with a medially disposed flexible foot piece and an annealed steel

conducting wire arranged between the rows of stitching and through the foot piece and having its terminals brought together and insulated and extending through the outer end of the foot piece.

3. A vibratory electric blanket consisting of layers of fabric having an electrical conductor of steel wire disposed between them and constructed and arranged to be connected to an alternating current electric circuit, said conductor having an insulation consisting of an asbestos sheet within which the conductor is bodily movable under the influence of the said current.

4. The combination with a blanket, of a current conducting wire, of high magnetic permeability, embedded therein and a source of alternating current connected to said conductor.

5. A flexible blanket consisting of superposed layers of material, a magnetic current conducting wire mounted therein, between said layers, and formed into a series of convolutions, and a source of fluctuating current connected to said wire.

6. The combination with a blanket, of a current conductor of high magnetic permeability, and a source of alternating current connected to said conductor.

7. The combination with a blanket, of a current conducting wire of high magnetic permeability constructed and arranged to impart vibrations to the blanket under the influence of an alternating current.

8. The combination with a blanket, of a current conductor of high magnet permeability associated therewith, and a source of alternating current connected to said conductor, the conductor being so arranged with relation to the blanket that vibrations will be imparted to the blanket throughout its entirety.

9. The combination with a blanket adapted to envelop the body of a person, the said blanket having a body portion, and foot portion of a series of convolutions of current conducting wire of high magnetic permeability, mounted in the body portion and the foot portion and a source of alternating current, the said wire being adapted to vibrate under the influence of the alternating current and to simultaneously impart vibrations to the body portion and the foot portion of the blanket.

10. The combination with a blanket, of a resistant current conductor of high magnetic permeability associated therewith and constructed and arranged to simultaneously heat the blanket and set up vibrations therein and a source of alternating current connected to said conductor.

In testimony whereof, I affix my signature, in the presence of two witnesses.

HARLOW D. PARKER, D. C.

Witnesses:
INEZ E. HOFFMAN,
J. HOWARD ZWICKEY.