

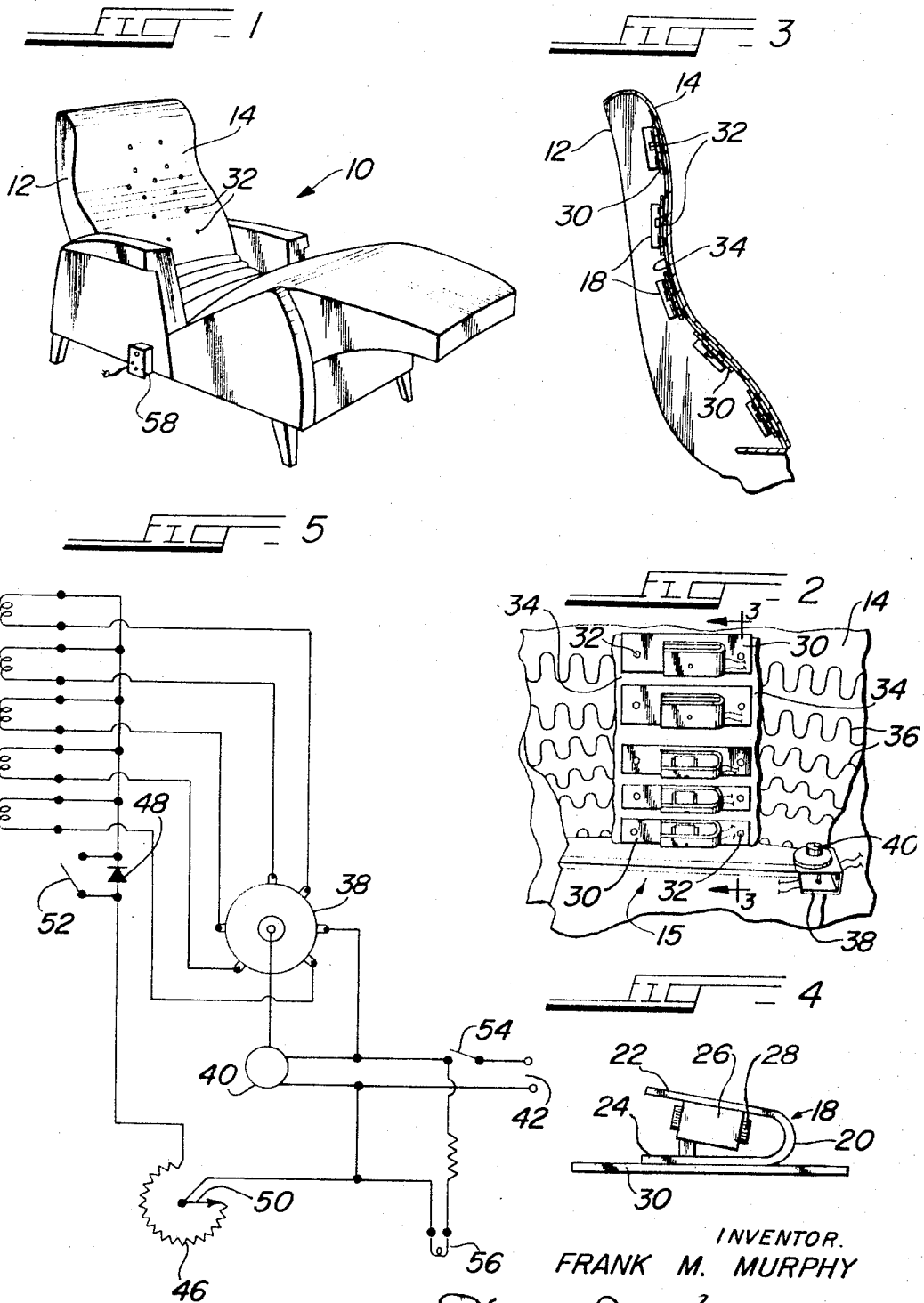
May 27, 1969

F. M. MURPHY

3,446,204

VIBRATORY MASSAGER WITH TRAVELING ACTION

Filed Jan. 20, 1967



INVENTOR.
FRANK M. MURPHY
BY *David D. Kaufman*
FILL -

1

3,446,204

VIBRATORY MASSAGER WITH TRAVELING ACTION

Frank M. Murphy, 4120 W. Chicago Ave.,
Chicago, Ill. 60651

Filed Jan. 20, 1967, Ser. No. 610,622

Int. Cl. A61h 1/00

U.S. Cl. 128—33

9 Claims

ABSTRACT OF THE DISCLOSURE

A traveling action vibratory massager consisting of a plurality of individual electrical vibrators mounted on a supporting surface of a chair or the like. Means such as a motor driven rotary switch is provided for operating the vibrators in timed sequence to provide the traveling action.

