

UNITED STATES PATENT OFFICE

2,448,797

DEVICE FOR EXERCISING AND TREATING FEET

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Application September 6, 1943, Serial No. 501,353

3 Claims. (Cl. 128—24.3)

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This invention has to do with a device for exercising and treating feet, an object of the invention being to provide an extremely simple, effective and practical device of this character.

Many people suffer from ailments of the feet for which applications of heat or cold are prescribed, or for which exercise or massage is prescribed. It is generally recognized that massage and exercise of the feet and the application of heat or cold are not only beneficial for the relief of foot ailments but are beneficial for the general care and comfort of the feet, as they are means by which the muscles of the feet are exercised and by which normal circulation is induced.

It is an object of this invention to provide a device of simple form and construction, operable to effectively massage and exercise the feet. The device of the present invention is of the roller type and is characterized by a roller surface configuration which not only gives the feet general exercise but at the same time has a desirable massaging effect.

Another object of this invention is to provide a device of the character referred to having a structural formation or arrangement of parts whereby the device can be advantageously formed of glass and yet be strong and in no way dangerous to use. It is particularly advantageous to be able to use glass in the formation of the device as such material lends itself to cheap construction due to the fact that glass is readily manufactured into the form desired. It is further advantageous to use glass as it provides a smooth surface having characteristics highly desirable for the purpose intended. It is also desirable to employ glass as it will readily conduct heat and can be very easily cleaned.

Another object of the present invention is to provide a device of the character mentioned which will readily receive a heating or cooling medium such as water or ice in a quantity and so as to be particularly effective. A feature of the construction that I have provided is the manner in which the device will readily receive chunks of ice.

The various objects and features of my invention will be fully understood from the following detailed description of a typical preferred form and application of my invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a side elevation of a typical form and application of the present invention, showing the manner in which the several rollers of the device simultaneously bear on a common supporting surface, part of the device being shown in section. Fig. 2 is an end elevation of the device being a view taken as indicated by line 2—2 on Fig. 1. Fig. 3 is a detailed transverse

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sectional view of the device taken as indicated by line 3—3 on Fig. 1 and indicating the manner in which the device is used. Fig. 4 is an enlarged detailed sectional view taken substantially as indicated by line 4—4 on Fig. 1 and Fig. 5 is an enlarged detailed sectional view taken as indicated by line 5—5 on Fig. 1.

The device provided by my present invention is, generally, in the form of an elongate hollow cylindrical body closed at one end by a fixed or integral end wall 10 and at the other end by a removable cap 11 and having its exterior shaped or formed to present end rollers 12 adjacent the ends of the device, a center roller 13 at the middle or center of the device and tread portions A and B between the rollers.

The body being a hollow elongate cylindrical structure closed at one end and provided at the other end with a removable cap, is in the nature of a container suitable for carrying a heating medium or cooling medium as circumstances require. The opening or cavity 14 of the body may be uniform in size throughout its length and may be formed round in cross section and concentric with the longitudinal axis of the device or as shown in the drawing it may conform generally or closely to the general outside contour of the device to facilitate manufacture and to provide equal surface temperature at all parts of the device. In practice the cavity 14 is made as large in cross section as is consistent with having sufficient wall thickness to safely withstand the pressures to which the device is subjected in the course of use.

At the end of the body which is closed by the cap 11 a flange 15 projects beyond the end roller 12. The inner surface of the flange 15 is continuous with that of the cavity 14 so that there is no restriction of any kind at the open end of the body. The exterior of the flange is formed with a thread 16. The cap 11 is made to screw thread onto the flange 15 and, in practice, a suitable gasket or washer 17 may be provided to make a fluidtight seal when the cap is applied as shown in the drawings. In practice the cap may be formed of any suitable material, for instance, it may be metal or it may be formed of glass, plastic, or other material as circumstances require.

The end rollers 12 are preferably located at the extreme end portions of the body and are located concentric with the longitudinal axis of the body and are sufficiently large in diameter to serve with the center roller 13 to support the device on a surface S so that all of the other parts of the device are free of the surface. With this construction the device is effectively supported at three points, that is, at either end and at the middle, so that it is free to roll. By making the rollers all alike in diameter the device will roll straight, that is, it will be without tendency to

turn or move in other than a straight line when operated. In the preferred form of the invention the surfaces of the rollers 12 and 13 are preferably roughened or stippled so that the device will not readily skid or slide over a surface S.

