July 14, 1925. 1,546,187

F. BACH

EXERCISING APPARATUS

Filed Oct. 18, 1924

Fig. 1,

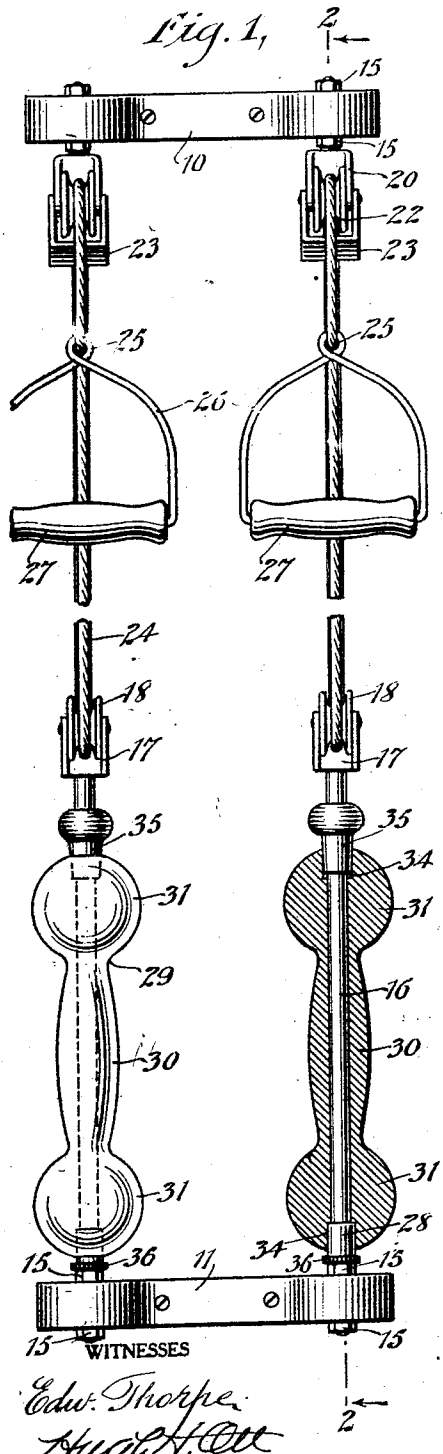


Fig. 3,

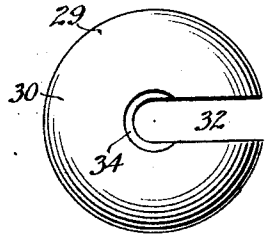


Fig. 4.

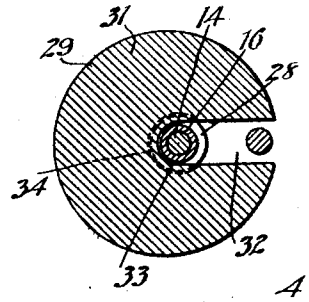
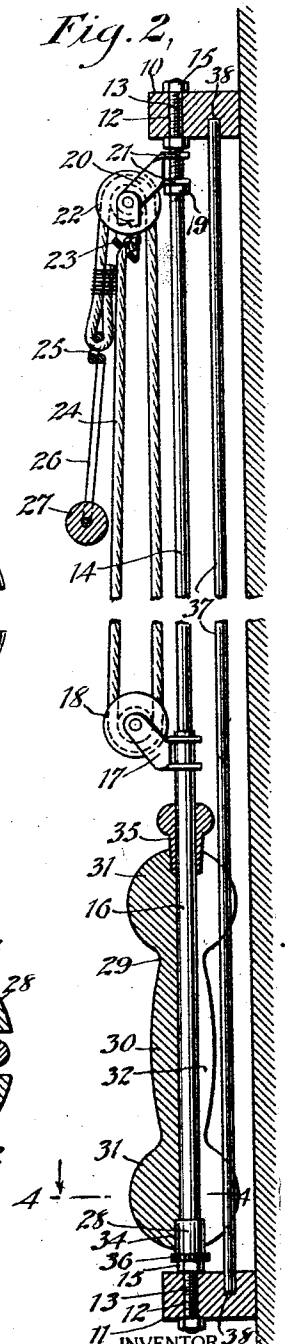


Fig. 2,



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK BACH, OF NEW YORK, N. Y.

EXERCISING APPARATUS.

Application filed October 18, 1924. Serial No. 744,489.

To all whom it may concern:

Be it known that I, FREDERICK BACH, a citizen of the United States of America, and resident of the city of New York, borough of Manhattan, in the county of New York and State of New York, have invented a new and Improved Exercising Apparatus, of which the following is a full, clear, and exact description.

This invention has relation to physical exercising apparatus and has particular reference to an improvement in weight pulling machines.

One of the outstanding objects of the present invention is to generally simplify the construction of apparatus of this type whereby the cost of manufacture of the same is reduced to a minimum.

As a further object the invention contemplates in an exercising apparatus a weight pulling machine, in which the weights are in the form of dumb-bells and are removably associated with the machine whereby the same may be employed in the capacity of dumb-bells in addition to performing their function as weights for the pulling machine.

The invention furthermore comprehends a combined weight and dumb-bell which is so constructed as to facilitate the application to and removal of the same from the pulling machine.

With the above recited and other objects in view, the invention resides in the novel construction set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that the right is reserved to embodiments other than those actually illustrated herein, to the full extent indicated by the general meaning of the terms in which the claims are expressed.

In the drawings—

Figure 1 is a front view of a weight pulling machine constructed in accordance with the invention, parts being shown in section to disclose the underlying structure.

