Sept. 8, 1931. A. RAFFO 1,822,786

MULTIPLE GYMNASTIC INSTRUMENT

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FIG. 1

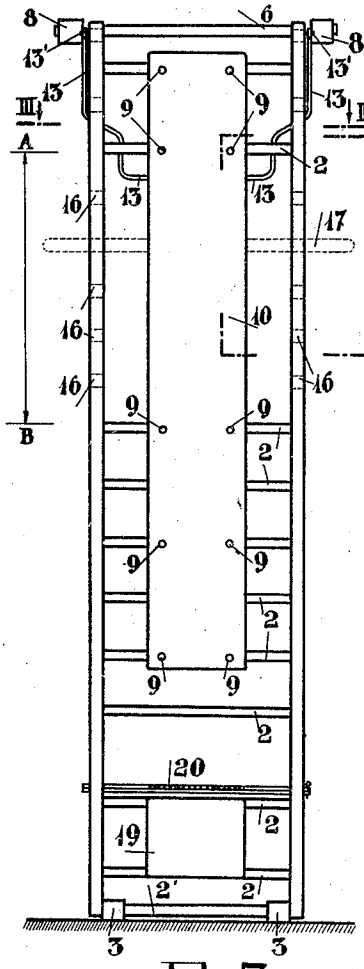


FIG. 4

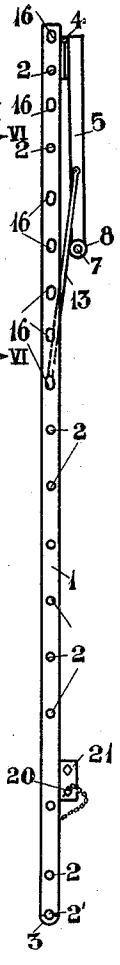


FIG. 2

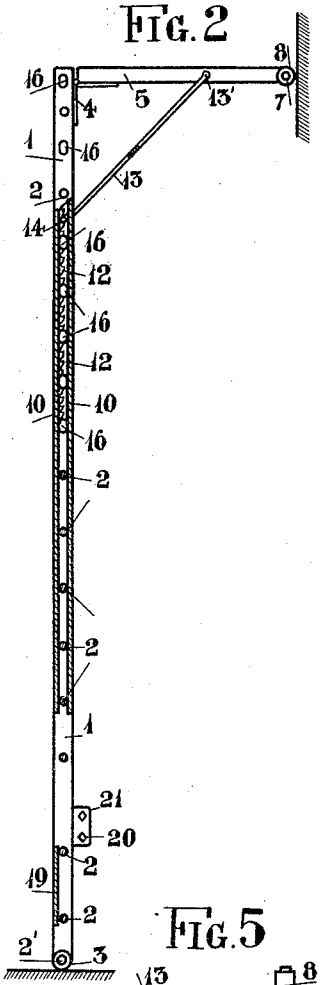


FIG. 3

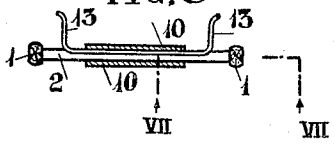
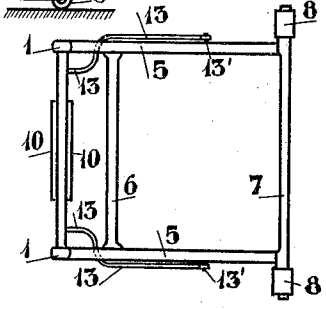


