Aug. 26, 1941. G. C. BULLOCH 2,253,758

EXERCISING DEVICE

Filed Sept. 16, 1940

Fig. 1.

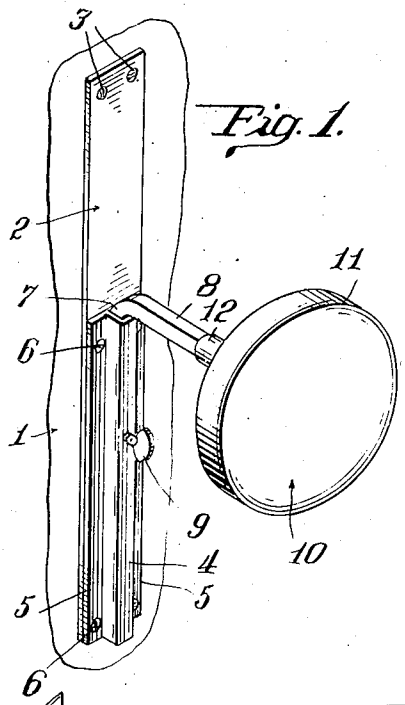



Fig. 2.

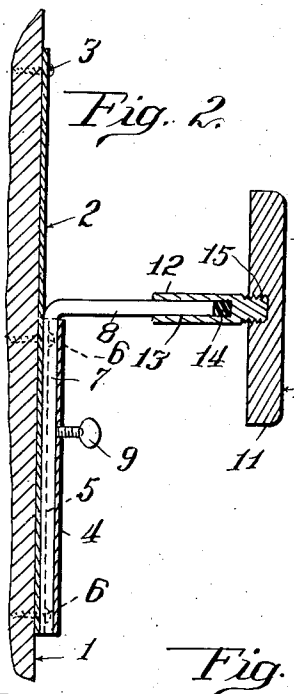



Fig. 3.

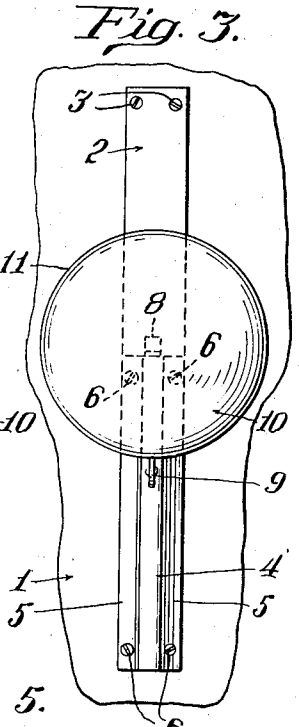



Fig. 4.

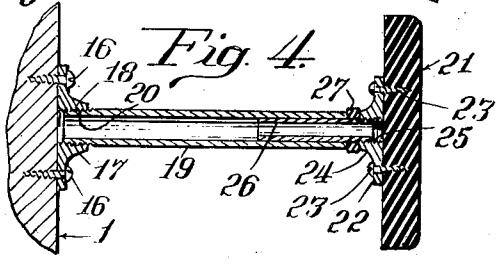



Fig. 5.

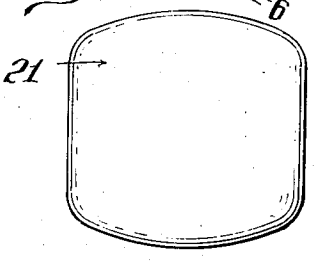



Fig. 6.

