

June 7, 1949.

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2,472,385

MASSAGE DEVICE

Filed July 18, 1946

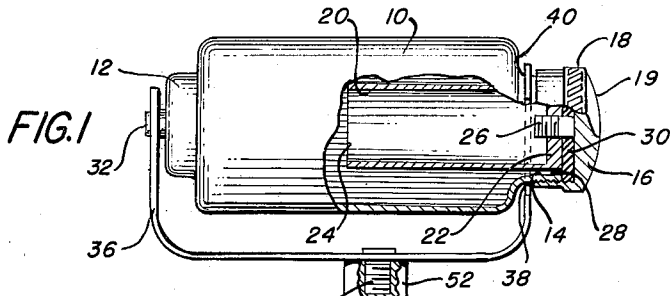


FIG. 1

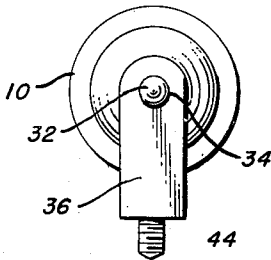


FIG. 2

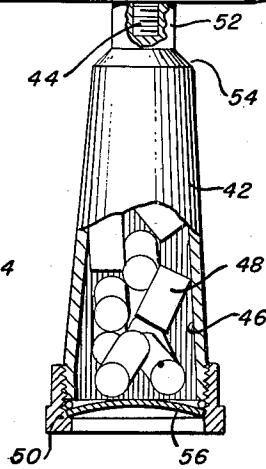


FIG. 3

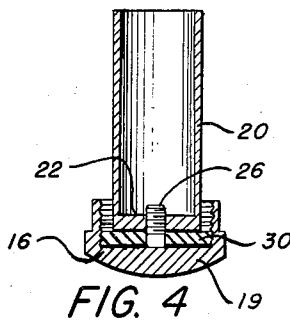


FIG. 4

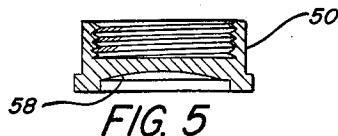


FIG. 5

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UNITED STATES PATENT OFFICE

2,472,385

MASSAGE DEVICE

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Application July 18, 1946, Serial No. 684,433

3 Claims. (Cl. 128—57)

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This invention relates to improvements in a massage device and more particularly to that type utilizing a massage roller.

It is an object of the invention to provide a hollow roller formed of material having high thermal conductivity and having an opening at one end, said roller being pivotally secured to a handle and the opening of the roller, during the operation thereof, being sealed by a closure which engages said open end in liquid tight relationship, whereby said roller may be filled or partially filled with a coolant and beneficially used as a massage device. Said coolant is preferably formed of predetermined amounts of solute and solvent.

It is another object of the invention to compensate for the off balance effect of the closure by pivotally mounting the roller in a bail and connecting a handle to said bail at a position thereon nearer the closure end of the roller than the other end thereof.

It is a further object of the invention to provide a tubular measuring container on the closure, said container readily fitting within the opening of the roller and having a capacity corresponding to the predetermined amount of solvent, whereby said container will not present any objectionable obstruction when the roller is in use and, as a corollary to this object of the invention, it is a further object to provide the measuring container with a cross sectional contour closely conforming to that of the opening in said roller, whereby only a small space remains between said opening in the roller and the external surface of the measuring container requiring sealing by the closure.

It is still another object of the invention to provide a handle having an annular recess affording a shoulder near the end connected to the roller, thereby providing means by which the user may more firmly engage the handle by placing his thumb against said shoulder.

It is a still further object of the invention to provide on the handle a taper extending outward away from the roller, the free end of the handle being concaved and defined by a rim which provides a base of substantial size upon which to stand the device as when not in use. Additionally, said concavity is reflective to serve as an enlarging mirror.

Other objects of the invention as well as details of the foregoing objects and details of the invention are set forth in the following specification and illustrated in the accompanying drawing comprising a part of this application.

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In the drawing,

Fig. 1 is a vertical elevation of the massage device, certain elements of said device being partially broken away to better disclose certain details of the invention.

Fig. 2 is a fragmentary vertical end elevation of the device shown in Fig. 1 as viewed from the left hand end thereof.

Fig. 3 is a vertical end elevation, partly broken away, of the roller and bail elements of the massage device as viewed from the right hand end of Fig. 1.

Fig. 4 is a vertical sectional view of the closure and tubular measuring container comprising a part of the present invention.

Fig. 5 is a sectional side elevation of another embodiment of a cap for the end of the handle.

