Nov. 25, 1924. 1,516,717

G. B. COLEMAN

MASSAGING INSTRUMENT

Filed May 16, 1922

FIG. 1.

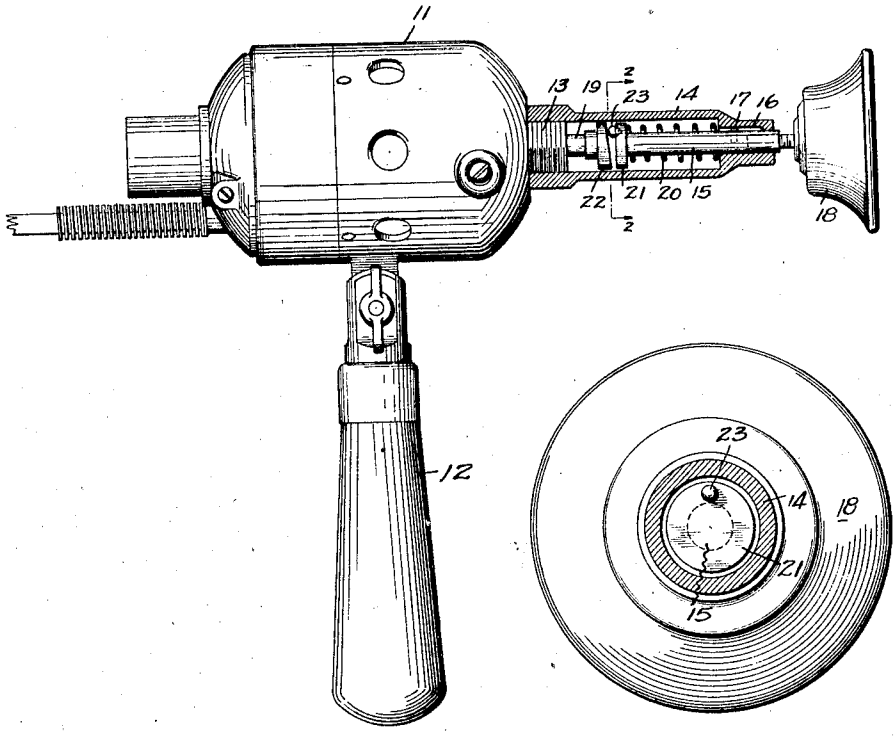

FIG. 2.

WITNESS:
H. Sherburne

INVENTOR.
George B. Coleman.
BY White Frost Sloan
his ATTORNEYS.

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UNITED STATES PATENT OFFICE.

GEORGE B. COLEMAN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO MAJIK ELECTRIC APPLIANCE COMPANY, A CORPORATION OF CALIFORNIA.

MASSAGING INSTRUMENT.

Application filed May 16, 1922. Serial No. 561,534.

To all whom it may concern:

Be it known that I, GEORGE B. COLEMAN, a citizen of the United States, and a resident of the city and county of San Francisco, in the State of California, have invented a new and useful Massaging Instrument, of which the following is a specification.

My invention relates to an instrument commonly termed a vibrator, and used for massaging the body, and more particularly to a motor driven vibrator that is so compact and light in weight that it may be held in the hand while it is in operation.

The physiological effects attendant upon the use of rapid vibration of a portion of the body has been observed to be extremely beneficial. However, in all types of vibrators with which I am familiar, the vibration is produced by rapid reciprocation of the massaging element substantially parallel to the surface of the body to which the device is applied. Such movement has little penetrative power, and furthermore has the disadvantage so often noticed of drawing and stretching the skin. I have found that much greater benefits may be obtained by causing the rapid reciprocations to take place in a direction substantially at right angles to that used in connection with the old type vibrators; that is in a direction substantially perpendicular to the surface where the vibrator is applied. Much greater penetration results from this type of treatment, and not only is the skin saved from the harmful pulling and drawing, but there is a beneficial stimulation thereof.

It is therefore one of the objects of my invention to provide a simple and inexpensive vibrator that shall operate in the manner described hereinbefore.

My invention possesses other advantageous features, some of which with the foregoing will be set forth at length in the following description where I shall outline in full that form of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification. In the drawings I have shown but one embodiment of my invention, but it is to be understood that it is not limited thereto, since the invention as expressed in the claims may be embodied in other forms as well.

Referring to the drawings:

Figure 1 is a view partly in section of a complete vibrator; and

Figure 2 is a detail view along the line 2—2 of Figure 1.

In the present instance the source of power is shown as a small electric motor 11, having pivotally attached thereto a handle 12, by which it may be manually placed wherever desired. The motor 11 has a threaded extension 13 upon which a sleeve 14 may be screwed. This sleeve carries a reciprocable member 15 for which there is provided a sliding fit in the end of sleeve 14. For preventing this member 15 from turning relatively to the sleeve, a slot 16 may be cut in the end of sleeve 14, in which engages a pin 17 carried by the reciprocating member or plunger 15. The projecting end of this member carries in any appropriate fashion the massager 18 of the conventional type. In the present instance a threaded engagement of parts 15 and 18 is illustrated. The massager 18 may be made of yielding material such as rubber, or it may be replaced at will by other well known forms of massagers.

The motor shaft 19, by its rotation, is caused to urge the plunger 15 outwardly against a force exerted by a spring 20. This spring acts as a shoulder 21 formed on the plunger 15, and is seated on the inside of the sleeve 14. To effect movement of the plunger 15, the shaft 19 carries a biased collar 22, acting as a crown cam against an eccentric projection on the shoulder 21. In the present instance, for smoothness in action and for preventing undue noise, the projection is formed by a ball 23 seated in a shallow depression in the shoulder 21. The relative position of the center of the ball 23 with respect to the axis of the sleeve 14 and shaft 19 is shown most clearly in Figure 2.

It is evident from the foregoing description that as the high part of cam 22 is brought into operation by the rotation of shaft 19, the plunger 15 is urged outwardly, and as the low part of this cam is brought into operation, the spring 20 is free to return the plunger into the sleeve 14. By properly designing the cam 22 and by causing the motor 11 to rotate at a rapid rate, the massager 18 is reciprocated at a high

speed. If this massager is then placed against any portion of the body, the beneficial effect of this type of vibration hereinbefore described may be obtained. The skin is not drawn or pulled. The slight percussion effect greatly increases penetration.

The motor 11 may be of any well known type, but I prefer to use the type illustrated in my copending application, Serial No. 482,096 filed July 2, 1921, and entitled Electric motor.

I claim:

1. In a massaging instrument, a source of rotary motion, a shaft connected to said source so as to be rotated thereby, a massaging member mounted adjacent the shaft with its axis substantially parallel thereto, a crown cam carried by one of the two substantially parallel members, and a ball coacting with the cam carried by the other, so that rotation of the shaft causes axial reciprocation of the massaging member, said crown cam having gradually sloping cam surfaces, and said ball being seated so as to retain its position relative to the member on which it is carried.

2. In a massaging instrument, a source of rotary motion, said source having a casing, a shaft connected to said source and extending out of the casing, a massaging member having a shank coaxial with the shaft and disposed near each other, a tubular extension for the shank attached to the exterior of the casing, said shank being axially movable within the extension, a crown cam carried by one of the coaxial members, a ball coacting with the cam carried by the other coaxial member, said ball being seated so as to retain its position relative to the member on which it is carried, and means for preventing relative rotation between the shank and the extension.

In testimony whereof, I have hereunto set my hand.

GEORGE B. COLEMAN.