

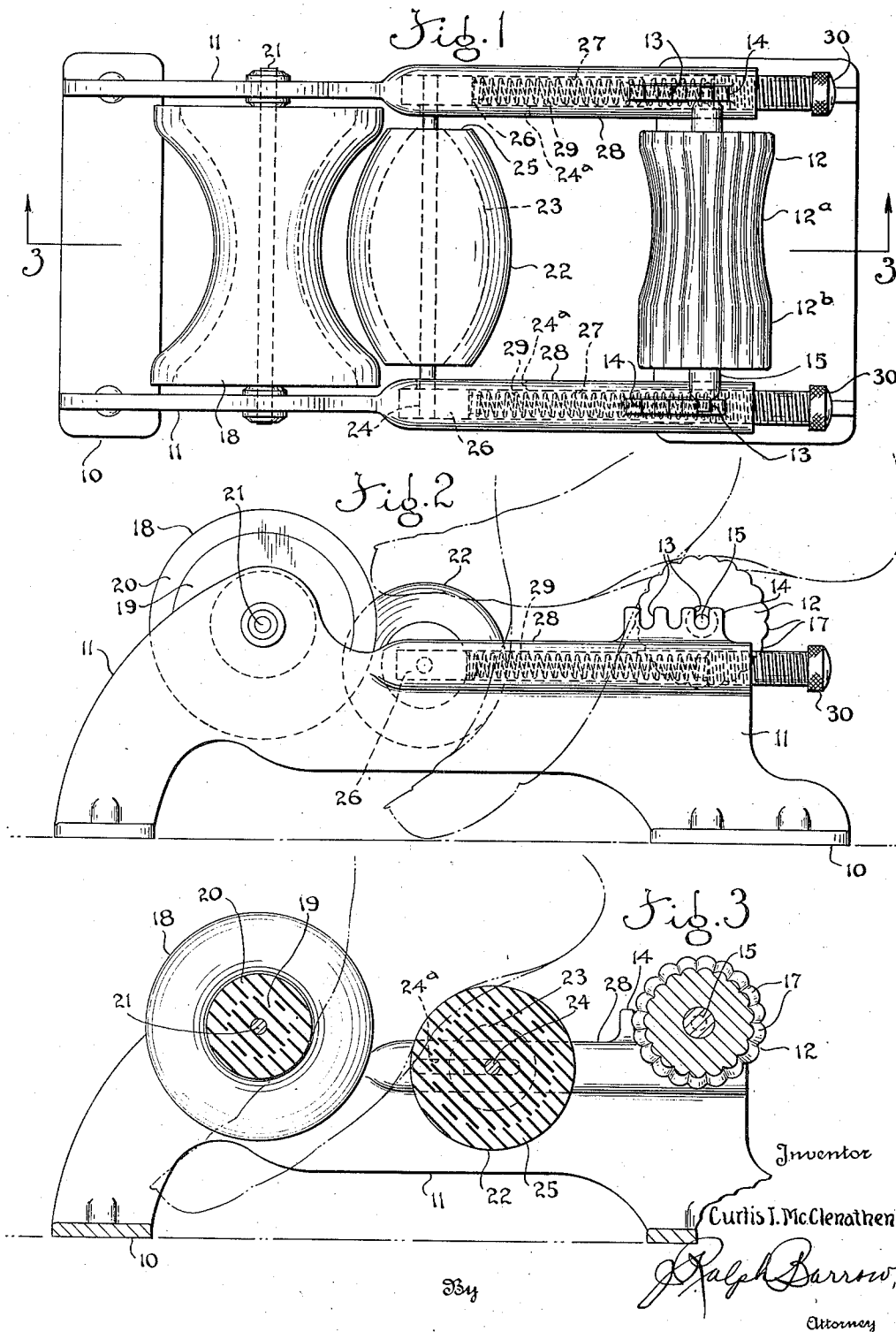
Feb. 4, 1941.

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2,230,890

FOOT EXERCISER AND MASSAGER

Filed June 17, 1937



UNITED STATES PATENT OFFICE

2,230,890

FOOT EXERCISER AND MASSAGER

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Application June 17, 1937, Serial No. 148,692

2 Claims. (Cl. 128—57)

This invention relates to apparatus for massaging and exercising parts of the body, and has particular relation to apparatus for massaging and exercising the hands and feet.

