

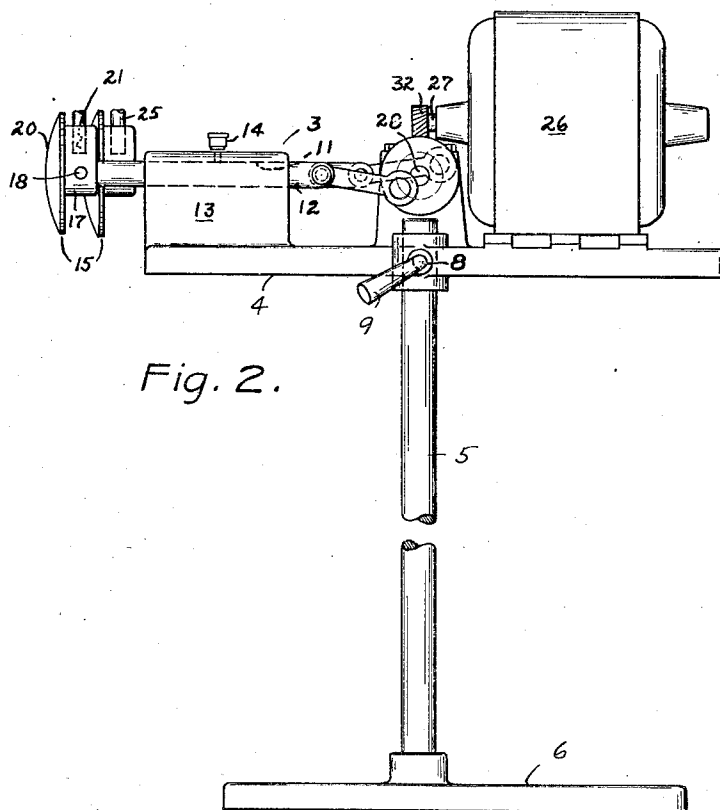
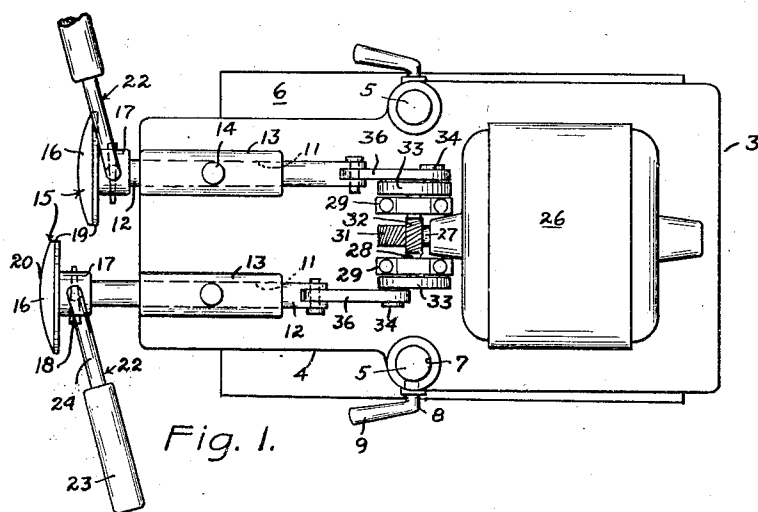
Nov. 24, 1931.

H. W. ANDERSON

1,833,103

REDUCING AND EXERCISING MACHINE

Filed Sept. 20, 1927



INVENTOR.
HUGH W. ANDERSON
BY *Joseph B. Gardner*
ATTORNEY

UNITED STATES PATENT OFFICE

HUGH W. ANDERSON, OF HOLLYWOOD, CALIFORNIA, ASSIGNOR TO HEALTH DEVICES, INC., OF CINCINNATI, OHIO, A CORPORATION OF OHIO

REDUCING AND EXERCISING MACHINE

Application filed September 20, 1927. Serial No. 220,700.

The invention relates to a mechanically operated device arranged for effecting the reduction of the size of fleshy parts of the human body and exercising these and other parts of the body.

An object of the invention is to provide a device of the character described which is operable as a reducing and exercising means directly against a body part to be treated.

Another object of the invention is to provide a device of the character described having means for effecting a reducing and tonic exercising of the arms in variable and adjustable degrees.

A further object of the invention is to provide a device of the character described which will effect the desired results in a minimum of time.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawings and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawings.

Figure 1 is a plan view of the machine.

Figure 2 is a side view of the machine.

As herewith particularly disclosed, the operative parts of the machine 3 of my invention are mounted on a frame 4 which is carried for vertical adjustment on a pair of standards 5 extending upwardly in parallel relation from a common base 6. Vertical perforations 7 are provided at opposite sides of the frame for the reception of the standards, and the frame is arranged to be fixed in desired adjusted position along the standards by means of set-screws 8 threadedly mounted in the frame for engagement against the standards and preferably provided with radially directed handles 9 for facilitating their release or tightening.

Mounted in suitable bearings 11 at a forward end of the frame for longitudinal reciprocation in a common horizontal plane are

rods 12, such rods being preferably parallelly related. The rods, it will be noted, may be of any desired section and the bearings 11 therefore are shown provided in parallel frame portions 13 terminating at the end of the frame and of less length than the rods whereby the latter may extend from both ends of the former. To effect a lubrication of the rods, each frame portion 13 is preferably perforated from above to provide an oil passage leading to the bearings 11, and an oil or grease cup 14 is preferably provided for such passage for facilitating the necessary lubrication of its rod.

