April 6, 1926.

1,579,679

W. WAHRT

MASSAGE DEVICE

Filed Oct. 10, 1924

Fig. 3.

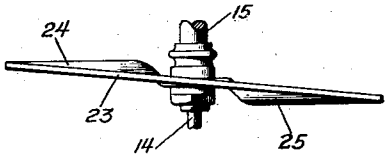


Fig. 4.

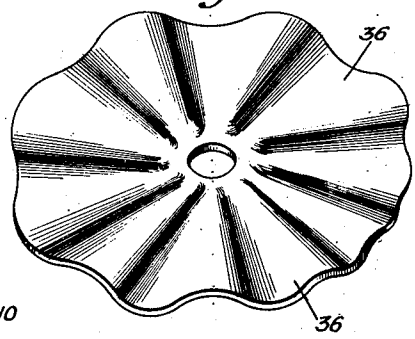


Fig. 1.

Fig. 2.

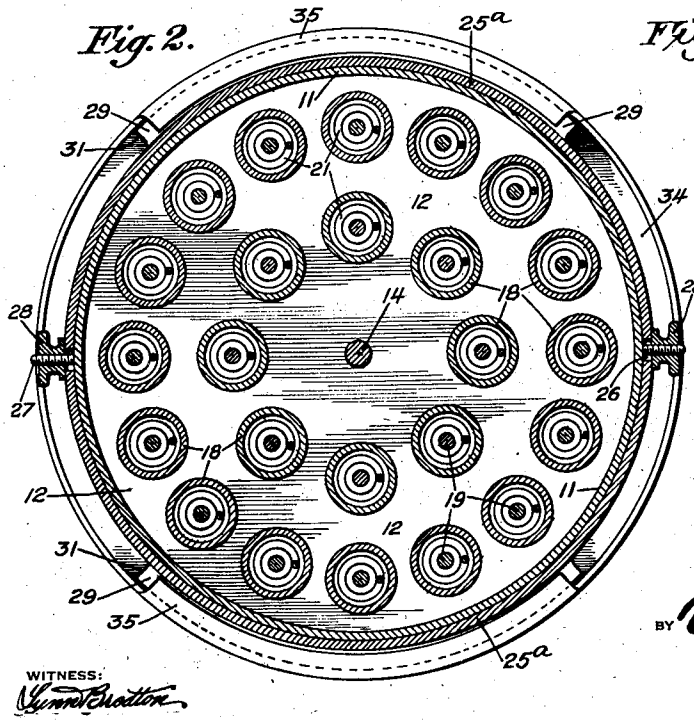
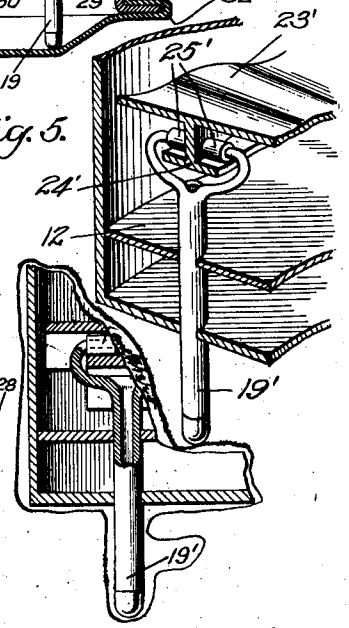


Fig. 5.



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WITNESS:

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UNITED STATES PATENT OFFICE.

WILLIAM WAHRT, OF BROOKLYN, NEW YORK.

MASSAGE DEVICE.

Application filed October 10, 1924. Serial No. 742,881.

To all whom it may concern:

Be it known that I, WILLIAM WAHRT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Massage Devices, of which the following is a specification.

This invention relates to improvements in massage apparatus.

The principal object of the invention is the provision of a mechanically operable massage device wherein the vibrations are imparted to the surface to be massaged at right angles to said surface whereby the action of the apparatus will not tend to loosen the hair or stretch the skin when using the apparatus for a scalp massage.

Another object of the invention is to provide an apparatus which includes a means for regulating the force of the vibratory members.

A further object of the invention resides in the construction of a massage apparatus which is simple in construction and operation, and inexpensive to manufacture.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a vertical sectional view of my invention.

Figure 2 is a horizontal sectional view on the line 2—2 of Figure 1.

Figure 3 is a detail side elevational view of the cam disk.

Figure 4 is a detail perspective view of a modified form of the cam disk.

Figure 5 is a detail sectional view of a modified form of plunger operating means.

