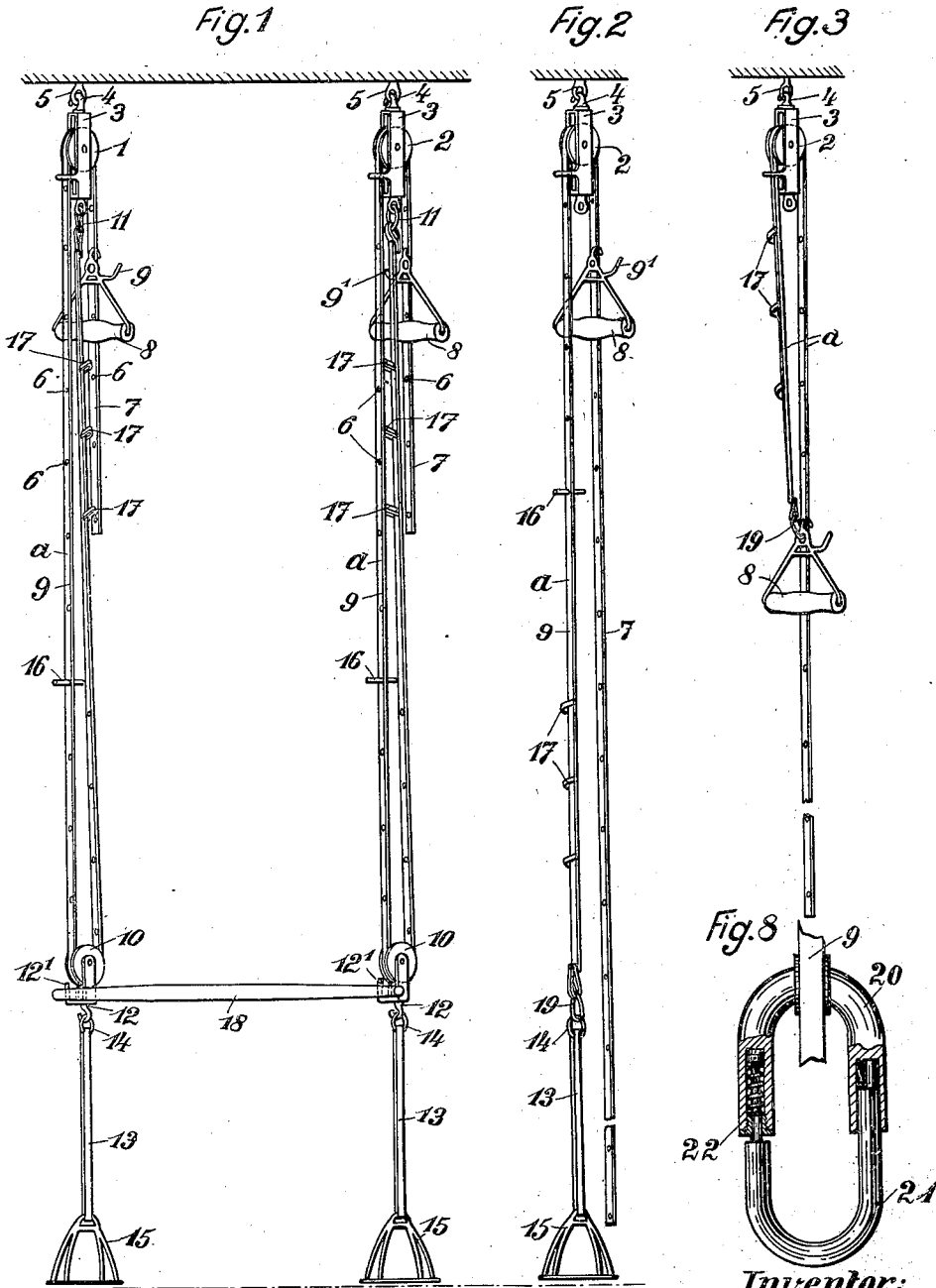


H. WERNDLI.
EXERCISING APPARATUS.
APPLICATION FILED NOV. 1, 1919.

1,374,697.