5 The principal object of the invention is to provide apparatus by means of which the feet and hands may be massaged or exercised with results heretofore only accomplished by the skilled manipulation of a masseur or masseuse.

10 Another object of the invention is to provide apparatus by means of which one may, with a few simple motions of the member to be treated, effectively massage or exercise the feet or hands without the aid of a skilled manipulator.

15 Another object of the invention is to provide a device by means of which adhesions in the foot or hand may be gently broken down, and by means of which displacements and contractures, such as common displacements and contractures of the metatarsals and metatarsal arches, may be corrected.

Another object of the invention is to provide apparatus for treating members of the body, such as the feet and hands, by employing the principle of a lymphatic pump for stripping out the lymph and venous circulation from the treated part and drawing fresh red blood from the deep arteries supplying that part, resulting in a relaxation of the muscles of the treated member and consequently greatly benefitting other parts of the body.

30 Another object of the invention is to provide apparatus, for massaging and exercising the feet and hands, in which the pressure applied thereby becomes increasingly greater as the larger bones of the feet or hands pass into the apparatus whereby these parts of the body are most effectively massaged and flexed to their natural condition.

40 Another object of the invention is to provide a foot corrective device for relieving discomforts of the feet.

Another object of the invention is to provide a device of the character described which is simple in construction and operation, inexpensive, and effective.

These and other objects will be manifest from the following brief description and the accompanying drawing.

50 Of the accompanying drawing:

Figure 1 is a plan view of apparatus embodying the invention.

Figure 2 is a side elevation thereof.

Figure 3 is a cross-section on line 3—3 of 55 Figure 1.

In describing the apparatus, particular reference will be made to its use for treatment of the feet, but it is obvious that the device may also be used for similarly treating the hands.

Referring to the drawing, 10 is a base member having a pair of side frames 11, 11. Rotatably mounted in the frames 11, adjacent one end thereof, there may be a roller 12 which may be relatively hard material, rubber, composition, metal or wood. If desired this roller 10 may be made adjustable as to location, to accommodate different sizes of feet being treated by providing a plurality of grooves 13, 13 in upwardly extending lugs 14, 14 on the frames 11, these grooves being adapted to journal the 15 ends of a shaft 15 of the roller 12. The roller 12 is formed with a concave portion 12^a which may be off-set with respect to the median line of the apparatus to receive the bottom of the foot and with a raised portion 12^b for fitting in the tarsal arch of the foot, and this conformity may be complied with for the opposite foot by simply reversing the roller. Roller 12 is also preferably formed with nodes 17, 17 on the surface thereof to make its massaging action 25 more effective and to provide a non-skid.

Rotatably mounted in the frames 11 at the opposite end from the roller 12 is a concave roller 18, which may be formed by vulcanization with a core 19 of hard rubber and an outer layer 20 of relatively soft rubber. The core 19 may be bonded to a shaft 21 journaled in the side frames 11. This roller 18 may be of soft cushioning material such as soft or sponge rubber throughout. 35

Intermediate rollers 12 and 18 and adjacent the latter is a convex roller 22. This may be barrel-shaped or ball-shaped and is preferably formed with an arc of relatively greater radius than the radius of the concave arc of the roller 40 18. The roller 22, like the roller 18, may have a central core 23 of hard rubber bonded to a shaft 24 and an outer layer of relatively soft rubber 25 bonded, as by vulcanization, to the core 23 or may be entirely of soft or sponge rubber. Shaft 24 is received through slots 24^a, 24^a and journaled in a pair of blocks 26, 26 slidably mounted in bores 27, 27 in enlarged portions 28, 28 on the side frames 11. It is desirable to urge rollers 18 and 22 relatively 50 together by yielding means. For yieldingly urging the roller 22 toward roller 18, springs 29, 29 acting between the blocks 26 and a pair of adjusting screws 30, 30 at the outer end of the bores 27, may be provided. By adjusting the 55

screws 30, it is possible to regulate the spring tension against the roller 22, either according to size of the member being treated or the amount of pressure the user is able to withstand. Of course, it is understood that other means than the springs 29, such as rubber cushioning means, may be utilized for urging the roller 22. It is also possible that the roller 22 may be mounted on a fixed axis, the resiliently of the roller material being then relied upon for yielding pressure and to allow for the varying thicknesses of members being treated. It will be understood that relative yielding movement is the ultimate object of the yielding mounting shown and that either or both rollers may be mounted to yield or to exert yielding pressure upon the part of the body being treated.

