April 18, 1939. L. J. ANDRES 2,154,428

VIBRATOR HEATER

Filed April 10, 1937

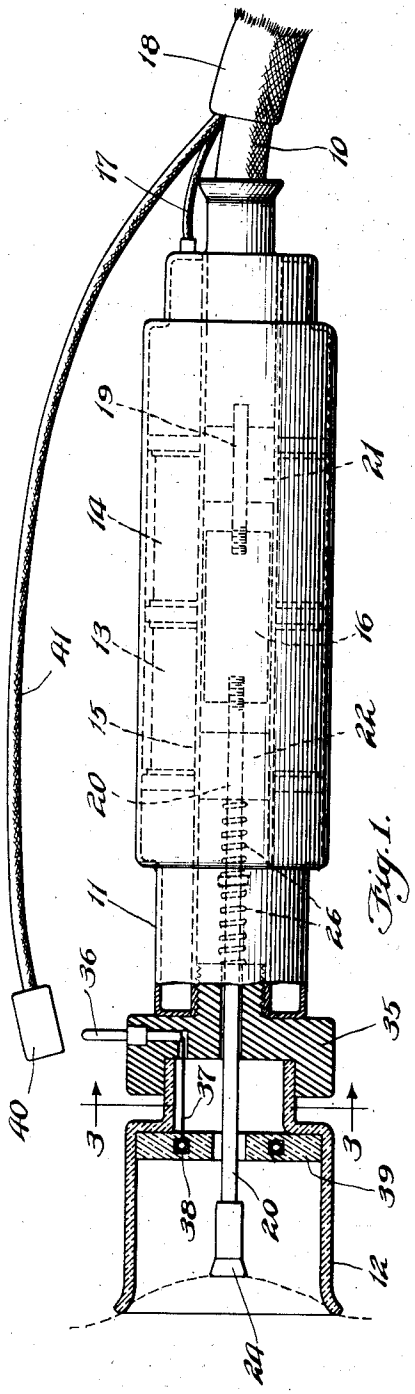

Fig. 1.

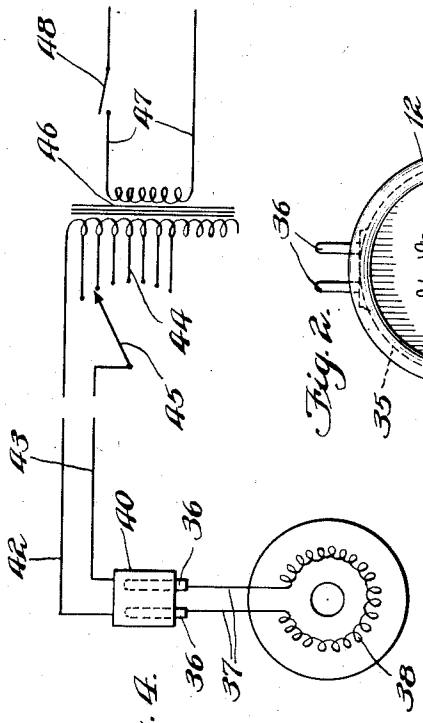

Fig. 4.

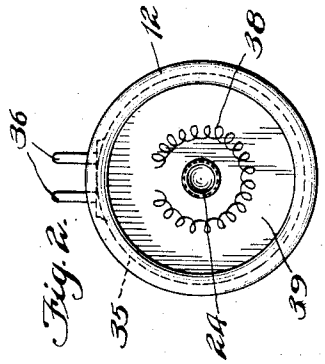

Fig. 2.

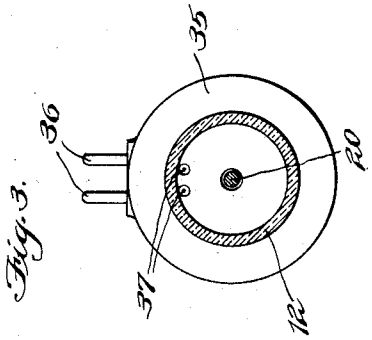

Fig. 3.

INVENTOR:
Lloyd J. Andres
BY Kent W. Wonnell
ATTORNEY.

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VIBRATOR HEATER

Lloyd J. Andres, Chicago, Ill., assignor to Automatic Instrument Company, Grand Rapids, Mich., a corporation of Michigan

Application April 10, 1937, Serial No. 136,093

8 Claims. (Cl. 219—21)

This invention relates in general to a vibrator with a heater in the suction of pressure cup and to an attachment for an electric vibrator in combination with a pressure and suction cup.