The present invention was devised to provide a massage device having a hollow roller preferably formed of aluminum or aluminum alloy or some other suitable material having a high degree of thermal conductivity, said roller being constructed to contain a liquid coolant such as a heat-absorbing solution of water and certain salts which are well known for this purpose and comprise no part of the present invention.

Certain previously devised massage rollers have been of such nature that a considerable amount of disassembling of components was required before a fluid coolant could be inserted in or removed from the interior of the roller. Other devices presented difficulties with regard to adequately sealing the fluid coolant within the interior of the roller.

These afore-mentioned difficulties and others which have been present in said previously devised rollers have been overcome by certain features of construction incorporated in the massage device comprising the present invention, details of which are explained hereinafter.

Referring to the drawing, a hollow cylindrical roller 10 is restricted or reduced in diameter at its opposite ends as illustrated in Fig. 1, one end 12 of said roller being permanently closed and the other end of said roller being provided with an opening 14 which is defined by a substantially cylindrical portion of the roller and is externally threaded on at least a portion of the exterior surface of said cylindrical portion. A cup-shaped closure 16 provided with internal threads is constructed to be threaded onto said threads of the reduced end of the roller. Part of the exterior of the side walls of said cap is preferably serrated as shown at 18 for purposes of facilitating the manipulation of the closure, while the contour of

the outer surface of the so-called bottom of the cap is convex to provide an additional massaging surface 19.

A substantially cylindrical tubular measuring container 20 having a closed end 22 and an open end 24 is secured at its closed end by any suitable means such as a threaded stud 26 formed integrally with cap 16 and engaging a threaded opening in closed end 22 of the container 20. Said measuring container, in cross section in a direction transverse to the axis of the roller, is preferably only slightly smaller in diameter than the opening in the end of the roller 10, whereby only a small space 28 exists between the exterior surface of the measuring container and the opening in said end of the roller 10 when the closure 16 and measuring container 20 are mounted in their operative position illustrated in Fig. 1. Said small space 28 is all that has to be sealed by the closure 16. While the measuring container has been stated to be cylindrical, it is to be understood that the cross sectional contour thereof, as well as that of opening 14 in the roller, may be varied from circular but said cross sectional contours should preferably be symmetrical and conform relatively closely to each other in size.

A disc-like gasket or washer 30 of any suitable material such as rubber is mounted within the cup-like closure 16 between the base thereof and the base of measuring container 20, said gasket engaging the annular outer surface of the open end of roller 10 to insure that no leakage of fluid from within the roller will take place during use.

The closed end of the roller 10 is provided with a pintle 32 which is freely and rotatably received within a bearing aperture 34 formed in one leg of a bail 36 and the other leg of said bail is provided with a bearing 38 of larger diameter which freely and rotatably receives the restricted end of the roller 10 within which the opening 14 is provided. It will thus be seen that the roller 10 is rotatably supported at its opposite ends by the bail 36. The annular tapered shoulder 40, adjacent the open end 14 of the roller, cooperates with the rim of the closure 16 to properly position the leg of the bail containing the bearing 38 in such a manner that only a limited amount of play in a direction parallel to the axis of the roller will exist between said bail and roller.

The weight of the closure 16 is sufficient to render the end of the roller to which it is secured heavier than the other end thereof and produces an off-balance effect when the roller is held midway of its length. To compensate for the additional weight of the closure at said end of the roller, the handle 42 is detachably secured to the bail 36 by means of a threaded stud 44 permanently secured to the bail in a predetermined position nearer the opening in the end of the roller 10 than the closed end of said roller. Thus, when the roller is held by the handle 42, the roller will not have a tendency to turn about the axis of the handle.

The handle 42 may be formed of any suitable material but it is preferred to form the same of a synthetic resinous plastic material which may be either crystal clear or colored and the interior of the handle is provided with a cavity 46 within which may be stored solute pellets 48 or powder or capsules of a salt or salts which, when added to water or other suitable solvent, forms the coolant solution. The end of the handle to which the threaded stud 44 is secured is provided with an internally threaded opening for purposes of readily engaging the threads of the stud 44. The

opposite end of the handle 42 is provided with a readily removable threaded cap 50 for purposes of retaining the pellets 48 within the handle.

Handle 42 is preferably tapered outward toward its free end, and the opposite end is provided with an annular recess 52 to afford an annular shoulder which may be engaged by the thumb of the user to facilitate holding the massage device in a firm manner.