The treads A and B apart from being oppositely disposed as shown in Fig. 1, are alike in design and construction. Each tread extends continuously from the center roller 13 to the end roller 12, is round in cross section and concentric with the longitudinal axis of the device. The tread varies in diameter at different points in its length or in other words, is longitudinally curved to have a portion X pitched to correspond, more or less, to that of the arch portion of the average foot. The end portion of the tread adjacent the end roller 12 curves outwardly from the point of minimum diameter as clearly shown in Fig. 1, to prevent a tendency for the foot to slide off of the pitched portion X.

In accordance with my invention each tread instead of being plain or smooth surfaced is provided with means to effectively knead or massage the foot as the device is operated. This means is preferably in the form of a plurality of longitudinally disposed ribs 20 formed on the exterior of the tread and extending continuously from the center roller 13 to the end roller 12. The crests or outer portions 21 of the ribs are rounded off and the valleys or depressions between adjacent ribs are rounded so that the periphery of the tread is, in effect, corrugated, as shown in Fig. 3.

My invention further provides for the interruption of the ribs to minimize any tendency for the user's foot to slip longitudinally of the ribs and to further act to knead or massage the foot in the course of operation of the device. By my invention I provide angularly disposed notches 23 in the crest portions of the ribs so that the ribs are corrugated longitudinally as clearly shown in Fig. 4 of the drawings.

Through the construction hereinabove described it will be apparent that I have provided a massaging surface on the tread portion which is corrugated circumferentially and also longitudinally so that the device has a very effective massaging action. It is to be understood of course that the ribs, as above described, are cast or formed in the shape or configuration described and are smooth surfaced so that they will not in any way injure or irritate the feet.

To use the device it is preferably placed on the floor or on a surface S and may for general purposes be left empty when in use. The user places either one or both feet on the device, placing the left foot on the tread left of the center roller 13, and the right foot on the tread at the right of the center roller 13. By rolling the device by means of the feet so that it rolls back and forth under the feet the muscles of the feet are effectively exercised and the surface of the treads which I have provided operate to effectively massage the feet. If it is desired to cool or chill the feet a suitable cooling medium may be filled into the device and the cap 11 applied, for instance, ice or ice water may be filled into the device, in which case the glass or like material out of which the device is preferably formed quickly becomes cool. By forming the cavity 14 so that it has no restriction at its outer or open end it is possible to fill large bodies or chunks of ice into the device. If it is desired to heat or warm the feet hot water, or the like, may be

filled into the device and the cap applied, in which case the device becomes warm.

It is to be understood, of course, that although I prefer to form the device of the present invention of glass, other materials may be used, it being preferred in practice to use a material that can be cast as the structure of the invention lends itself particularly to that mode of manufacture. It is also to be understood that the device is preferably formed so that there are no sharp corners or parts that might injure or irritate the user and it is also to be understood that the wall thickness of the body is, in any particular case, to be made sufficiently heavy to withstand the use to which the device is intended to be subjected.

Having described only a typical preferred form and application of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any variations or modifications that may appear to those skilled in the art or fall within the scope of the following claims.

Having described my invention, I claim:

1. A device of the character described including an elongate hollow body having spaced roller portions and a tread portion between the roller portions and concentric therewith, there being longitudinal ribs projecting from the tread portion, the crest portion of each rib having diagonally disposed notches, the ribs being uniformly spaced around the tread portion and the notches being uniformly spaced and equally pitched.

2. A device of the character described including an elongate hollow body closed at one end and open at the other end, the body having an end roller at each end, a center roller intermediate its ends, a tread portion between each end roller and the center roller, and a closure for the open end of the body, each tread having longitudinally disposed transversely notched ribs projecting from it, a threaded annular flange at the open end of the body, and a cap threaded to the flange.

3. A device of the character described including an elongate hollow body having spaced roller portions with one of said roller portions adjacent each end of the device, a tread portion between each two roller portions and concentric therewith, there being longitudinal ribs projecting from each such tread portion with smooth-surfaced irregularities on the ribs of a contour suitable for massaging a human foot as it is rolled thereon.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
D. 119,035	Lindgren	Feb. 20, 1940
1,343,432	Chadwick	June 15, 1920
1,481,038	Stephenson	Jan. 15, 1924
1,573,652	Snyder	Feb. 16, 1926
1,722,866	Snyder	July 30, 1929
1,822,370	Schroeder	Oct. 11, 1932
2,104,927	Hussmann	Jan. 11, 1938

FOREIGN PATENTS

Number	Country	Date
1,683	Great Britain	Dec. 22, 1894
167,205	Great Britain	Aug. 11, 1921
295,706	Great Britain	July 4, 1929
393,191	Great Britain	June 1, 1933
130,571	Switzerland	Feb. 16, 1929