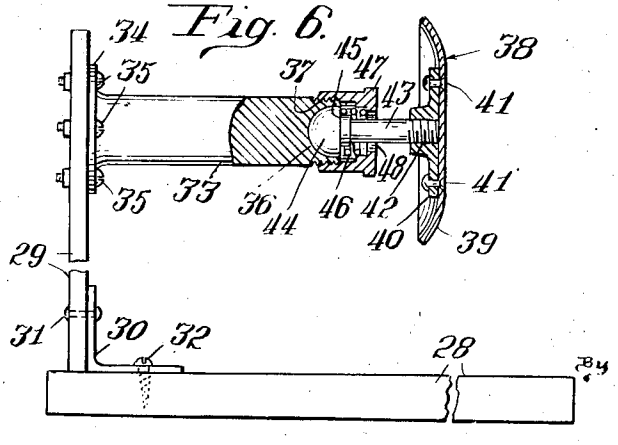
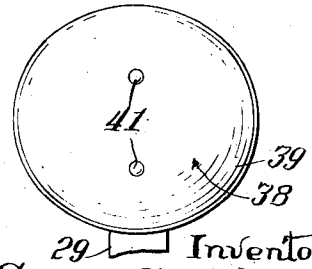



Fig. 7.




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# UNITED STATES PATENT OFFICE

2,253,758

## EXERCISING DEVICE

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Application September 16, 1940, Serial No. 356,988

7 Claims. (Cl. 272—57)

This invention is directed to new and useful improvements in exercising device of the type adapted to be installed in a gymnasium, home or office for use in maintaining and developing the physical fitness of the human body. It is further useful in correcting conditions of overweight by enabling the operator to directly effect a reduction of the fat especially in the region of the stomach.

The primary object of this invention is to provide a novel device of simple construction adapted to project from a wall or stand that will enable the operator to effectively and easily strengthen the abdominal muscles, rid the abdominal region of excess fat and maintain a generally beneficial physical condition.

Another object is to provide such a device that may be installed without difficulty, is ready for use at all times without preparation and is without maintenance or operation cost.

A further object is to provide such a device that may be safely used without injury to the operator.

Still a further object is to provide such a device that is readily adjustable to correct operative height and is easily removable for storage when not in use.

Still another object is to provide such an exercising device that will automatically adjust itself for correct operative position when in use.

Other objects and advantages will be apparent from the following detailed description.

In the drawing:

Fig. 1 is a perspective view of a device embodying this invention installed on a wall.

Fig. 2 is a vertical sectional view of the structure shown in Fig. 1.

Fig. 3 is a front elevation view of the device shown in Fig. 1

Fig. 4 is a vertical sectional view of another form of a device embodying the invention.

Fig. 5 is a front elevation of the device shown in Fig. 4.

Fig. 6 is a vertical sectional view of another embodiment of this invention.

Fig. 7 is a front elevation of the device shown in Fig. 6.

In detail, 1 is a wall against which is secured plate 2 by means of screws 3. A channel shaped securing member having a central hollow U-shaped portion 4 and laterally extending flanges 5 is fastened to the lower end of plate 2 by means of screws 6 which project through plate 2 and into wall 1. Normally the upper end of portion 4 will be from about two and one-half to three feet from the floor of the room in which it is installed. A square supporting arm having a depending portion 7 and a horizontally disposed portion 8 is held by the channel shaped member, the depending portion 7 fitting into the hollow U-shaped portion 4. A set screw 9 is positioned through portion 4 to bear against depending portion 7 so that the supporting bar may be adjustably held at different heights. The upper part of plate 2 will provide support at all heights. The abdominal plate 10 is supported on the outer end of the horizontal part 8 of the supporting bar. Its outer edge 11 is curved so as not to present a sharp edge that may injure the operator. Plate 10 is mounted by means of a stem or bar 12 which is partially hollowed to provide a rectangular recess 13 for receiving the outer end of 8. A slightly compressible rubber plug 14 is positioned at the inner end of recess 13 to act as a cushion between the plate 10 and the supporting bar when the device is used. The outer end of bar 12 is threaded and the plate 10 is provided with a centrally positioned threaded recess 15 whereby the plate and the bar are secured together.