Referring more particularly to the drawing, the reference numeral 10 designates a tubular member which serves as a handle for my device, and which carries a cylindrical casing 11 at one end thereof. A removable cover 12 closes the bottom of the casing to permit access to the interior should it be desired to replace any of the working parts. Mounted within the casing between the top wall and cover, is a partition 13, and for rotation in the top wall, partition and cover is a reduced end 14 of a shaft 15. The shaft 15 may receive its power from any suitable source such as a motor through the use of a flexible shaft, or any suitable actuating mechanism might be provided.

Mounted within the casing 11 is an outer set of vibratory members 16 and an inner set of vibratory members 17 which are arranged in circular formation concentric to the axis of the shaft 15. Both sets of vibratory members are identical in construction and each comprises a cylinder 18 having its opposite ends mounted in the cover and partition, for slidably accommodating a plunger 19, the shank of which extends beyond the cover as clearly shown in Figure 1 of the drawing. Interposed between the head 20 of each of the plungers and the cover 12 is a spring 21, and resting upon the head is a spherical member 22 of a circumference to move freely into its respective cylinder 18. The spring normally holds the spherical member against the underside of the cam disk 23 which is provided with oppositely disposed high and low surfaces 24 and 25 respectively. The disk is connected to the reduced end 14 of the shaft 15 for rotation therewith. From the description thus far, it will be seen that as the shaft rotates, the low surface of the disk engages the spherical members to depress the respective plungers against the tension of the springs to extend the same further from the casing, and as the spherical members engage the high surface of the cam disk, the springs 21 will return the plungers to retracted position. Briefly, all of the plungers are moving simultaneously, either in an outward or an inward direction. If desired, the shanks of the plungers might be provided with rubber tips for direct contact with the surface to be massaged, but for adjusting the pressure of the plungers, I desire to enclose the same in a manner now to be described.

Encircling the casing 11 at the lower end thereof, is a collar 25^a formed with diametrically spaced vertical slots 26 through which pass studs 27 carried by the side walls of the casing. The studs are threaded to receive thumb-nuts 28 whereby the collar may be held in various positions of vertical adjustment. The lower end of the collar is formed with an annular flange 29 which extends on opposite sides of the periphery of the collar, and seated against the inner portion of the flange and the cover 12 is a spring 30 which tends to exert an outward pressure against the collar. The outside

portion of the flange 29 is slotted as at 31 at oppositely disposed points for removably attaching thereto a cushion member 32. The member 32 comprises a flexible disk of material 33 of rubber or the like, which has its edges secured to a ring 34. The ring 34 is formed with oppositely disposed flanges 35 for registration with the slots 31 of the flange 29 when attaching the member to the collar. After the flanges 35 are passed through the slots 31, the member is given a slight turn to lock the flanges 35 over the outside portion of the flange 29. From the above description, it will be seen that the piece of material 33 may be adjusted with relation to the ends of the plungers so that the force of vibration may be varied according to the amount desired.

In Figure 4 I have shown a modified form of cam disk 36, and which is formed to provide a plurality of radially disposed corrugations which taper toward the axial center. It will be seen that when using a disk of this construction, the outer series of plungers will have a further outward movement than the inner series. This type of disk is useful when the device is adapted for use on a curved surface such as the head of a person.

In Figure 5 there is shown a modified form of plunger in which the spring is dispensed with. The cam disk 23′ is provided with a depending track 24′ which runs parallel to the horizontal face of the disk. The plunger 19′ has its bearings in the cover plate and partition, and carries a pair of rollers 25′ for co-action with the track. As the disk 23′ rotates, the same will tend to extend the plungers or retract them by reaon of the corrugations on the disk.

It will be manifest that I have provided a massage apparatus where the vibration is imparted to the surface of the skin at right angle thereto, and the action of the same is continuous as the vibrating plungers are simultaneously operated.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new is:—

1. A massage apparatus comprising a casing, a driven shaft having one end extending into said casing, a series of plungers mounted for reciprocating movement within said casing, the free ends of said plungers extending beyond the casing, a flexible strip positioned over the free ends of said plungers, a cam disk carried by said shaft and operable for compressing said plungers against said flexible strip, a collar adjustably mounted on said casing, and removable means for attaching said flexible strip to said collar.

2. A massage apparatus comprising a casing, a driven shaft having one end extending into said casing, a series of plungers mounted for reciprocating movement within said casing, the free ends of said plungers extending beyond the casing, a flexible strip positioned over the free ends of said plungers, a cam disk carried by said shaft and operable for compressing said plungers against said flexible strip, a collar adjustably mounted on said casing, removable means for attaching said flexible strip to said collar, and a spring interposed between one end of said casing and said collar.

In testimony whereof I have affixed my signature.

WILLIAM WAHRT.