Jan. 4, 1966 E. H. BAKER ETAL 3,227,447

WALL MOUNTED EXERCISING MACHINE FOR USE WHILE STANDING

Filed Oct. 27, 1961 2 Sheets-Sheet 1

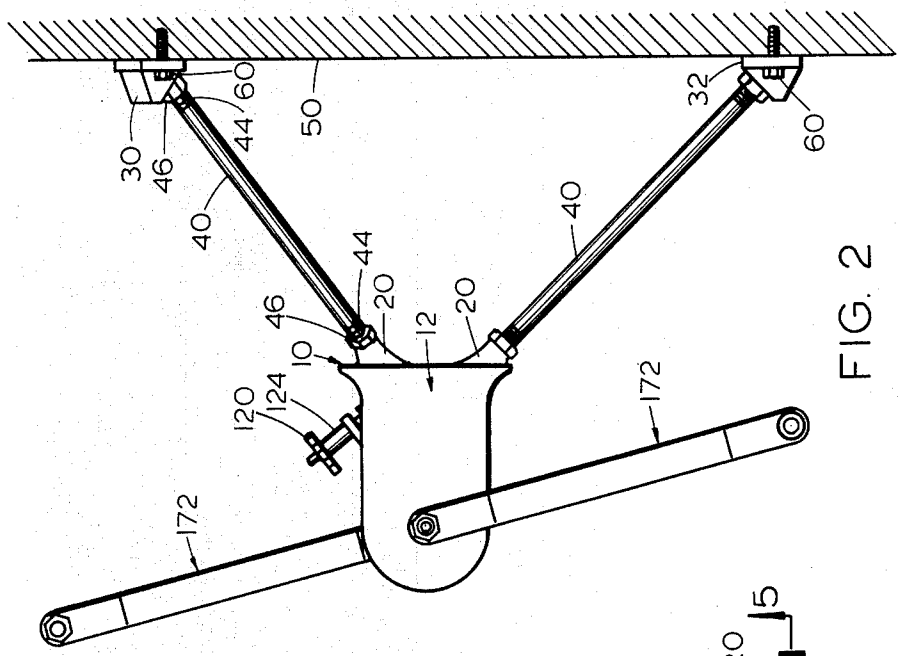


FIG. 2

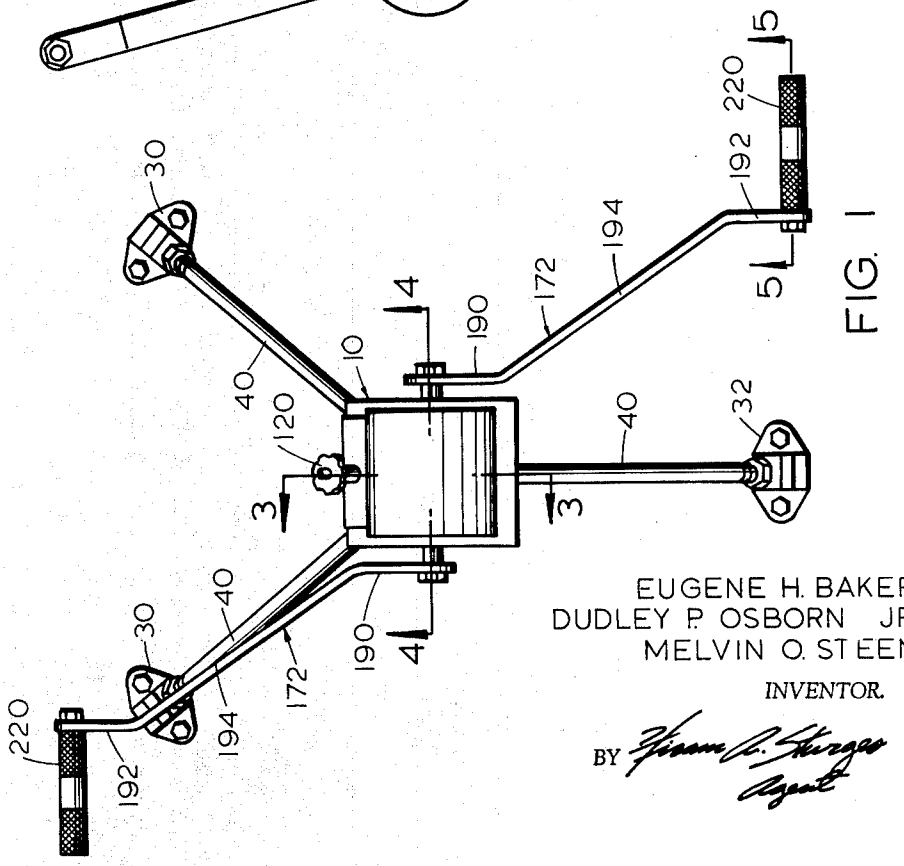


FIG. 1

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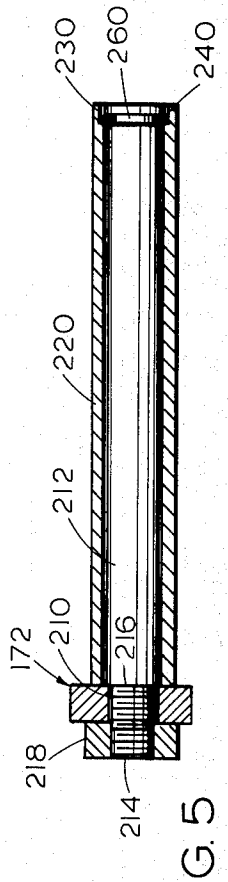


