

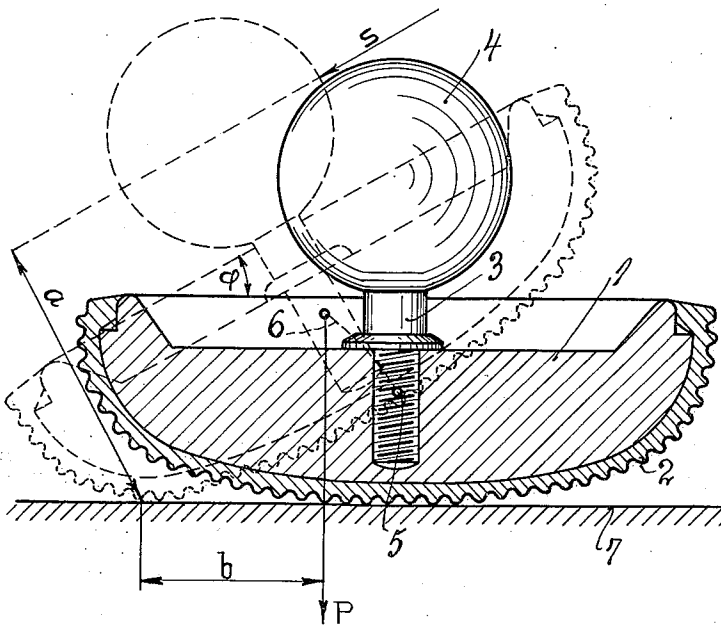
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MASSAGING APPARATUS

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MASSAGING APPARATUS

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1 Claim. (Cl. 128—60)

The present invention has for its purpose to provide an inexpensive and simple implement for self massage of large body surfaces, especially of the stomach region, and the object of the invention is to provide an apparatus of this kind which even if it is used by unexperienced persons will result in a correct and effective stretching and pressure effect as well on the intestines as on the outer stomach substances.

Previously apparatuses have been made for this purpose but they have not been successful, due to the fact that special skill in most cases has been required in order to obtain the desired result. One of the implements previously known consists in a shot filled bag provided with a handle by means of which a rolling movement of the bag may be effected. This type of apparatus may of course for special purpose as for instance massage of the chest be very good but on the stomach it will be of little value, due to the fact that the movement of the handle of the apparatus only will result in a displacement of the weight of the apparatus over the surface to be massaged, at the same time as the bag will be flattened out to adjust itself to the surface on which it rests. The effect of this apparatus will thus not extend into the inner parts of the body. In this way the resulting massage will only consist in a pressure on but not a stretching of the surface.

This invention relates to an apparatus or implement of the above mentioned type, but departs in its construction from same which is evident at the first sight therein that it mainly consists of a stiff heavy and rather flat body. By extensive research it has been proved that an apparatus which under any circumstances shall give the proper massaging effect without regard to the skill of the person using it, it must be designed according to given rules.

The object of this invention is to provide such an apparatus.

The apparatus according to this invention consists of a substantially flat massaging body of great weight and with a bowl-shaped massaging surface, and a handle extending in the direction of its axis and the novelty in the invention consists in the correct proportioning of the dimensions and the choosing of the correct material to avoid the drawbacks of the previously known apparatuses. To this end the massage implement according to this invention consists in a solid heavy mass with a bowlshaped working surface, and a rigid short handle on said mass extending substantially in the axial direction of same, the weight of the mass in itself being large enough

to exert the substantial part of the massaging pressure, and the body being so flat that it will resist tipping with a substantial force.

A stretching action in conjunction with a pressure action will be insured by this construction, and the following advantages will thus be obtained:

(1) The stiff massaging body will when the handle is moved force itself deep into the stomach, especially when it is tipped over.

