May 23, 1933. C. L. LUCAS 1,910,490

MASSAGE DEVICE

Filed Sept. 10, 1930

Fig. 1.

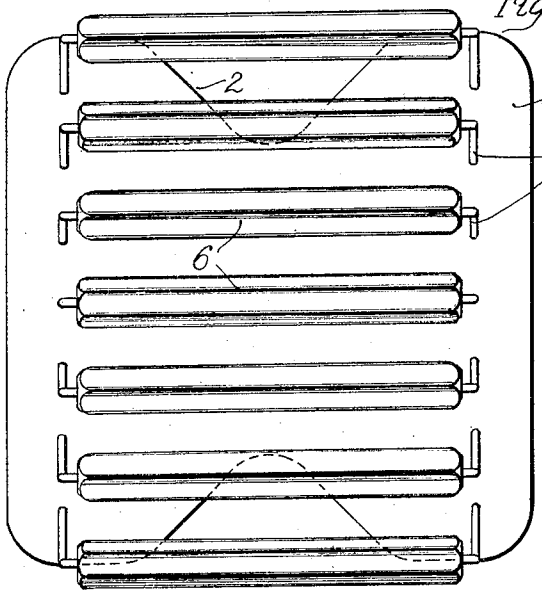


Fig. 2.

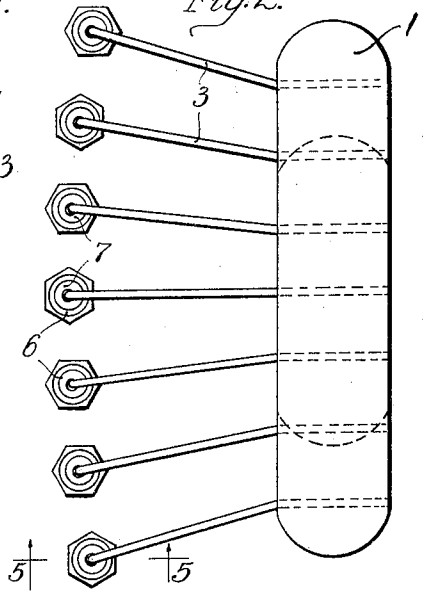


Fig. 3.

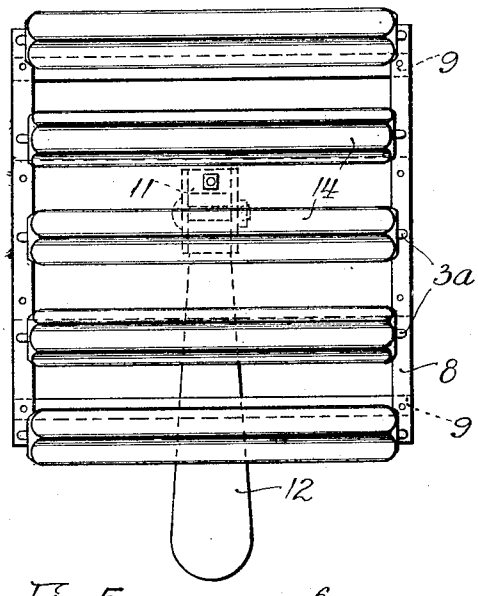


Fig. 4.

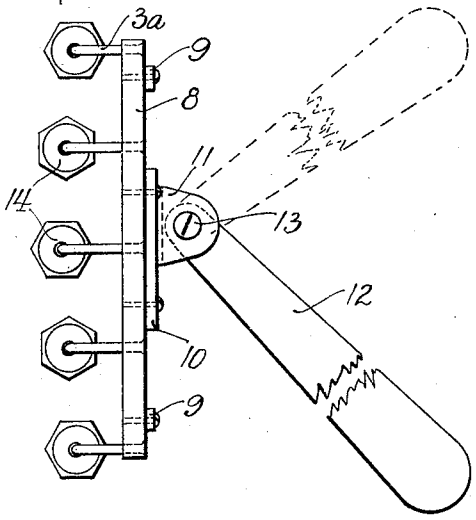
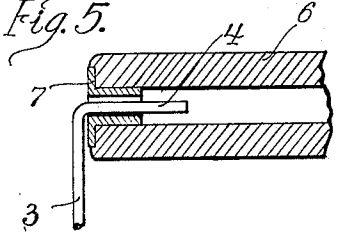


Fig. 5.



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Attys.

