

[54] **MASSAGE APPARATUS**

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[56] **References Cited**

**UNITED STATES PATENTS**

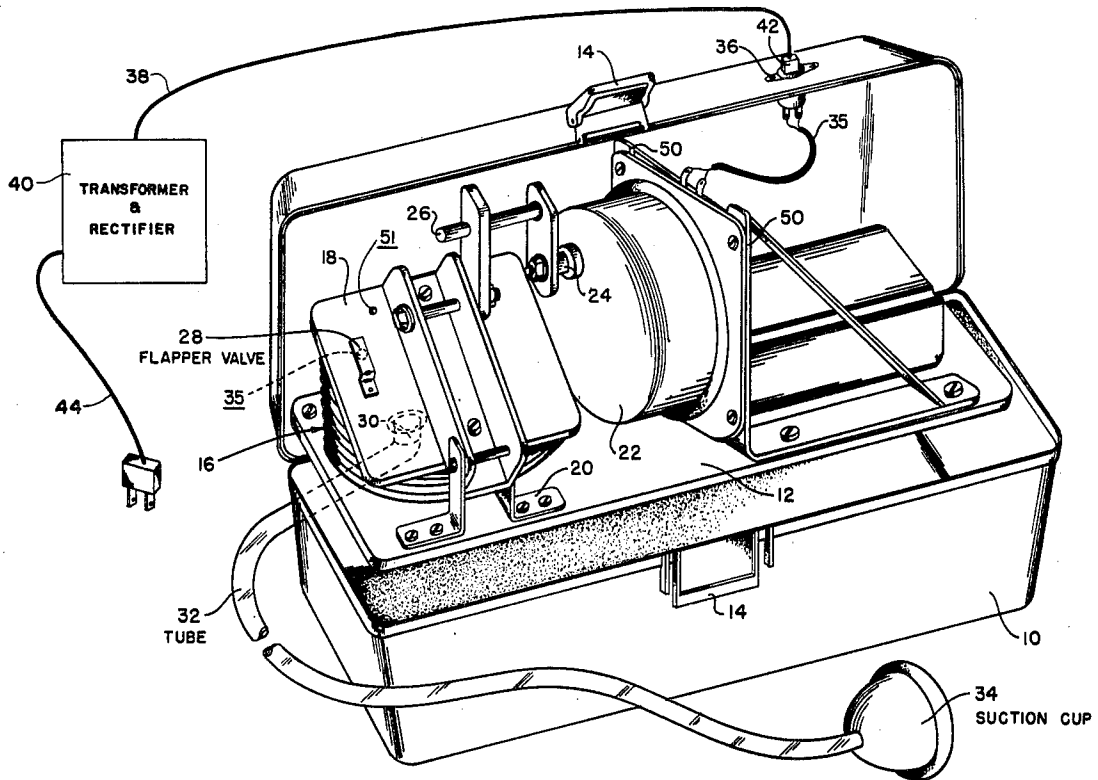
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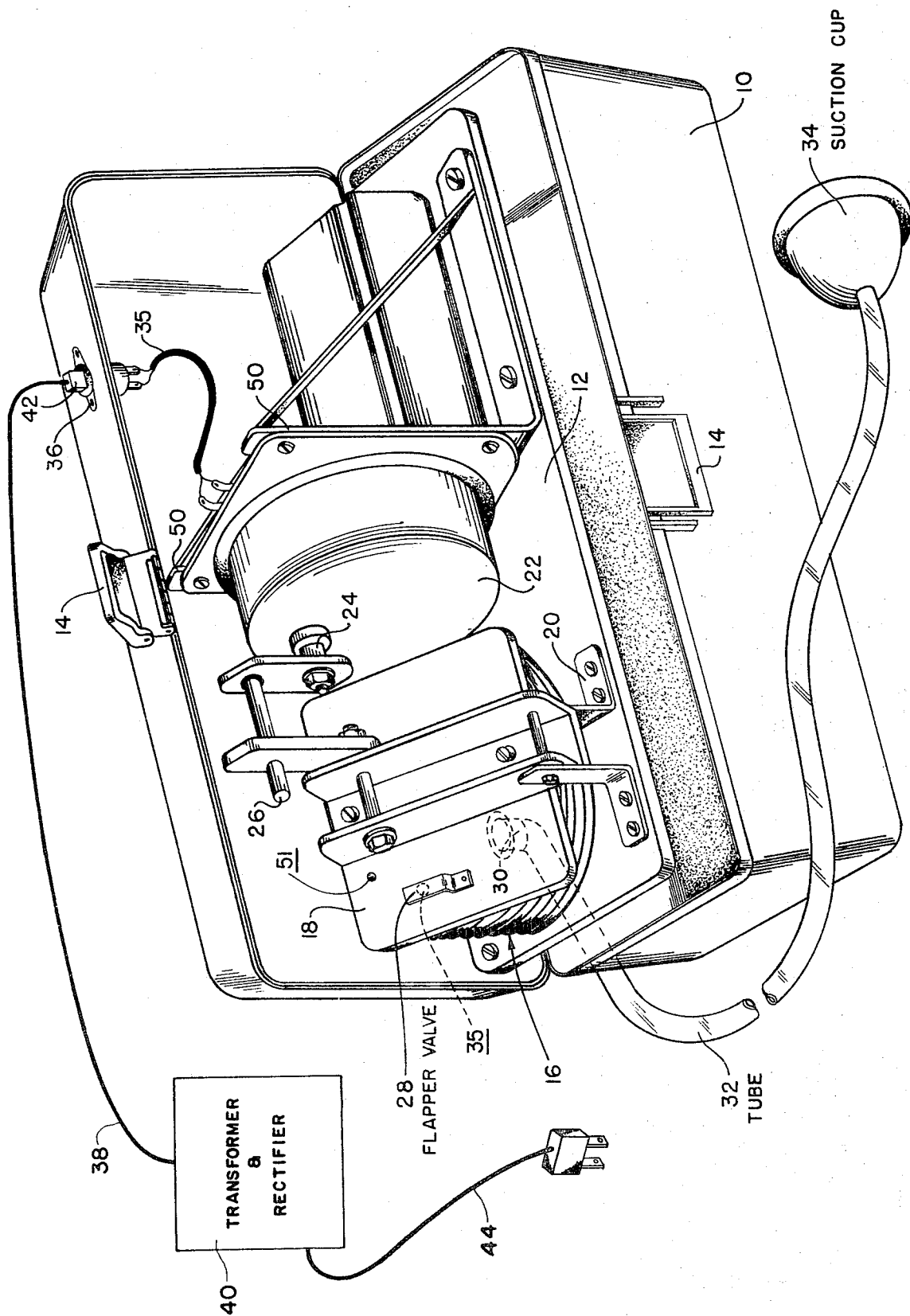
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[57] **ABSTRACT**