FIG. 5



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FIG. 6

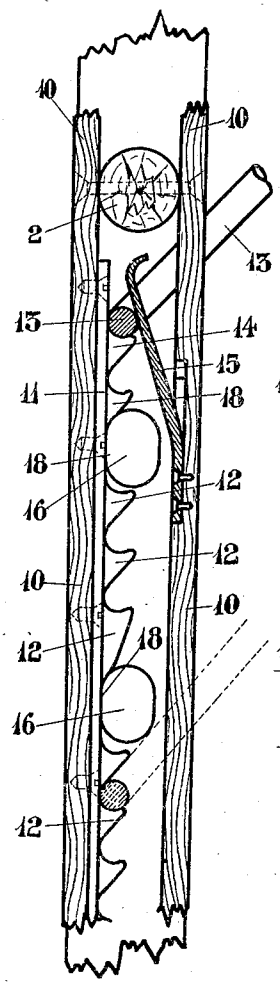
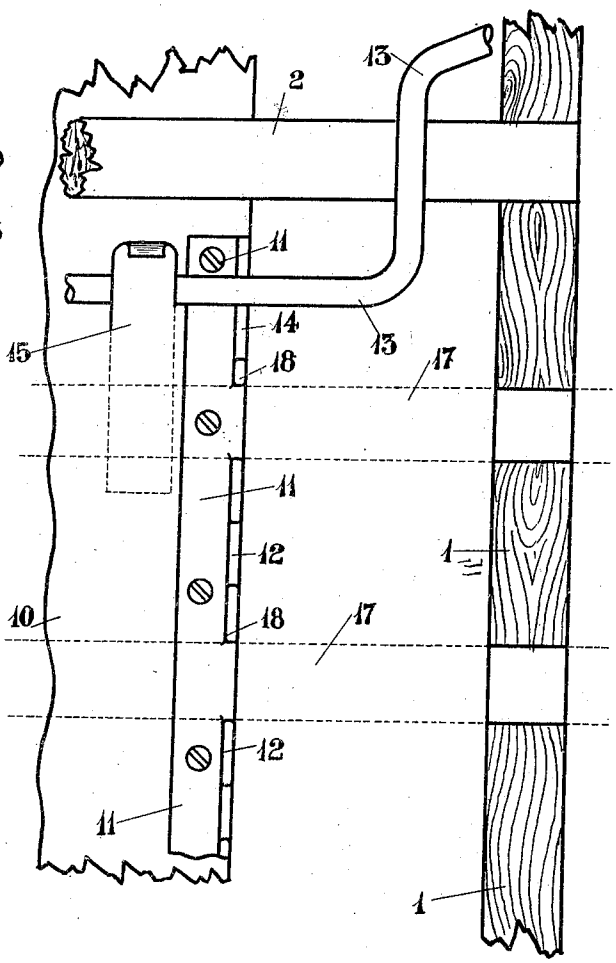


FIG. 7



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MULTIPLE GYMNASTIC INSTRUMENT