FIG. 5

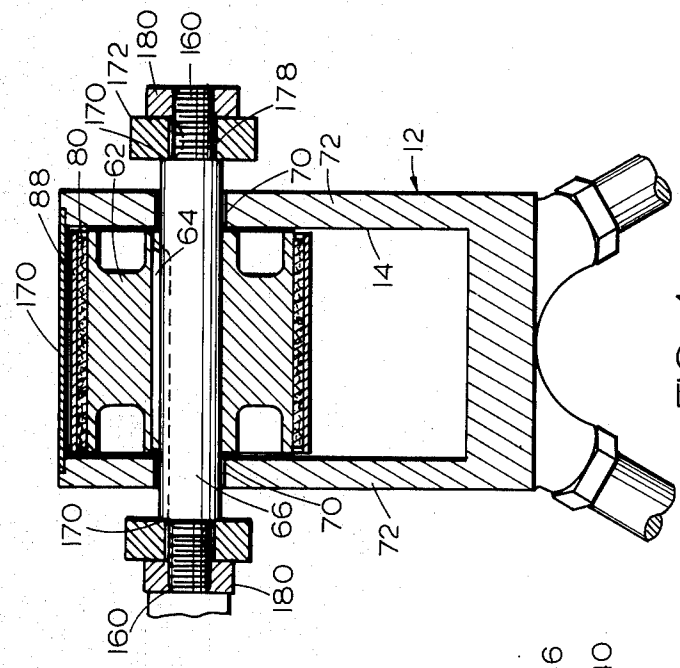


FIG. 4

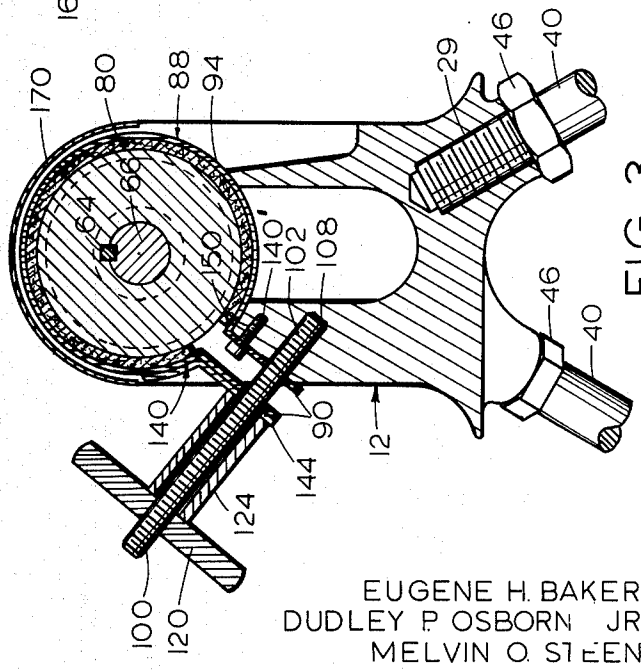


FIG. 3

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WALL MOUNTED EXERCISING MACHINE FOR USE WHILE STANDING

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2 Claims. (Cl. 272—79)

This invention relates to exercising machines and more particularly it is an object of this invention to provide an exercising machine which will exercise a maximum number of the muscles of the body, effectively, and with a machine of minimum cost.

A further object is to provide a machine with which muscles are exercised by rotating a drum against the resistance of a brake, and in which the resistance of the brake can be varied to provide a heavy resistance for the exercise of wrestlers, weight lifters, and similar athletes, and can be adjusted for a lighter resistance for the exercise of swimmers and athletes whose skill depends largely on speed, the machine being characterized by its being mounted on a wall high enough for a person to use it while standing up.

We realize that in the prior art machines of this general description have been proposed and it is an object to provide an exerciser which can be used while the person is standing up, not sharply bent at the waist, the machine being mounted not near the floor, but far from the floor. In such a position the lungs can breathe freely and internal organs are in a proper position.

This is much superior to a bent over position in which the lungs are compressed and adequate breathing is not possible, even the internal organs also being compressed as is not recommended.

It is our belief that when a man can exercise standing up on an exerciser of the type described herein, then there is the possibility of an upward pushing motion that utilizes, for example, a leg, side, shoulder, and arm, while at the same time, the other side of the body is exerting a downward pulling motion, the two, in combination, providing exercise of substantially all muscles used in any sport.