In use the operator adjusts the height of the plate 10 so that it is about level with the operator's abdomen. Then standing a short distance from the plate, for example from two to six inches, the operator allows himself to fall from the perpendicular toward the plate 10 until the plate contacts the abdomen. In this position the operator is off-balance and is leaning toward the wall 1 and is prevented from falling against the wall by the plate 10 pressing against his abdomen. Immediately the fall is thus stopped the operator returns himself to normal, perpendicular position solely by pushing against plate 10 with his abdominal muscles and by inhaling at the same time, and when he has thus regained perpendicular position he again allows himself to fall against the plate as first described and then at once again pushes himself to normal position and this operation is continuously repeated until the desired exercise has been obtained. Obviously the number of times this can or should be done at one time depends upon the physical condition of the operator as does the frequency of such exercise. It has been determined that from fifty to one hundred times twice a day, before meals, is beneficial, but it is apparent that as the abdominal muscles thus exercised become stronger and the fat reduced, the operator can far exceed these numbers and benefit accordingly. It has been found that the

use of this device will cause excess fat to rapidly disappear from the abdominal region and the muscles thereabout to become strong and firm. Obviously the plate 10 is to be moved to different heights to contact different parts of the abdominal region. The plug 14 provides only a minimum of cushioning effect between the plate assembly and the supporting assembly for it is undesirable to have much resiliency or "give" between the two. The plug 14 is more of a silencer than a cushion as it prevents the contact of metal against metal which otherwise would be noisy when the device is used. The plate 10 must provide a substantially rigid support against which the abdominal muscles act to push the body to perpendicular position. Some little cushioning effect however is desirable to lessen the complete rigidity of the device and the rubber plug provides just that. It is clear that a small heavy coil spring might be used in its place as well as other substitute cushioning and silencing substances. In the above described construction there is no locking means between the plate assembly and the support assembly and the plate assembly may be slid from the horizontal arm portion 8 at any time. The supporting arm may be removed from the wall by loosening the set screw 9 and withdrawing depending portion 7 from U-shaped portion 4. Thus it may be quickly dismantled so as to be out of the way when not in use.

Another embodiment of the invention is shown in Figs. 4 and 5 in which the device is fastened directly to the wall 1 by means of screws 16 extending through the sides of a bracket 17 that is provided with a central threaded portion 18. A pipe 19 is provided with threads 20 at one end by which it is screwed into threaded portion 18 of bracket 17.

The abdominal plate 21 is constructed of hard rubber which is secured to a bracket 22 by means of screws 23. This bracket is provided with a boss 24 having a central threaded portion 25. A stem or pipe 26 having an outer diameter slightly less than the inner diameter of pipe 19 has a threaded end by which it is secured in the threaded portion 25 of the bracket. A rubber washer or cushion 27 is positioned around pipe 26 and against boss 24. The plate 21 is removably held in operative position by pipe 19, the smaller pipe 26 fitting within pipe 19, and the end of pipe 19 positioned against rubber cushion 27. Some additional amount of resiliency is obtained in the use of the hard rubber plate 10 and it may bend slightly around the edges to accommodate itself somewhat to the contour of the body of the operator. The front elevation view of the plate shows the contour to be nearly rectangular with rounded corners rather than circular as shown in the structure illustrated in Figs. 1, 2 and 3. This shape is a matter of choice and may be most anything such for example as diamond shape, semi-circular, elliptical and the like.

