

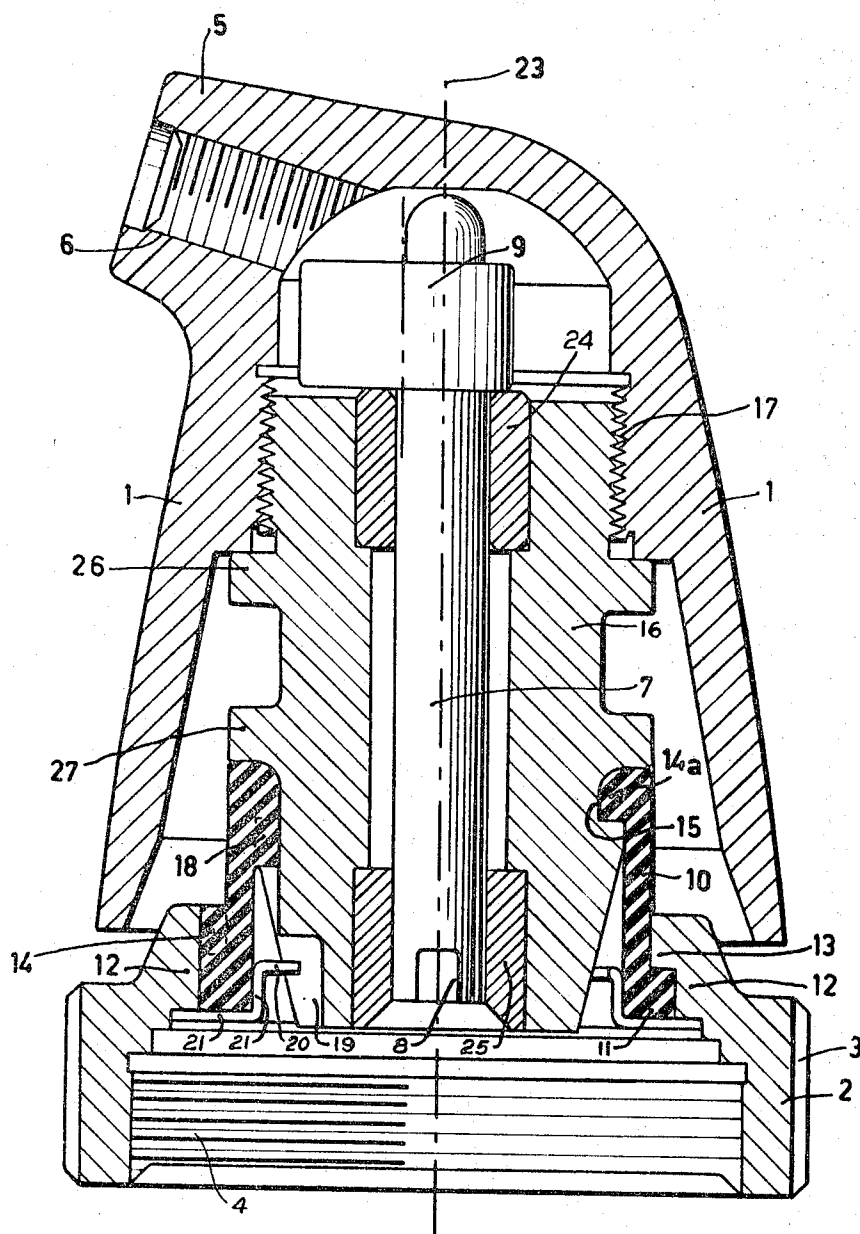
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MASSAGE FIXTURE IN PARTICULAR FOR DRY-SHAVING APPARATUS

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**MESSAGE FIXTURE IN PARTICULAR FOR  
DRY-SHAVING APPARATUS**

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3 Claims. (Cl. 128—36)

The invention relates to a massage fixture for use with a dry-shaving apparatus, which fixture comprises a member which can be coupled to the motor of the apparatus and causes the massage member to be vibrated, and means for connecting the fixture to the dry-shaving apparatus.

It is known to use such fixtures as intermediate members between the housing which comprises the driving motor and the actual massage members. Such massage members of different types and shapes can then be removably connected, for example to a projecting boss of the fixture which for that purpose is provided with a bore which has a screw-thread.

As is normal for dry-shaving apparatus, the housing of such apparatus which comprises the motor also forms the grip for the operation and the housing generally is given a shape which readily lies in the hand. When using a massage fixture which is caused to vibrate at a high frequency by a vibration generator which can be coupled to the motor (for example when driving an eccentrically provided vibration body by a rotating body 8 to 9000 rotations per minute) the known construction suffers from the drawback that as a result of the vibration of the fixture the whole apparatus will vibrate. This is annoying for the user but, in addition, the massage, for example by a massage brush, consequently becomes less effective.

It is an object of the invention to overcome this drawback and the invention is characterized in that the connection between a member for connecting the fixture to the housing of the apparatus on the one hand and the housing of the fixture on the other hand consists of a coupling member of flexible, deformable material.

Therefore the fixture, when being secured into the housing of the motor, is no longer secured to a solid assembly, there exists only a connection through a flexible coupling member. In addition, according to the invention a connection member which is formed, for example, by a collar with screw thread associated with the fixture is maintained because herewith a simple and rapid connection to the housing of the apparatus is possible, but this connection member, as a part of the housing of the fixture, is connected to this latter only by the flexible coupling member.