A further object is to provide a machine as described which is attachable to a wall whereby it does not occupy needed floor space and is thereby very securely anchored so as to be stable even when used vigorously.

A further object is to provide a machine which an operator can use while standing up so that arms, legs, and other muscles are exercised in the process of rotating crank handles against the resistance of a brake.

Other and further objects and advantages of the present invention will be apparent from the following detailed description, drawings and claims, the scope of the invention not being limited to the drawings themselves as the drawings are only for the purpose of illustrating a way in which the principles of this invention can be applied.

Other embodiments of the invention utilizing the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the purview of the appended claims.

In the drawings:

FIGURE 1 is a frontal elevation of the exercising machine of this invention shown as it would be attached to a wall, the wall not being shown.

FIGURE 2 is a side elevation of the machine of FIGURE 1 shown as attached to a wall.

FIGURE 3 is a sectional view taken along the line 3—3 of FIGURE 1.

FIGURE 4 is a sectional view taken along the line 4—4 of FIGURE 1.

FIGURE 5 is a sectional view taken along the line 5—5 of FIGURE 1.

The exercising machine of this invention is generally indicated at **10** in FIGURES 1 and 2, and has a body member **12**, which latter is hollow for providing an internal recess **14** as best seen in FIGURE 4.

The body member **12** has rearwardly protruding projections **20** which are disposed two at the top of the rearward side of the body member **12** and one at the bottom of the rearward side of the body member **12**.

Each projection **20** has a threaded bore **29** therein as best seen in FIGURE 3. The bores **29** are directed respectively in three directions toward two upper feet **30** and one lower foot **32**, respectively, which latter are disposed at the corners of a triangular configuration.