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UNITED STATES PATENT OFFICE

CLYDE L. LUCAS, OF CHICAGO, ILLINOIS

MASSAGE DEVICE

Application filed September 10, 1930. Serial No. 480,855.

This invention relates to massage devices, and more particularly to devices having rotatably mounted members adapted to be moved over the body in contact therewith.

In devices of this character, to obtain the best results, it is desirable that a decided vibration of the subcutaneous tissues and muscles, as well as of the nerves and blood vessels be produced, and that the flesh be gripped to a certain extent at a plurality of points and during the use of the device, to effectively work it. This vibration, combined with the gripping and massaging of the flesh, promotes circulation and stimulates the nerves while also exerting a beneficial effect upon the muscles and tissues. I have found, as a result of extended investigation, that the best results can be obtained in a device of this character by employing hexagonal rollers arranged in a series of three or more rollers and so spaced that any two adjacent rollers of the series will exert a desirable gripping effect upon the flesh. One of the main objects of my invention is to provide a device of the character stated in which the rollers are so constructed and related as to produce a decided vibration or wave effect while also gripping the flesh sufficiently to assure proper working or kneading thereof. Another object is to so relate the rollers of the series as to facilitate movement thereof over the body while obtaining an increasing kneading effect of the flesh from each end of the series of rollers toward the center thereof. A further object is to provide means for supporting these rollers resiliently and in such manner as to permit of desirable relative movement or give thereof. A further object is to provide a device of the character stated of simple construction and which may readily be produced at relatively small cost. Further objects and advantages of my invention will appear from the detailed description.

In the drawing:

Figure 1 is an underneath view of a massage device in accordance with my invention;

Figure 2 is an end view of the device of Figure 1;

Figure 3 is an underneath view of a modified form of massage device;

Figure 4 is an end view of the device of Figure 3;

Figure 5 is a section taken substantially on line 5—5 of Figure 2.

Referring more particularly to Figures 1 and 2, the device includes a base member 1 of substantially rectangular shape and formed of any suitable or preferred material. This base member is provided, at each side thereof, with a V-shaped cut-out or recess 2, these recesses accommodate the hand in gripping the base member which thus forms a gripping element or handle for manipulating the device. Supporting members 3 are secured in the base member 1 adjacent each end thereof and project from one face, the under face, of the base member. The supporting members 3 are preferably formed of suitable lengths of wire, or other suitable material, the upper portions of these members being secured in the base member in a suitable manner. The supporting members are arranged in two series, adjacent each end of the base member, and the lower or outer portion of each of the members 3 is bent inwardly substantially at right angles to provide a bearing finger 4, as in Figure 5. The members 3 of one series are disposed in alignment lengthwise of the base member 1 with the respective members of the other series, so that the supporting members of the two series are arranged in pairs aligned lengthwise of the base member.

Rollers 6 are rotatably mounted upon the fingers 4 of the respective pairs of the supporting members, each roller being provided in each end thereof with a bearing bushing 7 which receives finger 4. These rollers are of hexagonal shape in cross-section and are so spaced that the distance between the opposed and parallel faces of any two adjacent rollers is approximately equal to, but preferably somewhat less than, the distance between the two opposite sides of any individual roller. I have found by extensive experiment that this spacing of the rollers, in conjunction with the use of hexagonal rollers, is highly important in obtaining the best results in the use of a device of this character.

Referring more particularly to Figure 2,

it will be noted that the supporting member 3 of each series, to each side of the center member of the series, is inclined away from the adjacent face of the base member and toward the adjacent side thereof. It will further be noted that the perpendicular distance between the rollers and the base member decreases successively from the center roller of the series toward each side of the base member so that the active sides or surfaces of these rollers define a curve convexed away from the base member. This particular disposition of these rollers is advantageous in facilitating movement of the series of rollers over the body and also has the advantage that the rollers tend to penetrate or grip the flesh to a greater depth at the center of the series than at the ends thereof, said gripping effect decreasing uniformly from the center toward each end. This arrangement of the rollers, combined with the resilient supporting members therefor, permits of appreciable pressure being exerted upon the rollers in the use of the device without discomfort to the user while eliminating or reducing possibility of excessive pressure and bruising of the flesh.