Patented Apr. 12, 1921.

2 SHEETS—SHEET 1.

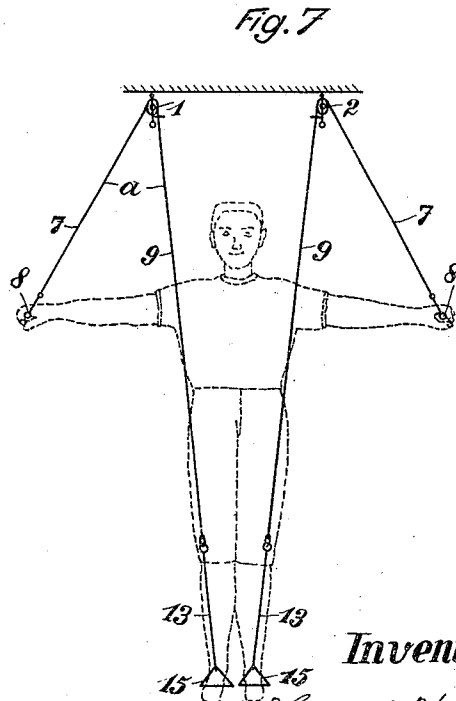
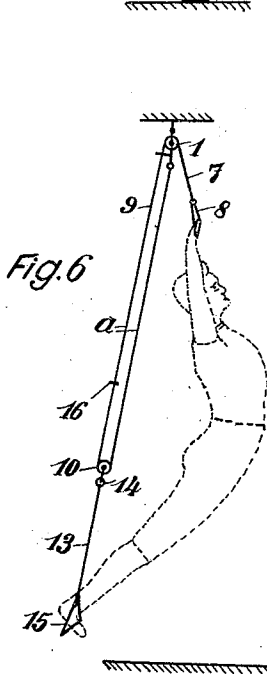
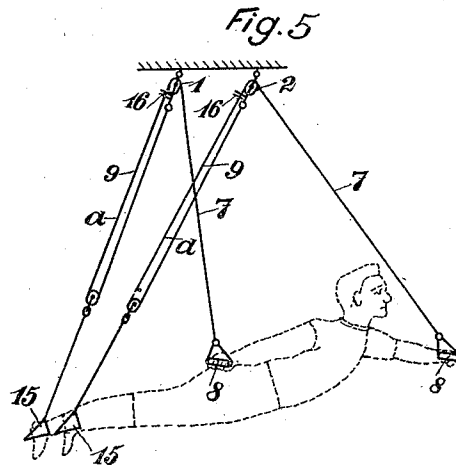
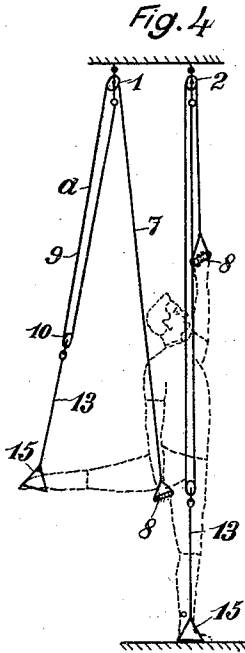


Inventor:
Heinrich Werndli,
By Henry Orth *att.*

H. WERNDLI.
EXERCISING APPARATUS.
APPLICATION FILED NOV. 1, 1919.

1,374,697.

Patented Apr. 12, 1921.
2 SHEETS—SHEET 2.



Inventor:

Heinrich Wendli,
By *Henry O. Hays*
att.

UNITED STATES PATENT OFFICE.

HEINRICH WERNDLI, OF ZURICH, SWITZERLAND.

EXERCISING APPARATUS.

1,374,697.

Specification of Letters Patent.

Patented Apr. 12, 1921.

Application filed November 1, 1919. Serial No. 335,043.