Each foot piece **30** and **32** is provided with a bore not shown, these bores being threaded and believed not needing illustration as they are similar to the bores **29** of the projections **20** and are in alignment therewith whereby the projections **20** and the feet **30** and **32** are adapted to receive opposite ends of each of three legs **40**, which are preferably two upper legs **40**, and one lower leg **40**.

The ends of each leg **40** are threaded as at **44** for receiving nuts **46** which tightly engage the respective projections **20** or feet **30** or **32** in order to hold the legs **40** firmly in place, since the threaded ends of the legs **40** are threaded to the bores of the projections **20** and feet **30**.

The feet **30** are suitably secured to a wall surface **50** such as by any suitable means and bolts **60** are shown attaching the feet **30** to the wall **50**.

Within the recess **14** of the body member **12**, a brake drum **62** is provided and is keyed by a key **64** to a shaft **66**, which latter is rotatably received in shaft openings **70** which are aligned with each other and which extend through respective sides **72** of the body member **12**.

It will be seen that the brake lining **80** is bonded to the brake band **88** and that the circular ends **90** are adapted to be drawn together for regulating the pressure of the brake by an adjustment assembly now to be described.

This adjustment assembly comprises an anchor shaft **100** which has a threaded end **102** threadedly anchored in an anchor recess **108** in the body member **12**.

The shaft **100** extends upwardly and outwardly from the body member **12** at a right angle to the parallel ends **90** of the brake band **88**.

The outer end of the threaded shaft **100** receives an adjusting knob **120** threadedly thereon whereby when the adjusting knob **120** is turned inwardly toward the body member **12**, an adjustment sleeve **124** disposed between the adjustment knob **120** and the adjacent end **90** of the brake band, tends to put a pressure on the said end **90** of the brake band through a brake band bracket **140** which latter has an outer portion **144** disposed in parallelism with the outer end portion **90** of the brake band **88**.

The inner end **90** of the brake band **88** is secured firmly to the body **12** by a securing bolt **140'** which is threadedly received in a suitable recess **150** in the body member **12**.

The outer end of the body member **12** is open except for a cover **170** which latter extends around the outer most part thereof and is suitably secured thereto, these parts being best seen in FIGURES 3 and 4.

Referring to FIGURE 4, it will be seen that the brake drum shaft **66** has threaded outer end portions **160** which are of lesser diameter for providing a shoulder **170** at each end against which the inner end of an arm **172** is received.

There are two arms **172** and the inner end of each has an opening **178** therethrough for receiving the threaded respective end **160** of the shaft **66** and the

inner end of each arm **172** is held in place thereon by one of two nuts **180**.

Each arm **172** has an innermost end **190** and an outermost end portion **192** which are disposed in parallelism and offset with respect to each other with the outermost end portion **192** of each arm offset farther to the side of the machine. The ends **190** and **192** are connected by interconnection portion **194** which latter extends at an inclination with respect to the vertical at times when the ends **190** and **192** are disposed vertically.

The outer ends of each arm **172** are provided with bores **210** therethrough for receiving a handle shaft **212**, of which there are two, each handle shaft **212** having a threaded inner end portion **214** of lesser diameter for receiving the arm **172** against a shoulder **216** formed thereby.

The arms **172** are forced against the shoulders **216** by nuts **218** received on the threaded ends **214** of the handle shafts **212**.

The handle shafts **212** are covered on their outer side by handle sleeves **220**, as best seen in FIGURE 5. The sleeves **220** snugly but rotatably receive the shafts **212**, except at their outer ends where the sleeves **220** are counterbored as seen at **230** to a larger diameter for the purpose of receiving a securing ring **240** therein which is adapted to engage in an annular groove **260** in the outer end of the handle shaft **212**.

As thus described, it will be seen that a person desiring to exercise adjusts the knob **120** so that the brake assembly comprising the brake band **88**, brake lining **80**, and brake drum **62**, is set for a desired resistance, then the operator stands with his feet on the floor, with his weight resting on the balls of his feet and leans toward the machine pushing upwardly and rotating the arms **194** as will give effective exercise to substantially all of the muscles of the body.