The invention relates generally to electrically operated vibratory massaging devices and more particularly to a traveling action vibratory massager adapted to be installed in any suitable article of furniture or the like.

Vibratory massagers with automatic traveling action are fairly well known and have been employed in tables and the backs of reclining chairs. In general, the prior massagers comprised an elongated rigid track which was mounted parallel to the table surface or chair back surface with which the device was associated. A vehicle or carriage of some type was mounted on the track and one or more massaging wheels or rollers were in turn mounted on the carriage. Means was provided for moving the carriage and rollers in reciprocative fashion along the length of the track. A prior device of the type described may be seen in co-pending application Ser. No. 344,725, filed Feb. 13, 1964.

As will be appreciated by those versed in the art, the described prior devices were possessed of certain characteristics which limited the more universal use thereof. Thus, for example, the carriage could move only in a single plane on the straight track. As a result, use of the device on curved or multi-plane surfaces, such as those found in contour or lounge chairs, was virtually impossible. Similarly, the height of the layered track-carriage-roller structure necessitated a chair back of sufficient depth to accommodate the device. Thus, the device could not be employed in many decorative and attractive chairs having relatively thin upholstered backs. Other limiting factors were the bulk and weight of the device, the need for special contrivances to operationally mount the same, and the relatively high cost.

It is therefore an important object of this invention to provide a vibratory massager with traveling action which eliminates all of the above described limitations.

Another important object of the invention is to afford a vibratory massager of the character described which may be employed on any type of surface, including curved and multi-plane. A related object is to afford such a vibratory massager which is adapted to conform to any surface upon which it is mounted.

A further object is to provide a vibratory massager of the character described which is greatly reduced in dimension and bulk, thereby permitting the same to be mounted in virtually any upholstered article of furniture or the like.

Still another object is to afford a vibratory massager of the character described which is extremely simple to mount and which does not impair the attractiveness of the article in which it is mounted.

Yet another object is to provide a vibratory massager of the character described which may be arranged to travel in paths other than a straight line. Thus, for ex-

2

ample, the massager may be arranged to massage the shoulders as well as the back of the user thereof.

Still a further object is to afford a vibratory massager of the character described having means for varying the frequency and amplitude of the vibrations and for stopping the traveling action to maintain the vibration at a fixed point, if desired.

Yet a further object is to provide a vibratory massager of the character described which is virtually maintenance free and greatly reduced in cost, and yet is most efficient and durable for the purposes intended.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

FIG. 1 is a perspective view of a contour chair in which is mounted a vibratory massager embodying the principles of the invention;

FIG. 2 is a fragmentary rear elevational view of the interior of the chair back with the outer upholstery cover removed therefrom;

FIG. 3 is a vertical sectional view taken on the plane of line 3—3 in FIG. 2 and viewed in the direction indicated;

FIG. 4 is a side elevational view of one of the vibrator units; and

FIG. 5 is a circuit diagram of the invention.

Referring more particularly to the various figures of the drawings, the reference numeral 10 indicates generally an upholstered contour chair having a back portion 12. As indicated, the back portion 12 includes a curved or contoured front wall 14.

Mounted within the back portion 12 is a vibratory massager embodying the principles of the invention and indicated generally by the numeral 15. The massager 15 comprises a plurality of electrical vibrators 18 which may be of any known type. In the embodiment illustrated, each of the vibrators 18 is of the type shown in the aforementioned co-pending application, and thus includes a bifurcated member 20 having arms 22 and 24, a metal core 26 and an electrical coil 28 (see FIG. 4). The core 26 is secured to one of the arms such as 24 so that flow of current through the coil 28 results in magnetic flux which tends to attract or vibrate the other arm 22 at a frequency equal to that of the current applied.