Massage apparatus by which pulsating air suction is applied to any selected area of the human body so as to simulate the circulation of the blood, and thereby to develop the normal function and improve the condition of such parts of the body as need to be treated for that purpose. The apparatus includes a bellows which is coupled to a suction cup through an elongated flexible tube. The suction cup is applied to the area of the body which is to be treated. The bellows is operated by a treadle which, in turn, is coupled to an electric motor through a crank linkage means. The motor, for example, may be energized from the alternating current mains.

**8 Claims, 1 Drawing Figure**





## MESSAGE APPARATUS

### BACKGROUND OF THE INVENTION

One particular application of the invention is to develop the female breast by using pulsating air suction, and thereby to tone up the tissues of the breast and render that portion of the body, or other portions, more resistant to diseases and malignant growths.

Devices have been developed in the prior art which utilize air suction to draw an increased blood supply to various surface portions of the human body. For example, rubber bulbs are often used for that purpose. However, the prior art devices, for the most part, are somewhat cumbersome in their construction, are difficult to operate, and usually do not produce the amount of air suction which is adequate for their intended purpose. The apparatus of the present invention, on the other hand, is fully automatic in its operation, and it produces any desired amount of pulsating air suction. The apparatus of the invention, moreover, is relatively simple in its construction, and it can be built and sold at a relatively low price.