To all whom it may concern:

Be it known that I, HEINRICH WERNDLI, a citizen of the Republic of Switzerland, residing at Zurich, Rossbergstrasse 24, Switzerland, have invented certain new and useful Improvements in Exercising Apparatus; and I do hereby declare the following to be a clear, full, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

15 This invention relates to that class of apparatus, known as home gymnasiums or exercisers, adapted to be used for exercising in supported and suspended or hanging positions.

20 Exercising apparatuses are already known which comprise straps guided over rolls or pulleys, the part of the straps that hangs downward on one side of the rolls being provided with a handle while to the other part 25 of these straps that hangs downward on the other side of the rolls, a loop for supporting the foot is attached. Furthermore, there are also known exercising apparatuses constructed after the principle of a tackle, in 30 which the resistance of springs, weights, etc., fixed to the floor and connected up to the tackle is overcome by exerting a pull on the free end of a rope which is guided over the rolls or pulleys of the tackle.

35 All these known exercising apparatuses have the disadvantage of providing only for a one-sided movement of certain parts of the body, since the different exercises have to be carried out either in a prone or upright 40 position.

The present invention has the purpose of providing an apparatus, adapted to be used in supported and suspended positions in order to attain an all-around training of the 45 body, and to provide an apparatus that enables delicate persons and persons of every age to carry out without fear of over-exerting themselves, exercises which are very advantageous from a point of health and 50 which, with the known apparatuses and arrangements could not be carried out at all or only by very strong persons.

An apparatus constructed in accordance with this invention comprises two pulleys 55 freely hanging downward on a member that

acts as holder, for instance a ceiling, beam, tree or the like, supporting members such as straps, each guided over one of said pulleys, handles fixed to the portion of the supporting members hanging downward on one side 60 of their guiding pulleys and foot supports fixed to the portion of the supporting members hanging downward on the other side of their guiding pulleys, the body of the exerciser being adapted to be carried totally by 65 said two supporting members.

Each foot support may be fixed to an additional pulley over which a portion of the corresponding strap is guided, the free end of said strap portion being then fixed to a 70 member carrying the guide pulley and said strap portion forming a loop in which the additional guide pulley is loosely arranged. Thereby, each strap forms together with the two pulleys over which it is passed and said 75 member carrying the guide pulley, a tackle arrangement.

Figure 1 is a front view of a first construction according to this invention comprising two tackle-arrangements; 80

Fig. 2 is a front view of one half of a second embodiment in which the feet supports are directly suspended on the straps.

Fig. 3 shows another manner of using the apparatus illustrated in Fig. 2. 85

Figs. 4, 5 and 6 illustrate different positions which the exerciser can take up when using the apparatus illustrated in Fig. 1, while

Fig. 7 shows a position that can be taken 90 up by an exerciser using the apparatus illustrated in Fig. 2.

Fig. 8 shows on an enlarged scale a modification of a stop.

Referring at first to Fig. 1, *a* denotes two 95 straps each of which passes over a pulley 1 and 2 respectively. Each of the pulleys 1 and 2 is rotatably mounted in a stirrup 3. The stirrups 3 are provided with a hook 4 in order that they may be suspended on a 100 screw-eye 5 fixed to a holding member, for instance a ceiling, girder, tree or the like. The straps *a* are provided with a plurality of holes 6. Into one of the holes 6 of the portion 7 of the straps hanging downward 105 on one side of the pulleys 1 and 2, respectively, is inserted a stirrup-like handle 8. Each handle 8 is provided with a hook-like member or projection 9¹. The portion 9 of the straps *a* hanging downward on the 110