In the course of a treatment for displacements and contractures of the metatarsals and metatarsal arches, the patient first stimulates the blood circulation in the foot by rolling the arches over the roller 12, as indicated in chain-dotted lines in Figure 2, using as much pressure thereon as possible. During this part of the treatment the high part of the arch should be over the raised portion of the roller 12 indicated at 12^b (Figure 1), the lowermost part of the arch being at the same time pressed into the concaved part 12^a of the roller so that the roller substantially fits the transverse contour of the tarsal arch.

The treatment is continued by rolling the foot over rollers 12 and 22, and then thrusting it gently between the rollers 22 and 18 against the yielding action of the springs 29, bearing down lightly upon the convex roller 22 (see chain dotted position in Figure 3). Upon withdrawing the foot it is rolled backwards over rollers 22 and 12, and at the end of the backward stroke it is rolled forward again, but this time is thrust between rollers 12 and 22 passing the upper surface of the foot and instep under the roller 22 with a gentle upward pressure thereon simultaneously with gentle downward pressure of the tarsal arch on roller 12 (see chain-dotted position in Figure 2). This treatment may be repeated with rhythmic alternate thrusts between rollers 22 and 18 and rollers 12 and 22, at all times maintaining contact between the foot and the apparatus.

Some notable results from the above outlined foot treatments are a natural alignment of the bones of the toes with their respective metatarsals, a correct shaping of the metatarsal arch, a desirable separation and outward rolling of the phalanges and metatarsals from the median line of the foot, and an inverse flexion and reverse rotation of the phalanges and metatarsals such as heretofore could only be accomplished by a skilled masseur or masseuse. This treatment causes the bones of the tarsal arch to be raised and tend to lift into position.

During these operations the pressure applied by the rollers becomes increasingly greater as

the larger bones of the foot and hands pass between the rollers whereby these parts are most effectively massaged and flexed to their natural condition.

The treatment, in addition to exercising the members and inducing flexibility thereof, employs a principle of a lymphatic pump for definitely stripping out the lymph and venous circulation from the treated part. This produces a definite drainage of blood from the treated area and results in the drawing of fresh red blood from the deep arteries supplying that area. The resultant effect is a relaxation of the muscles of the feet, calves of the legs, thighs, pelvis, abdomen, and of the entire musculature of the body, thus tending to permit misplaced bones to slip back to their normal relationship and restoring normal tone of feet, legs, thighs, benefiting body balance and the health in general. Thus it is readily seen that with the apparatus described a person unskilled in the art of massaging may easily treat his own hands or feet, or those of others, in a manner heretofore only accomplished by an expert masseur or masseuse.

It should be understood that the use of the apparatus is not restricted to the specific mode of operation herein described. The rollers 12, 18 and 22 may be used in various ways either singly or in combinations of rollers 22 and 12 or rollers 18 and 22, as for example, an expanding flexion of the phalanges can be accomplished by thrusting the foot or hand between rollers 18 and 22, against the action of springs 29, from a direction opposite to that shown in chain-dotted lines in Figure 3.

Modifications of the invention may be resorted to without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. In a device for massaging and exercising the foot, a frame having horizontally arranged therein a pair of relatively movable rollers, a third roller in the frame and spaced horizontally of the pair of rollers and over which the foot may be rolled and from which the foot may be urged between said relatively movable rollers, and means for yieldingly urging said relatively movable rollers together in closely spaced relation, one of said relatively movable rollers being convex and the other being concave.

2. In a device for massaging and exercising the foot, a frame, a concave roller, in the frame a convex roller, in the frame means for yieldingly urging said rollers toward each other and a third roller in the frame adjacent said convex roller, said rollers being horizontally arranged whereby the foot may be rolled over the third roller and from and between said concave and convex rollers against the yielding pressure of said rollers or under said convex roller, said yielding means having an adjustment thereon for varying the yielding pressure of said rollers.

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