(2) Due to the fact that the center of gravity is well below the center of curvature of the massaging surface, this must be raised when the body is tipped over to the side, consequently the person using the apparatus is forced to exert a pressure against the handle to resist the tendency of the apparatus to assume the normal position with the handle pointing up. The horizontal component of this force will stretch the stomach skin and the intestines in the direction of incline of the apparatus at any time and by moving the handle in suitable curves the stomach skin and the intestines are forced to be stretched in varied directions, and due to this fact the result of the massage is not only a pressure on the stomach but also a kneading and a stretching action are very desirable as well for the glands as for the intestines and the skin itself, from which fat thereby will be removed. If it is assumed that the stomach skin will be stretched about one inch in each direction, an additional area of the stomach will be worked which will correspond to this stretching.

(3) The vertical component of the force against the handle to prevent it from turning back to normal position will add substantially to the pressure of the apparatus against the surface to be massaged.

(4) Due to the fact that the apparatus will work a substantially greater area than its own working surface and that the hand pressure against the handle necessarily must increase the pressure against the surface to be massaged (see points 2 and 3) the apparatus itself may be made smaller and of less weight for a given result wanted than with previously known apparatuses.

It will be understood that the above mentioned effects will be increased as the center of gravity of the mass of the massaging body is lowered towards the massaging surface of same. Further the results will be increased by making the handle as low as possible. By experiments it has been found that the upper limits for good results can be given by stating that the height of the

handle must not be more than one and two tenths times the greatest horizontal diameter of the massaging body, and that the average thickness of the massaging body must not be more than
 5 one half of the greatest horizontal diameter of the said body.

With an apparatus of the type described it is possible for a person in bed to perform on himself the necessary massage on the stomach without the weight of the apparatus being uncomfortable. The weight of the apparatus may of course be varied according to the person for which it is designed, thus for a child a weight of 5 lbs. may suffice well, for grown up persons the
 10 weight may be increased up to for instance 15 lbs.

In order that the invention may be fully understood it will now be described with reference to the drawing illustrating a preferred embodiment
 20 of the invention.

In the drawing 1 denotes the massaging body, which preferably may be symmetrically formed around the central axis, as for instance in the form of a flat bowl made of solid heavy material
 25 as lead or the like, whereby the center of gravity will get a low location. The massaging body may be covered by a soft heat insulating material 2 of rubber cloth or the like, and has a stiff handle 4 for instance in the shape of a ball, suitable to be gripped with the hand. According to the invention the center of gravity of the apparatus must be low in relation to the working surface of the body, so that the center of gravity 5 must be raised or elevated according to the line 6
 30 when the apparatus is tipped over to the side as shown in dotted lines, and when it is assumed that it is resting on a stiff plain surface. From the position shown with dotted lines the apparatus consequently with great force will tend to
 35 return to normal position.

Assuming that the pressure of the hand against the ball 4, when the apparatus is worked, is normal to the axis of the apparatus, the following

expression can be set up for the equilibrium of the apparatus in any position.

$$S \times a = P \cdot b$$

or

$$S = \frac{P \cdot b}{a}$$

where

S=the force of the hand.

a=the power arm for the tipping around the tipping point. 10

P=the weight of the apparatus.

b=the power arm of the center of gravity about the tip-point.

The horizontal component of the hand pressure S will in this example correspond to: 15

$$S \times \cos. \varphi - \frac{P \cdot b}{a} \cos. \varphi = ca. 0,5P$$

when φ is assumed to be about 30° .

The horizontal component will thus in this example correspond to about one half of the weight of the apparatus. The massaging pressure will increase with $S \sin \varphi$ or in this example with about one third of the weight of the apparatus. 25

I claim:

An article of manufacture for the purpose of massaging large body surfaces comprising a squat, substantially circular, solid body of heavy metal, the under side of said body constituting the working surface, said under surface being
 30 convex and increasing in curvature from the center toward the edges thereof, the upper side of said body being substantially flat and having a short rigid upstanding handle mounted thereon, the average thickness of said body in a vertical
 35 direction being not more than one half the horizontal diameter of said body, the center of gravity of the body being a substantial distance below the upper flat surface of the body, and the weight of said body in itself being substantially great
 40 enough to exert the necessary massaging pressure.

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