Fixed on the outer extremities of the rods 12 are like members 15, such members comprising portions 16 of generally discate form having extended from one side thereof sleeve portions 17 having their bores arranged for the reception of the rod ends. Means are provided for fixing the members 15 to the rods, and, as here shown, such means comprises tapered pins 18 driven into appropriate registering perforations provided through each sleeve and its shaft. The applicator members 15, it will now be noted, are arranged to be disposed against a body portion to be treated and when so disposed are arranged to be alternately projected and withdrawn in alternate order, the motion and pressure effects thus imparted to the flesh having been found to serve as a particularly efficient reducing and exercising means. Since the flesh generally between the members 15 is acted on by both members to a greater or less extent, the opposed edge portions 19 of the portions 16 are preferably straight, such edges defining chords of the circles of the portions 16. The edge portions 19, it is noted, are preferably so disposed that when they pass they will be about three eighths of an inch apart, such distance having been found a practical minimum to prevent pinching of the flesh between the members. The outer surfaces 20 of the portions 16 are preferably slightly convex, such shaping of the members assisting in maintaining their "centered" relation of the body part to be treated.

The members 15, it will be noted, are held against rotation and are provided on their

upper sides with sockets 21 in which members 22 are arranged to be pivotally and releasably engaged. Each member 22, it will be noted, comprises a handle grip 23, a rod-like shank 24, and a socket engaging portion 25, the latter portion being pivotally engageable in the socket and disposed substantially at right angles to the shank 24, and the relation of the parts being such as to allow the independent disposal of the shanks 24 to lie in various positions with respect to the rod axes between and including a perpendicular and a parallel relation to such axes. The members 22 are particularly designed for effecting an exercising movement in the arms and the user of the device obtains such exercise by grasping the grips 23 and disposing the shanks 24 in a manner to receive a movement of desired amplitude, it being noted that when the members 22 are at right angles to the rod axes, their movement will be a minimum when the rods are reciprocated, while a maximum movement will be obtained when these members are parallel to the rod axes. It will now be clear that the reciprocative movement of the members 15 may directly be imparted to a body part to be treated through an engagement of their portions 16 therewith, or to the arms of a user through the members 22.

Means are provided for actuating the members 15 in the desired manner and at a desired rate of movement, and as here shown such means comprises an electric motor 26 mounted on the frame 4 at the opposite end thereof from the mounting for the members 15 and with the shaft 27 thereof disposed in parallel relation to the rods 12. A crank shaft 28 is provided, such shaft being journaled in spaced bearing blocks 29 provided on the frame. The shaft 28 is arranged to be operatively connected to the motor shaft 27 by any suitable means, worm gears 31 and 32 being here shown mounted on the respective shafts for effecting such connection. The gear 31, it will be noted, is carried on the shaft 28 between the pedestals 29, and the shaft 28 is provided at opposite ends thereof beyond the pedestals with crank members 33 provided with crank pins 34 extending axially outwardly therefrom. As here shown the members 33 are discate, it being obvious, however, that they might be, if desired, in the form of radial crank arms. Connecting-rods 36 are provided for linking the inner ends of the rods 12 with the respective crank pins. Preferably, anti-friction means are provided at the various bearings of the operative connection provided between the motor and rods 12. To effect the opposite motions of the rods 12, the crank pins are provided in diametrically opposed relation to the crank shaft axis.

It has been found that best results are obtained when the members 15 are caused to

make eight hundred strokes per minute, and the ratio of gears 31 and 32 is therefore such as will effect the same for a given motor speed. Furthermore, the travel of the members 15 is desirably close to one inch, so that the eccentricity of the crank pins 34 would be half such travel. It will now be particularly noted that the type of reciprocative movement imparted to the members 15 by means of the crank shaft connections provided is of itself an important factor in the success of the device when used for the purposes for which it is intended, since speed of the members 15 is greatest at mid-stroke and is zero when the stroke direction changes whereby sudden and bruising shocks are avoided. The body engaging portions 16 of the members 15, it will be noted, are preferably formed of a hard, unyielding substance such as metal or vulcanite, such being permitted by the type of movement imparted by the particular type of drive provided. And it will also now be noted that the vertical adjustability of the frame 4 on its mounting is particularly important in that it permits a positioning of the device for most efficient operation thereof with respect to a body portion to be treated, it being obvious that when the device is applied to a given body part, such part should not be in a tensed or strained condition.

I claim:

1. In a reducing and exercising machine, a reciprocable member, means guiding said member for reciprocation in a fixed path, and a member pivotally secured to said first member for movement in a fixed plane with respect to the path of reciprocation of said first member and providing a hand grip at the free extremity thereof.

2. In a reducing and exercising machine, reciprocable members, means guiding said members for rectilinear reciprocation in fixedly related paths, applicators pivotally secured to said first members for movement about axes transversely and fixedly related to the paths of their members, said applicators being variously disposable about their axes whereby reciprocative movement imparted thereto by and upon a given reciprocation of said first members may be varied.

3. In a reducing and exercising machine, a reciprocable member, and a member having a hand grip pivotally secured to said first member for reciprocal movement when said first member reciprocates.

In testimony whereof I have hereunto set my hand at Oakland, California, this 3rd day of September, 1927.

HUGH W. ANDERSON.