### BRIEF DESCRIPTION OF THE DRAWING

The single FIGURE is a perspective representation of one embodiment of the invention, showing the apparatus mounted in an appropriate case, to be readily portable.

### DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

The illustrated embodiment of the invention is enclosed in a casing 10. The unit itself is supported on a base 12 which is mounted in the cover of the casing, and when the casing is closed, the apparatus is turned down into the casing. The casing is held closed, by means of an appropriate clasp 14, and may be carried by a handle mounted on the hidden side of the cover.

The apparatus itself comprises a bellows 16 which is mounted on the base 12, and which is engaged by a treadle 18 that is also mounted on the base. The treadle is supported pivotally in a bracket 20. An electric motor 22 is also mounted on the base 12, and the motor 22 includes a drive shaft 24. The drive shaft 24 is coupled to the treadle 18 through a crank linkage mechanism 26, so that when the drive shaft 24 rotates, the treadle is turned back and forth about its pivot point, to cause the bellows 16 cyclically to expand and contract.

A flapper valve 28 is mounted on the top of the bellows 16, so that the compression and expansion of the bellows will set up a pulsating air suction in a fitting 30 which extends into the interior of the bellows. A flexible tube 32 couples the fitting 30 to a suction cup 34, so that the pulsating air vacuum established by the bellows may be transmitted to the suction cup. The flutter valve covers a hole 35 which may, for example, have a diameter of the order of 3/16 inch. The hole is small enough so that the flow of air through the hole is restricted in the compression direction so that a vacuum is maintained at all times strong enough to hold the suction cup 34 onto the body without it being held by hand.

The motor 22 is energized through a pair of leads 35

connected to an appropriate socket 36. An electric cable 38 connected, for example, to a transformer and rectifier unit 40, has a plug 42 at one end which is intended to be plugged into the socket 36. The unit 40 may be energized through a usual cord 44 from the alternating current mains. Alternately, the cable 38 may be connected to an automobile battery, or other appropriate low voltage direct current source. The motor itself is supported on the base 12 by means of a pair of brackets 50.

A further bleed hole 51 is provided in the bellows which has a diameter of the order, for example, of 1/16 inch, smaller than the diameter of the hole 35. The hole 51 limits the maximum vacuum at the cup 34, and it serves as a safety feature.

The invention provides, therefore, an improved massage apparatus which is relatively simple in its construction, and which is compact and light, so as to be readily portable. The apparatus may be easily operated, merely by inserting the plug 42 in the socket 36 to energize the motor, and by attaching the tube 32 to the fitting 30, to transmit the pulsating suction air to the suction cup 34.

It will be appreciated that while a particular embodiment of the invention has been shown and described, modifications may be made. It is intended in the claims to cover all modifications which come within the spirit and scope of the invention.

What is claimed:

1. Massaging apparatus including: a base; a bellows mounted on said base; a treadle mounted on said base in engagement with said bellows; an electric motor mounted on said base and having a drive shaft; a crank linkage means coupling the drive shaft of said electric motor to said treadle to move said treadle reciprocally and cause said bellows cyclically to compress and expand; a suction cup member; and a tubular member intercoupling said cup member to the interior of said bellows.

2. The massage apparatus defined in claim 1, and which includes valve means mounted on said bellows to enable said bellows to establish pulsating air suction in said cup member.

3. The apparatus defined in claim 1, in which said tubular member is composed of flexible material.

4. The apparatus defined in claim 1, in which said electric motor is a direct current motor for operation from the battery of an automobile.

5. The apparatus defined in claim 4, and which includes a transformer and rectifier unit for energizing said electric motor from the alternating current mains.

6. The massage apparatus defined in claim 1, and which includes a housing for said base, said bellows, said treadle, said electric motor and said crank linkage means.

7. The massage apparatus defined in claim 2, in which said valve means includes a hole in said bellows of a selected diameter to establish a vacuum at said cup member continuously as the bellows cyclically compresses and expands.

8. The massage apparatus defined in claim 7, in which said bellows has a bleed hole therein of smaller diameter than the diameter of said valve means hole.

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