As thus described, it will be clear that this invention has provided an exercising machine fulfilling the objects above set forth.

From the foregoing description, it is thought to be obvious that an exercising machine constructed in accordance with our invention is particularly well adapted for use, by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that our invention can be changed and modified without departing from the principles and spirit thereof, and for this reason, we do not wish to be understood as limiting ourselves to the precise arrangement and formation of the several parts herein shown in carrying out our invention in practice, except as claimed.

We claim:

1. An exercising assembly comprising: a substantially vertical wall surface, a horizontal standing surface beneath said wall surface and extending to one side thereof, an exercising machine comprising a body portion, a brake drum shaft rotatably mounted in said body portion, a brake drum mounted on and fixed to said brake drum shaft for rotation therewith, a brake band means disposed about said brake drum, adjustable means operably correlated with said brake band means for drawing said brake band means tightly around said brake drum to resist rotation thereof, said adjustable means being operably fixed to said body portion, arms suitably fixed to the respective ends of said brake drum shaft for imparting rotation thereto, handles disposed at the outer ends of said arms, said handles each being rotatably mounted on a handle shaft connected to one of said arms and having central axes extending in parallelism with said brake drum shaft, whereby an operator by holding said handles in his hands can rotate said brake drum against said resistance for providing effective exercise, and means mounting said machine on said wall surface at a spacing from said wall surface for the free rotation of said handles, and at a spacing above said standing surface for the use of the exerciser by a person while gripping its handles with the hands and standing up, whereby the legs and arms can be exercised at the same time with the body torso in relatively straight position so that the lungs can expand normally and the internal organs of the midsection of the body are not cramped, said means mounting said machine comprising leg means attached to and extending from said body portion, said leg means having terminal foot means thereon spaced from said body portion and attached to said wall, said leg means being so positioned as to extend from the body portion to points on the vertical wall which are spaced substantially above, below, and to both sides of the exerciser, whereby the exerciser is attached to the wall so that it is securely anchored and stable even when used vigorously.

2. An exercising assembly comprising: a substantially vertical wall surface, a horizontal standing surface beneath said wall surface and extending to one side thereof, an exercising machine comprising a body portion, a brake drum shaft rotatably mounted in said body portion, a brake drum mounted on and fixed to said brake drum shaft for rotation therewith, a brake band means disposed about said brake drum, adjustable means operably correlated with said brake band means for drawing said brake band means tightly around said brake drum to resist rotation thereof, said adjustable means being operably fixed to said body portion, arms suitably fixed to the respective ends of said brake drum shaft for imparting rotation thereto, handles disposed at the outer ends of said arms, said handles each being rotatably mounted on a handle shaft connected to one of said arms and having central axes extending in parallelism with said brake drum shaft, whereby an operator by holding said handles in his hands can rotate said brake drum against said resistance for providing effective exercise, and means mounting said machine on said wall surface at a spacing from said wall surface for the free rotation of said handles, and at a spacing above said standing surface for the use of the exerciser by a person while gripping its handles with the hands and standing up, whereby the legs and arms can be exercised at the same time with the body torso in relatively straight position so that the lungs can expand normally and the internal organs of the midsection of the body are not cramped, said means mounting said machine comprising at least three legs of such lengths and so positioned as to extend from the body portion to points on the vertical wall which are spaced substantial distances above, below and to both sides of the body portion of the exerciser.

References Cited by the Examiner

UNITED STATES PATENTS

1,386,366	8/1921	Robertson	74—545
2,190,895	2/1940	Turpin	272—73 X
2,251,612	8/1941	Kohls et al.	
2,668,709	2/1954	Boyko	272—73 X
2,855,200	10/1958	Blickman	272—73
2,941,416	6/1960	Weaver	74—545 X
3,008,265	11/1961	Converse	272—73 X

FOREIGN PATENTS

407,263	3/1934	Great Britain.
1,183,652	1/1959	France.

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