Cap 50 is shaped so as to be concave on the outer surface of its end, whereby the free end of the handle may be said to terminate in a concaved end when the cap 50 is attached thereto. Said concaved end, in view of the outward tapering of the handle, is defined by a rim affording a base of substantial size upon which said device may be stood as when not in use. Additionally, as another feature of importance, said concave surface is smoothly finished so as to be reflective, thus serving as an enlarging mirror to assist during the use of the device in detecting wrinkles and areas requiring massage treatment.

As shown in Fig. 1, a reflective end may be obtained by a separate mirror member 56 inserted within the rim of cap 50, or, as shown in Fig. 5, the cap is an integral member and the concaved end 58 is made reflective in any suitable manner such as by metalizing. Preferably cap 50 is also formed from resinous material but may be of suitable metal.

The capacity of the measuring container 20 is such that when a predetermined number of pellets 48 are added to a container full of water, a solution of the proper strength will be formed.

The construction of the roller, closure, and measuring container is such that the container 20 may be filled with water as shown in Fig. 4, the correct number of pellets or capsules may be introduced into the roller 10 through the open end 14 thereof, and the measuring container 20 may be introduced into the roller through the open end thereof while said container is held in vertical, upright position. Following this, the closure 16 is tightly screwed onto the threaded open end of the roller for purposes of sealing the water and pellets within the container. After a short interval of time and preferably with agitation of the roller, the pellets dissolve within the water and the solution comprising the coolant is formed. Said roller with the coolant contained therein, when applied to the surface of any desired portion of the anatomy of a person, will produce a cooling effect on said portion of the anatomy; and it is possible to make the coolant of such strength that said cooling effect will continue for a reasonable period of time such as between ten and fifteen minutes.

During the application of the device to the anatomy, the roller may be readily rotated while passing over the surface to be cooled and massaged, and no leakage of the fluid from the interior of the roller is possible in view of the close conformity of the measuring container to the open end of the roller and the gasket 30 within the closure.

At the conclusion of the cooling treatment, the closure 16 may be readily removed from the open end of the roller 10 and the coolant may be poured therefrom with no disassembly of the device other than the removal of the closure 16 being required. The handle 42 may also be readily removed from the bail 36 for purposes of compactly packaging or storing the massage device when not in use.

The cup-shaped closure or cap 16 may also be

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formed of a material similar to the roller 10, both of these items thus having high thermal conductivity. The outer surface 19 of the closed end of closure 16 will thus also be affected by the temperature of the coolant within the roller and said end of the closure may thus be also utilized for massaging purposes, especially for use on surfaces difficult to reach for massaging by the roller 10.

The massage device comprising the present invention is light in weight, balanced, leakproof, attractive in appearance and produces beneficial effects when applied to the anatomy.

While the invention has been illustrated and described in its several preferred embodiments and has included certain details, it should be understood that the invention is not to be limited to the precise details herein illustrated and described, since the same may be carried out in other ways, falling within the scope of the invention as claimed.

What I claim is:

1. A massage device comprising in combination a hollow roller terminating at one end in a restricted cylindrical portion externally threaded and comprising an opening in said roller, said roller being suitable to contain a coolant solution formed from predetermined amounts of solute and solvent, a handle, means connected to said handle and also pivotally connected to the roller, a cup-shaped closure internally threaded on its side walls, whereby said closure may be detachably secured in fluid tight engagement over said cylindrical portion, and an elongated cup-shaped measuring container secured to the inner portion of said closure and having a smaller diameter than said cylindrical portion, whereby said container may be disposed within said roller when said closure is secured in operative position over said cylindrical portion, said container having a capacity corresponding to the predetermined amount of solvent of said solution.

2. A massage device comprising in combination a hollow roller having an opening in one

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end and arranged to contain a coolant solution formed from predetermined amounts of solute and solvent, a handle, means connected to said handle and also pivotally connected to the roller adjacent the opposite ends of said roller, a cup-shaped closure, a gasket extending across the interior bottom of said closure, means on said closure and roller by which said closure may be detachably secured in fluid tight engagement over said opening, an elongated cup-shaped measuring container having a capacity corresponding to the predetermined amount of solvent of said solution and provided with a bottom, the cross-sectional area of said container being smaller than that of said opening in said roller, and securing means extending from the closure through said gasket and into the bottom of said container to hold them unitarily together, said container being disposed within said roller when said closure is secured in operative position over said opening.

3. A massage device comprising in combination a hollow roller having an opening at one end, a closure normally detachably connected to said roller over said opening, said closure rendering said roller heavier at its open end than the other and producing an off-balance effect, means pivotally connected to said roller, and a handle connected to said means at a predetermined position axially of said roller which is nearer said open end of said roller than said other end to compensate for the off-balance effect produced by said closure.

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