An important object of the invention is in the provision of a control heater which may be incorporated in the vibrator applicator cup close to the surface treated where it may be accurately controlled for heating the surface during the operation of the vibrator and whether suction or pressure is applied at the same time.

Other objects of the invention will appear hereinafter, a preferred embodiment of the invention being illustrated in the accompanying drawing, in which

Fig. 1 is a view partly in section and partly in elevation, of a vibrator with a heating attachment in accordance with the principles of this invention;

Fig. 2 is an end view of the vibrator with the attachment in place;

Fig. 3 is a section taken on the line 3—3 of Fig. 1; and

Fig. 4 is a diagrammatic view illustrating means for controlling the heat of the attachment.

This invention is described in connection with a massage applicator of the suction or pressure cup type as illustrated in my application Serial Number 47,291, filed October 29, 1935, for Electric vibrator, having a flexible hose 10 through which air or fluid under pressure is supplied or withdrawn from a hand applicator 11 to produce pressure or exhaust in an applicator cup 12.

Within the hand implement are solenoids 13 and 14 surrounding a central tube 15 in which a metal plunger 16 is mounted for free longitudinal movement so that as the windings are alternately energized by an electric current received from conductors 17 contained in a cover 18 surrounding the tube 10.

The plunger 19 is mounted for free vibrating action upon end rods 19 and 20 extending through bearings 21 and 22 respectively and one of the rods 20 extends into the cup 12 and carries a flexible massage contact member 24 of rubber or the like at the end thereof. The plunger and the vibrator are normally returned to intermediate or central position by springs 26 and a sufficient passageway is made between the plunger, the bearings 21 and 22, and the tube 15 as well as surrounding the rod 20 at the end to provide for pressure or exhaust in the applicator cup.

The present invention may be incorporated as a part of or applied as an attachment to a vibrator of this type and comprises an end block 35 preferably of Bakelite or any other suitable insulating material at the end of the hand implement for connecting it to the cup 12. At one side of this block are terminals 36 extending inwardly and forming electrical connections for conductors 37 which lead to a heating coil 38 located in an insulating disc 39 seated within the cup 12 and positioned at a distance above the normal point of contact of the massage member 24.

A connector plug 40 is provided with sockets for engaging the terminals 36 and the plug is connected to the flexible tube for supporting the vibrator by a cable 41 in which are conductors 42 and 43 as shown in Figure 4. In order to vary the current and therefore the heat supplied to the heating coil 38, a rheostat 44 includes a movable arm 45 for engaging various contacts which receive current from a transformer 46 supplied from conductor means 47 and controlled by a switch 48.

Thus it will be seen that the desired heat may be supplied to the cup of the vibrator independent of and in combination with the normal operation of the vibrator, and independent of and in combination with the suction or pressure produced in the cup. Thus the heating coil may be used alone with the cup for the local application of any desired degree of heat within the range of the heater, or the heater may be used in connection either with the application of suction or pressure through the cup; or the heater may be used alone, with the vibrator or the heater, vibrator and pressure device may all be used at the same time.

I claim:

1. In a vibrator having an applicator cup, an applicator stem movable in the cup, means to vibrate the stem and a heater located in the cup adjacent the cup end of the stem.

2. In an electric vibrator having a cup and an applicator member located therein, and means for moving the applicator in the cup, an electric heater located in the cup and positioned at a distance from the normal point of contact of the vibrator cup and said applicator.

3. A massage applicator having a pressure and suction applicator cup, a vibrator stem movable in the cup, means without the cup to vibrate the stem, and a heater located in the cup.

4. The combination with a hand massage applicator having a pressure cup and a pressure tube connected thereto, of a vibrator having an applicator stem projecting into the cup, means to

vibrate the stem in the cup, and a heater located in the cup.

5. A structure in accordance with claim 4 in which the heater comprises a coil which is controlled by an electric current having means for varying the current to vary the heat thereof.

6. An attachment for an electric vibrator which comprises an applicator cup, and a magnetic vibrator mechanism including a stem projecting into the cup; the attachment including a heater for the cup comprising a winding supported by a disc therein and having an electrical connection extending from the heater between the cup and the vibrator.

7. A heating attachment for an electric vibrator which comprises a vibrator stem and an applicator cup into which it projects; the heating attachment comprising a thermal coil, means for mounting the coil in the cup, and an electrical connection from the coil to the outside of the cup independent of the vibrator.

8. A heating attachment for a pressure and electric massage vibrator comprising a terminal applicator cup and a vibrator movable therein; the heating attachment comprising a thermal coil located within the cup and means for connecting the coil to the outside of the vibrator but leaving the inside of the cup connected to the vibrator for the application of pressure and vacuum through the cup.

LLOYD J. ANDRES.