other side of the pulleys 1 and 2 respectively is guided over a second, loose pulley 10 and it is connected at its free end by means of a spring hook 11 to the stirrup 3 of the pulleys 1 and 2 respectively. The pulley 1 together with its stirrup 3 and the strap *a* passing over this pulley and one of the additional pulleys 10 constitute together a tackle-arrangement; similarly, also the pulley 2 together with its stirrup 3 and the strap *a* passing over this pulley 2 and the other one of the additional pulleys 10 constitute together a tackle-arrangement. Each pulley 10 carries a stirrup 12; on each of these stirrups 12 is suspended a stirrup 15 by means of a band 13 and a ring 14. The stirrups 12 are provided with a turned up projection 12¹. 16 designates safety pins or stops each of which is adapted to be passed through a hole 6 of the strap portions 9 in order to prevent upon its striking against the stirrup 3 a further downward movement of the handle 8. Near the free end of the portion 9 of the straps *a* are provided a plurality of loops 17.

When using the apparatus hereinbefore described, the exerciser seizes in the manner illustrated in Figs. 4, 5 and 6 the handles 8 pushing at the same time his feet into the stirrups 15. According as he exerts a pull onto the portions 7 of the strap *a* by suspending his body on the handles 8 or as he uses the latter as a support, he is able to cause his limbs or the whole body to assume different positions. Owing to the provision of said tackle-arrangement, the force that has to be exerted for carrying out the different exercises is much smaller than that which has to be exerted for the same exercises on gymnasium apparatuses of the kind hitherto known. By using the novel apparatus also weaker and untrained people are able to carry out at once exercises which on known apparatuses can be carried out only by very strong gymnasts. Any overstraining of the exerciser is thereby avoided.

Fig. 4 shows the manner in which the apparatus may be used, for instance, for causing a lifting of the leg and knee in a rearward direction, an exercise very suitable for curing rheumatism in the knee- and hip-joints. The apparatus may also be used in a similar manner for lifting the leg and the knee in a forward direction.

Fig. 5 shows the use of the apparatus in the leaning hang, in which case an expansion of the chest and strengthening of the arm- and shoulder-muscles is attained. This leaning hang into which one is able to pass from the so-called leaning-rest by lowering oneself and stretching the arms upward and in which position the body mainly rests on the hands, can be executed by delicate and untrained persons. This Fig. 5 shows at the same time how a too great lowering of

the handles is prevented by the stops or pins 16 bearing against the stirrups 3 carrying the guide pulleys 1 and 2 respectively.

Fig. 6 shows how the body of the exerciser may be brought into the stretched hang in which the arms are nearly vertical while the body takes up a sloping position, the small of the back being perfectly arched and the chest thereon forward. This exercise serves chiefly for promoting the growth and for reducing curvatures of the spine.

This apparatus can also be used as a swing by fixing a rod-like member 18 (Fig. 1) to the upward bent projection of the stirrups 12 and inserting the hook 9¹ of the handles 8 from below into one of the loops 17.

In the arrangement according to Fig. 2 no additional pulleys 10 are provided. In this case the stirrup 15 is directly fixed to the portion 9 of the strap *a* by means of a band 13, ring 14 and carbine-hook 19. When using this apparatus more strength for exerting the various exercises is required than it is the case, when the first described apparatus is used.

Fig. 7 shows how this apparatus can be used when it is desired to pass from the "resting on the hands" position into a hanging position by lifting the stretched arms sidewise from which position it is then possible to move into the "suspension with stretched legs" position by lowering the body or to move again into the "resting on the hands" position by pressing in a downward direction onto the handles, all movements which may be carried out comparatively easily.

By attaching the free end of the portion 9 of a strap *a* by means of the carbine hook 19 to the handle 8 in the manner shown in Fig. 3, this second form of apparatus may be used for exercising in the same way as the so-called rings, whereby the amount of strength required is greater than when using the apparatus in the manner shown in Figs. 2 and 7.

Instead of the pins 16 other means may be provided for preventing the handles 8 from moving below a certain height. Fig. 8 shows for instance such means which have the shape of a link of a chain consisting of two halves 20 and 21 which are normally held in engagement by a spring 22, which latter allows the part 21 being pulled out of part 20 and turned around the axis of the spring, in which case the one end of the half 20 may be inserted into or pulled out respectively of one of the holes 6 of the tape *a*, whereafter the part 21 is turned back in order to be brought again into engagement with the link part 20.