This means that when connecting the fixture to the housing of the apparatus, for example by a screw thread connection in which the fixture for fastening a collar has to be turned around its longitudinal axis, the force has to be transmitted through the flexible coupling member which involves the danger of forcing the latter or the necessity of a comparatively bulky coupling member with a decrease of the flexible deformability thereof. In order to overcome this, a favorable embodiment is characterized in that one or more corresponding studs and recesses of the fixture housing on the one hand and of the connection member on the other hand are in free engagement with each other in a manner such that when connecting the massage fixture to the dry-shaving apparatus by rotating the fixture around the longitudinal axis, for example when screwing a screw thread connection, the connection member, after a slight deformation of the flexible cou-

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pling member, is taken along by the mutual engagement of said studs and recesses.

When using the apparatus for massage, the studs consequently are in the intermediate position free in the recesses, but when the fixture is to be unscrewed or screwed on again the coupling member is twisted through a small distance until the studs engage the walls of the corresponding recesses and the fixture consequently further takes along the connection member by a direct fixed connection. In practice, generally a single stud, for example on a collar, and accordingly a recess around that stud in a fixed part of the housing of the fixture is enough.

In order that the invention may readily be carried into effect, one embodiment thereof will now be described more fully, by way of example, with reference to the accompanying drawing, the figure of which shows a longitudinal section through the central axis of an embodiment of a fixture according to the invention.

The device shown has a casing 1 of circular cross-section which is open at one end. Adjacent the open end of the casing is a ring 2 by means of which the device can be attached to a dry-shaving or other relevant apparatus. For this purpose the ring is formed internally with a screw-thread on the housing of the shaving or other apparatus. Externally the ring is ribbed, as shown at 3, to provide a good finger grip.

Projecting laterally from the casing 1 at the closed end thereof is a socket 5 which is screw-threaded, as shown at 6, to receive the screw-threaded stem of a massaging member (not shown), for example a massaging brush. Within the casing 1 and extending along the central axis thereof is a spindle 7 one end of which, namely, the end that is near the open end of the casing, has a slot or groove 8 in it for coupling the spindle to the shaft of the driving motor of the shaving or other apparatus.

On the other end of the spindle 7, for rotation eccentrically therewith, is fixed a mass 9. As this mass rotates it generates vibrations which are transmitted through the casing 1 to the massaging member secured in the socket 5. The spindle 7 is journaled in two metal bearing bushings 24 and 25 fixed in a central axial bore in a cylindrical sleeve 16 which is secured in the casing 1 by means of co-operating screw-threads 17 formed on the sleeve and in the casing. The sleeve is screwed into the casing until a collar 26 on the sleeve abuts a shoulder in the casing.

To prevent vibration being transmitted from the casing 1 to the ring 2, and thence to the housing of the shaving or other apparatus, the casing is connected to the ring through a resilient connector in the form of an annular flexible member 10, for example rubber. The annular flexible member 10 is connected to the ring 2 at one end and to the sleeve 16 at the other end by means of outwardly and inwardly directed lips 11 and 14a respectively, formed on the ends of the member 10. The lip 11 engages beneath an inwardly directed lip 13 on an upstanding portion 12 of the ring 2, and the lip 14a engages in a circumferential groove 15 in the sleeve 16. To prevent relative rotation between the ring 2 and the member 10 and between the sleeve 16 and the member 10, the latter is formed with two projections 14 and 18 which fit in two recesses provided one in the lip 13 on the ring 2 and one in the sleeve.

It is possible that some users, when screwing the massaging device onto, or unscrewing it from the shaving or other apparatus, will hold the device by the casing. To allow for this possibility, means are provided which will permit limited rotational movement of the casing 1 relative to the ring 2 in either direction, but which will thereafter provide a rigid coupling between the casing and the ring in either direction. The limited rotatability of the casing relative to the ring is necessary to allow the mem-

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ber 10 sufficient torsional flexure to absorb the vibration of the casing. In the embodiment illustrated the said means comprise a rigid annular member 21 fixed to the ring 2 and formed with an inwardly projecting lug 20 which engages with a limited freedom of movement in a recess 19 in the sleeve 16. In the normal position of the casing 1 relative to the ring 2, i.e. when the member 10 is relaxed, the lug 20 is located centrally between the sides of the sleeve in the recess 19. When the casing is turned, for example to screw the massaging devices onto the shaving or other apparatus, after an initial movement of the casing relative to the ring 2, which movement torsionally flexes the annular flexible member 10, one side of the lug 20 abuts a portion of the sleeve 16 on one side of the recess so that the subsequent movement of the casing is transmitted by the annular member 21 to the ring 2. When the casing is finally released, the member 10 returns to the relaxed condition and so restores the casing to its initial position relative to the ring 2.

The annular member 21 also serves to secure the member 10 to the ring 2.

We claim:

1. A massage device for attaching to a rotating shaft of a driving motor comprising a ring for attaching to the motor, a central spindle having an eccentric weight on one end and means on the other end for coupling to said rotating shaft, a sleeve in which said central spindle is journaled, a casing enclosing the upper portion of said sleeve and rigidly secured thereto, an annular, resilient connector member surrounding the lower end of said sleeve and

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fastened at one end thereto, the other end of said connector being secured to said ring concentrically therewith, a recess in one side of the lower end of said sleeve, and rigid means extending from the inside of said ring into said recess with a limited freedom of movement therein.

2. A massage device for attaching to a rotating shaft of a driving motor as claimed in claim 1 wherein said ring is provided with a screw threaded portion for connection to said motor.

3. A massage device for attaching to a rotating shaft of a driving motor as claimed in claim 1 further comprising a first abutment in said sleeve and a second abutment in said ring whereby parts of said annular, resilient connector member engage and are deformed against said abutments when said ring is connected to said motor.

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