In using the device, the rollers are pressed firmly against the body and the device is then reciprocated crosswise of base member 1. During this reciprocation of the device, the flesh is gripped to a certain extent between adjacent rollers of the series so as to be thoroughly kneaded and worked thereby, and the rollers, due to their hexagonal cross-section, produce a decided vibration upon the subcutaneous tissues and muscles, as well as upon the blood vessels and nerves. As a result, an effect, which I term a rhythmical wave motion, is produced in the muscles as well as the blood vessels and the nerves which is highly efficient in stimulating circulation of the blood and activity of the nerves. In this connection, it is to be noted, in order to produce this effect, the rollers should be arranged in a series of three or more and should be so spaced as to effectively grip the flesh between adjacent rollers without exerting undesirable gripping or pinching thereof. I have found that this result can best be obtained by spacing the rollers as illustrated and described, and by employing rollers of hexagonal cross-section. This device is particularly well adapted for massage purposes for relieving soreness or stiffness of the muscles, and for stimulating circulation and activity of the nerves. It is also well adapted for massaging for reducing purposes, the rollers being highly effective in breaking down the fatty tissues.

In the modified form illustrated in Figures 3 and 4, I provide a base member comprising end bars 8 which are secured together by cross rods 9. A cross plate 10 also serves to secure together the bars 8 and a U-shaped bracket 11 is suitably secured to this plate substantially centrally thereof. A suitable handle 12 is pivotally secured, at 13, in this bracket for manipulating the device. Supporting members 3A, similar to members 3 of Figure 2, are suitably secured in the bars 8 and have mounted thereon hexagonal rollers 14 similar to rollers 6. The use of the device of Figures 3 and 4 is similar to that of Figures 1 and 2, and need not be further described. The handle 12 provides convenient means for manipulating the device in any desired position.

What I claim is:

1. In a massage device of the character described, a base member, supporting members mounted on the base member, and a series of rollers rotatably mounted upon the supporting members in parallel and spaced relation, the rollers being disposed successively nearer the base member from the center roller of the series to each end thereof.

2. In a massage device of the character described, a base member, supporting members mounted on the base member, and a series of rollers rotatably mounted upon the supporting members in parallel and spaced relation, the rollers being disposed successively nearer the base member from the center roller of the series to each end thereof, said supporting members being resilient.

3. In a massage device of the character described, a base member, supporting members mounted on the base member, and a series of rollers rotatably mounted upon the supporting members in parallel and spaced relation, the rollers being disposed successively nearer the base member from the center roller of the series to each end thereof, said supporting members being resilient and the supporting members to each side of the center roller being inclined away from the base member and toward the adjacent side thereof.

4. In a massage device of the character described, a base member, a series of supporting members secured to the base member adjacent each end thereof and projecting from one face of the base member, the supporting members of the two series being arranged in pairs aligned lengthwise of the base member, said supporting members being resilient and the supporting members to each side of the center one of each series being inclined away from the base member and toward the adjacent side thereof, and hexagonal rollers mounted upon the outer ends of the respective pairs of supporting members.

5. In a massage device of the character described, a base member, a series of supporting members secured to the base member adjacent each end thereof and projecting from one face of the base member, the supporting members of the two series being arranged in pairs aligned lengthwise of the base member, said supporting members being resilient and the supporting members to each side

of the center one of each series being inclined away from the base member and toward the adjacent side thereof, and hexagonal rollers mounted upon the outer ends of the respective pairs of supporting members, the effective length of the supporting members of each series decreasing successively from the center member of each series toward the adjacent side of the base member.

6. In a massage device of the character described, a base member, a series of supporting members secured to the base member adjacent each end thereof and projecting from one face of the base member, the supporting members of the two series being arranged in pairs aligned lengthwise of the base member, and the outer portion of each supporting member being bent substantially at right angles to provide a bearing finger, said supporting members being resilient and the supporting members to each side of the center one of each series being inclined away from the base member and toward the adjacent side thereof, and hexagonal rollers mounted upon said fingers and spaced apart a distance approximately equal to the distance between two opposite sides of the respective rollers.

7. In a massage device of the character described, a substantially flat base member, supporting members secured to the base member and projecting from one face thereof, said supporting members being arranged in pairs aligned lengthwise of the base member and being provided with substantially right angularly disposed bearing elements extending inwardly over the base member in substantial parallelism therewith, and a series of rollers mounted upon said elements for free turning movement thereon, said rollers being of polygonal cross-section and each presenting a plurality of contiguous flat surfaces of considerable length and disposed in angular relation one to the other.

In witness whereof, I hereunto subscribe my name this 8 day of September, 1930.

CLYDE L. LUCAS.