Fig. 2 is a vertical sectional view therethrough taken approximately on the line indicated at 2—2 in Fig. 1.

Fig. 3 is an end view of one of the combined weights and dumb-bells.

Fig. 4 is a horizontal sectional view taken approximately on the line indicated at 4—4 in Fig. 2.

Referring to the drawings by characters of reference the weight pulling machine consists of upper and lower attaching members 10 and 11 which are of substantially identical construction and each of which is provided with a pair of alined vertical apertures 12 through which the threaded opposite ends 13 of a pair of connecting rods 14 extend. A pair of nuts 15 are threadedly engaged with the threaded ends 13 of the connecting rods for clamping engagement with the upper and lower faces of the attaching members 10 and 11. An elongated sleeve 16 is mounted on each connecting rod 14 for vertical sliding movement and each sleeve is provided at its upper end with a forked bearing element 17 within which a pulley or sheave 18 is mounted. Each connecting rod 14 is provided with an abutment 19 spaced downwardly from the lowermost nut 15 which is preferably in the form of a nut threaded over the upper threaded end of the connecting rod. A pulley or sheave bearing element 20 is swiveled on each connecting rod 14 adjacent its upper end by means of vertically spaced apertured ears 21 through which the bearing rods 14 extend, said ears being interposed between the nuts 19 and 15. An upper sheave or pulley 22 is mounted in each bearing 20. A yoke 23 is supported from each bearing 20 and the bight portion is apertured to receive therethrough the knotted terminal of a cable 24 which is then trained around the lower pulley 18 and the upper pulley 22. The remaining terminal is secured in the eye 25 of the handles 26 which are provided with the hand grips 27. The sleeves 16 are provided at their lower ends with annular enlargements 28 and constitute carriages for the weights 29. The weights 29 are of the configuration of a dumb-bell having the central hand grip portions 30 and knobs 31 at the opposite ends. The weights are slotted radially inward from one side as at 32, said slots extending throughout their length and the inner end of said slots being of semi-circular formation as at 33. The slots are of a slightly greater width than the external diameter of the sleeves 16. Adjacent the outer ends the dumb-bell knobs are provided with recesses 34 of greater diameter than the sleeves and of approximately the same diameter as the enlargements 28 at the lower ends of the sleeves. Retaining plugs 35 which are axially aper-

tured to receive the sleeves are slidably arranged on said sleeves. To associate the combined weights and dumb-bells 29 with the carriage, the slotted portion is engaged over the sleeve after which the dumb-bell is moved downwardly to interlock and engage the recesses 34 with the enlargements 28. The plugs 35 are then shifted axially downward into the recesses 34 at the upper ends of the dumb-bells to interlock therewith and hold the same in associated relation with the carriages. The upper nut 15 of the lower attaching member 11 has mounted thereon the yieldable washer 36 which functions as a shock-absorbing means for the carriage when the same is lowered gravitationally by the weights. In order to provide means for preventing rotation of the weights and carriages when the pulling machine is in use, vertical guide rods 37 are mounted parallel and directly in rear of the connecting rods 14, the opposite ends of said guide rods 37 being positioned in recesses 38 in the members 10 and 11. The slotted portions of the knobs 31 of the dumb-bells when positioned on the carriages engage over the guide rods 37 for the purpose specified.

I claim:

1. In an exercising apparatus the combination of dumb-bells and a weight pulling machine comprising vertically movable carriages, manually operable means for moving the carriages, said dumb-bells being formed with longitudinal grooves extending inwardly from the sides to a point adjacent the axial center for mounting the dumb-bells on the carriages to serve as weights for the pulling machine, and means on each carriage adapted to coact with the dumb-bells to detachably retain the same in place thereon.

2. In an exercising apparatus the combination of dumb-bells and a weight pulling machine comprising vertically movable carriages, manually operable means for moving the carriages, said dumb-bells being formed with longitudinal grooves extending inwardly from the sides to a point adjacent the axial center for mounting the dumb-bells on the carriages to serve as weights for the pulling machine, and means on each carriage adapted to coact with the dumb-bells to detachably retain the same in place thereon, said means comprising elements adapted to interlock with the opposite ends of the dumb-bells.

3. An exercising apparatus comprising a pair of vertically spaced members adapted to be attached to a vertical supporting surface, a pair of laterally spaced connecting rods for said members, a sleeve vertically movable in each rod to constitute weight carriages, a weight for each carriage having an axial slot extending through one side thereof to permit of its application to and removal from the sleeve, and means for locking and retaining the weights in place, said means comprising an axially apertured portion at each end of the weights which apertures are of greater diameter than the sleeve, a stationary annular concentric boss at the lower end of the sleeve for receiving the lower enlarged apertured portion of the weight and a removable apertured plug on the sleeve for engagement with the enlarged apertured portion at the upper end of each weight.

4. An exercising apparatus comprising a pair of vertically spaced members adapted to be attached to a vertical supporting surface, a pair of laterally spaced connecting rods for said members, a sleeve vertically movable in each rod to constitute weight carriages, a weight for each carriage having an axial slot extending through one side thereof to permit of its application to and removal from the sleeve, and means for locking and retaining the weights in place, said means comprising an axially apertured portion at each end of the weights which apertures are of greater diameter than the sleeve, a stationary annular concentric boss at the lower end of the sleeve for receiving the lower enlarged apertured portion of the weight and a removable apertured plug on the sleeve for engagement with the enlarged apertured portion at the upper end of each weight and means extending vertically between the spaced members for engagement within the slotted portions of the weights to guide the same and prevent rotary movement of the weight and carriages.

FREDERICK BACH.