I claim:

1. In an exercising apparatus, a pulley block arranged for overhead suspension, a strap connected at one end to said block and

passing over the pulley of said block and provided with a stirrup-like handle on its free end and forming a loop, a pulley block suspended in said loop and stirrup like foot supports connected to the pulley block in said loop for supporting the person exercising.

2. In an exercising apparatus, a pulley block arranged for overhead suspension, a strap connected at one end to said block and passing over the pulley of said block and provided with a stirrup-like handle on its free end and forming a loop, a pulley block suspended in said loop, stirrups connected to the pulley block in said loop, and stops on said strap to limit the extent of movement of the handled end.

3. In an exercising apparatus, a pulley block for overhead suspension, a strap connected at one end to said block and passing over the pulley of said block to form a loop, said strap having spaced stop engaging means, a handle connected to the free end of said strap, spaced means on the end of the strap, and engaging means on the handle cooperating with the latter spaced means to fasten the free end of the strap to one side of said loop.

4. In an exercising device, a pulley block for overhead suspension, a strap passing over the pulley of said block, having spaced perforations, a stop adjustable from one perforation to another, said stop for abutment against the pulley block to limit the movement of the strap thereover, a handle connected to one end of the strap, loops on the strap and a hook on the handle for engaging in said loops.

5. In an exercising apparatus, a pair of pulley blocks for overhead suspension, straps, one end of each of which is secured to a pulley block and the other end passed over the pulley of said block to form a loop, a pulley suspended in each loop, and a seat whose ends are detachably connected to the latter pulley blocks, and handles on the ends of the straps.

6. An exercising apparatus comprising a holder, means freely hanging on said holder, two pulleys rotatably mounted on said means, two straps each of which is guided over one of said pulleys and hangs downward on both sides of its guide pulley, the portion of each strap hanging downward on the one side of its guide pulley forming a loop and being fixed at its free end to the means carrying said pulley, a handle con-

nected to the portion of each strap hanging downward on the other side of its guide pulley, two additional pulleys arranged in said loops of the straps, each strap forming together with its guide pulley, the additional guide pulley arranged in its loop and the means carrying its guide pulley a tackle-arrangement, and foot supports for the exerciser connected to said additional pulleys.

7. An exercising apparatus comprising a holder, means freely hanging on said holder, two pulleys rotatably mounted on said means, two straps each of which is guided so over one of said pulleys that it hangs downward on both sides of its guide pulley, the portion of each strap hanging downward on the one side of its guide pulley forming a loop and being fixed at its free end to the means carrying said pulley, a handle connected to the portion of each strap hanging downward on the other side of its guide pulley, two additional pulleys arranged in said loops of the straps, each strap forming together with its guide pulley, the additional guide pulley arranged in its loop and the means carrying its guide pulley a tackle-arrangement, foot supports for the exerciser connected to said additional pulleys and means on the last mentioned pulleys adapted to be used as a seat.

8. An exercising apparatus, comprising a holder, means freely hanging on said holder, two pulleys rotatably mounted on said means, two straps each of which is guided so over one of said pulleys that it hangs downward on both sides of its guide pulley, the portion of each strap hanging downward on the one side of its guide pulley forming a loop and being fixed at its free end to the means carrying said pulley, a handle connected to the portion of each strap hanging downward on the other side of its guide pulley, two additional pulleys arranged in said loops of the straps, each strap forming together with its guide pulley, the additional guide pulley arranged in its loop and the means carrying its guide pulley a tackle-arrangement, foot supports for the exerciser connected to said additional pulleys, hooks fixed to the last mentioned pulleys, and a rod-like body on said hooks.

In testimony that I claim the foregoing as my invention, I have signed my name.

HEINRICH WERNDLI.

Witness:

ARNOLD LEHNER.