One arm 22 of the vibrator 18 is rigidly connected to a vibration transmitting plate 30. The plate 30 is in turn secured to the rear surface of the chair back front wall 14 as shown in FIGS. 2 and 3 of the drawings. For purposes of operationally securing the vibration transmitting plates as described, there may be employed screws 32 having decorative upholstery button heads which complement the appearance of the chair 10. It is important to note that the plate 30 is secured directly to the front wall 14, although a sound damping sheet such as 34 may be interposed therebetween to prevent noisy contact with the customary upholstery springs 36. It will thus be appreciated that a plurality of the vibrators 18 may be secured to any surface, irrespective of that surface's contour. In the embodiment illustrated, there are five such vibrators arranged in vertically spaced relationship along the length of the chair back portion 12.

Turning now to FIG. 5 of the drawings, it will be seen

3

that each of the vibrators 18 is connected to one of the poles of an electrical rotary switch 38. The switch 38 is driven by a low-speed motor 40 which is connected to the power source 42. As the wiper arm of the rotary switch 38 rotates, it energizes successive ones of the vibrators 18. It will thus be appreciated that the user of the chair experiences a traveling effect of the vibratory motion, in this instance, a vibratory movement up and down the spinal column and middle back.

Although varying numbers of vibrators 18 and corresponding speeds of the motor 40 may be employed, a motor operating at the speed of three rotations per minute has been found to be most desirable for the application described. Thus, each of the vibrators operates three times per minute for periods of approximately four seconds.

Completing the massager 15 are a rheostat control 44 and a half-wave rectifier 46 connected serially to the vibrators 18. Operation of these members serves respectively to vary the amplitude of the vibrations and the frequency thereof. The customary switches, such as 50, 52 and 54, as well as a pilot light 56 may be positioned in a control box 58 mounted on the chair 10 and within easy access of the user thereof.

Operation of the massager 15 should be apparent from the foregoing without further description. The device may be readily mounted on any surface, and the size has been greatly reduced so that it does not affect the appearance of an associated article of furniture. It should of course be appreciated that the invention may be mounted in any suitable article of furniture such as a table as well as in other portions of the contour chair shown. Similarly, the vibrators may be arranged in any desired pattern such as a circle or radiating curve to affect other portions of the body. If desired, suitable controls may be employed to stop rotation of the motor 40 so that the vibrating action is caused to dwell at a fixed position, or vary the speed of the motor to correspondingly vary the traveling speed of the massage action.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of my invention as defined in the appended claims.

What I claim and desire to secure by Letters Patent of the United States is:

1. In combination with an article of furniture or the

4

like having a body supporting surface, a vibratory massager comprising

a plurality of individual vibrator units mounted on said surface, and

means for automatically operating said units in timed sequence whereby the massaging action on said surface is caused to travel.

2. The combination of claim 1 in which said means comprises

a rotary switch electrically connected to said vibrator units, and

a low-speed motor for rotating said switch to sequentially energize said vibrator units.

3. The combination of claim 2 in which a vibration transmitting plate is rigidly secured to each of said vibrator units,

and means fixedly securing said plates to said surface.

4. The combination of claim 3 in which said article of furniture comprises an upholstered chair and said surface comprises the back of said chair,

said plates being connected to the rear surface of said chair back.

5. The combination of claim 4 in which said last-mentioned means comprises screws having decorative upholstery buttons on the heads thereof.

6. The combination of claim 4 in which said article of furniture comprises a contour chair and said surface comprises the curved back of said chair,

said plates being connected to the rear surface of said curved back.

7. The combination of claim 6 in which said vibrator units are arranged in vertically spaced relationship along the length of said chair back, whereby the massaging action of said vibrator units travels along the spinal column of a user of said chair.

8. The combination of claim 2 in which a rheostat is electrically connected to said vibrator units for selectively varying the amplitude of vibration thereof.

9. The combination of claim 8 in which rectifier means is electrically connected to said vibrator units for selectively varying the frequency of vibration thereof.

References Cited

UNITED STATES PATENTS

2,361,242	10/1944	Rosett.	
2,921,578	1/1960	Rabhan	128—33
2,937,641	5/1960	Oettinger	128—33
3,113,567	12/1963	Russell	128—33
3,335,717	8/1967	Monaco	128—33

LAWRENCE W. TRAPP, *Primary Examiner*.