Still another form of the device is shown in Figs. 6 and 7 in which the device includes a wooden platform 28 and a perpendicular metal panel 29 secured to the plate by means of angle iron 30, rivets 31 and screws 32. Such a structure may be used when it is not desirable to mount the device on a wall. The horizontal supporting arm 33 is provided with a flanged end 34 through which it is secured to the upper end of panel 29 by means of nuts and bolts 35. The outer end of arm 33 is provided with a semi-circular recess or socket 36 and the outer surface of that end of 33 is threaded as at 37. The plate 38 is formed of sheet metal, is of elliptical appearance as shown in Fig. 7 and is curved inwardly at its edge as shown at 39 to present a rounded edge which will not injure the operator. This plate is fastened to a bracket 40 by means of rivets 41 and bracket 40 is centrally threaded at 42. A stem 43 is provided with a threaded end by which it is secured to the threaded part of bracket 40. The other end of stem 43 is provided with a semi-circular knob 44 of greater diameter than stem 43 to provide a shoulder 45. The contour of knob 44 is substantially that of socket 36 so that it fits therein. A coil spring 46 surrounds stem 43 and abuts shoulder 45. A threaded cap member 47 having a central circular opening 48 of greater diameter than that of stem 43 is threaded onto the outer end of arm 33 and bears against spring 46 to hold it against shoulder 45. The method of effecting this assembly is to position the knob in the socket with the plate assembly unattached to stem 43. Then the spring 46 could be positioned around the stem and against shoulder 45. Then the cap 47 could be slid over the outer end of stem 43 and then threaded into the position shown in Fig. 6. The plate assembly could then be screwed onto the outer end of stem 43.

By means of this construction a certain limited movement of plate 38 is provided for so that it can automatically adjust itself to the correct position relative to the operator when the operator leans against it. The spring will provide sufficient friction to hold it in set position and the diameter of opening 48 determines the extent of possible movement. The top of cap 47 provides the stop for the movement of stem 43 so that the greater the size of opening 48, the greater the possible movement. The metal panel 29 is of such size as to provide the slight resiliency preferable to complete rigidity.

It should be well understood that the various modifications here shown may be variously combined such, for example, as mounting the structure of Figs. 1, 2 and 3 on a stand such as shown in Fig. 6 and providing the structure of Figs. 1 to 3 with a ball and socket joint as shown in Fig. 6. Also the device of Fig. 4 may well be mounted to the wall as shown in Fig. 1 or the plate 10 in Fig. 1 may be hard rubber as shown in Fig. 4.

I claim:

1. An exercising device comprising a curved abdominal plate, a vertical support, a vertically adjustable supporting arm extending outwardly from and secured to said vertical support, means holding said plate on the outer end of said arm in vertical position and means positioned between the plate and the support for providing a slight cushion between the two.

2. An exercising device comprising a vertical support, a supporting arm extending from said support and terminating at about abdominal height, an abdominal contact plate and means securing said plate to said arm in substantially vertical position and permitting limited movement of said plate relative to said arm.

3. An exercising device for the abdomen comprising a vertical support, a supporting arm extending away therefrom, an abdominal contact plate, a stem extending from said plate, said stem and arm being slidably joined together to support the plate in substantially vertical posi-

tion spaced from the vertical support and at about abdominal height from the floor.

4. An exercising device for the abdomen comprising a vertical support, a plate secured to said support, a channeled member secured to said plate below its upper end, an arm extending slidably into said channeled member and away therefrom, means for adjustably holding said arm at different vertical positions, and an abdominal contact plate secured to the end of said arm and spaced from said support.

5. An exercising device for the abdomen comprising an abdominal pressure plate, a vertical support, a vertically adjustable supporting arm extending outwardly from said vertical support, means holding said plate on the outer end of said arm in substantially fixed vertical position and cushioning means between the plate and the support for permitting a slight relative movement between the plate and the support when the user leans against the plate.

6. An exercising device for the abdomen comprising an abdominal pressure plate, a vertical support, a vertically adjustable supporting means holding said plate away from said vertical support in substantially fixed position, said vertically adjustable supporting means comprising a cushioning means for permitting a slight relative movement between the plate and the vertical support when in operation.

7. An exercising device for the abdomen comprising an abdominal pressure plate, a vertical support, a vertically adjustable supporting arm extending outwardly from said vertical support and means holding said plate on the outer end of said arm in substantially vertical position so as to provide a support for the user when he leans against the plate.

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