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FIG. 8

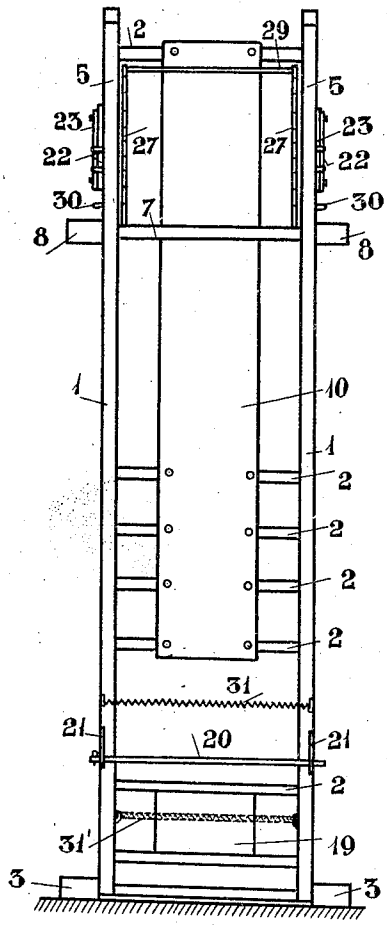


FIG. 9

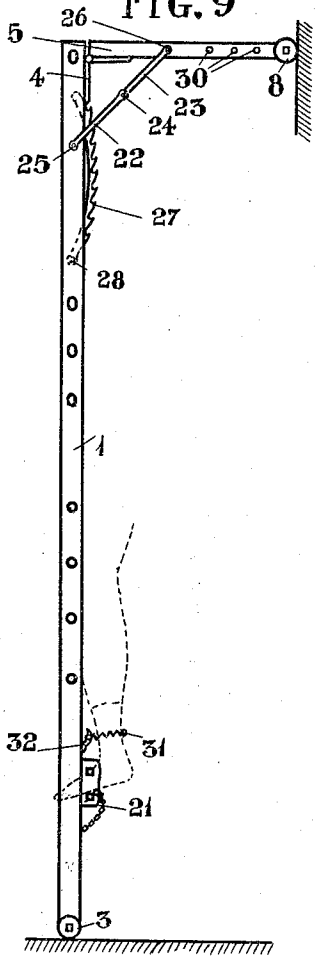
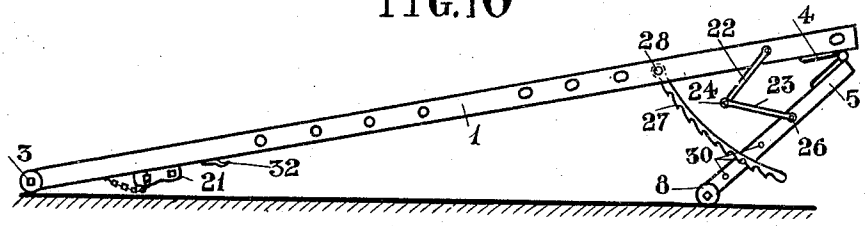


FIG. 10



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Patented Sept. 8, 1931 1,822,786

UNITED STATES PATENT OFFICE

ANDREA RAFFO, OF CHIAVARI, ITALY

MULTIPLE GYMNASTIC-INSTRUMENT

Application filed April 23, 1929, Serial No. 357,487, and in Germany August 14, 1928.

This invention relates to an improved gymnasium apparatus of the ladder type, and particularly to a light, easily transportable apparatus which may be quickly set up and as quickly taken down, which is in itself an entire unit and which needs no permanent fixtures for its use.

The object of the invention is to provide an apparatus of the ladder type which is adapted to be set up against the wall and held out from the wall so that any number of different exercises may be performed thereon.

The further object is to provide a ladder having means associated therewith to space said ladder at various distances from the wall and parallel thereto.

A still further object is to provide certain attachments which are essential for the doing of particular exercises.

A still further object is to provide the apparatus where it abuts the ground and wall with a contacting means designed primarily to prevent the apparatus from slipping.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a front view of the apparatus.

Figure 2 is a side view of the apparatus and partly in section.

Figure 3 is a sectional view on lines 3—3 of Figure 1.

Figure 4 is a side view of the apparatus in folded position.

Figure 5 is a top view of the apparatus as in Figure 1.

Figure 6 is an enlarged partial sectional view on lines 6—6 of Figure 1.

Figure 7 is an enlarged partial sectional view on lines 7—7 of Figure 3.

Figure 8 is a front view with the apparatus set up in a folded position.

Figure 9 is a side view of the apparatus.

Figure 10 is a side view of the apparatus set up for ground work.

The invention comprises a substantially ladderlike piece of apparatus having two side pieces 1 which, as is usual, are of equal length and arranged parallel to each other. They are connected by rungs 2 of the ordinary type, and supplemented by the rung 2′ which lies between the extreme adjacent ends of the sides and is secured thereto with two cylindrical shoes which project beyond the sides 1 of the ladder and afford contact points for the apparatus. This allows the ladder to be set up in one inclined position, the inherent nature of the shoes preventing any slipping.

Hinged by means of the hinges 4 to the end of the parallel side pieces opposite to the rung 2′ is a pair of parallel legs 5. The legs 5 have a cross bar 6 secured just inwardly of the hinges, and a second cross bar 7 connecting the free ends of the legs 5 and projecting beyond the same. Secured to that portion of the ends of the bar 7 which project beyond the legs 5 are cylindrical rubber shoes 8 similar to the shoes 3 and for a like purpose.

The legs 5 together with the cross bars form a frame which may be extended from the ladder from a position parallel to the ladder and folded thereagainst to a position at right angles to the ladder, and when in such position or any intermediate position supports the ladder against a wall, the shoes 8 preventing slipping in a manner similar to the shoes 3.

A pair of boards 10 are secured to the rungs of the ladder by screws 9, the board being arranged on opposite sides of the rungs and in opposed relation to each other. These boards are of a width of about one-half the width of the ladder and are spaced equi-distant from the side pieces, being set up a distance from the bottom and extending nearly to the top of the said ladder. For a portion of the upper space of the ladder the rungs 2 are omitted, leaving a considerable opening for the operation of the frame supporting means to be hereinafter described.

The two boards which are on opposite sides of the rungs may be distinguished by being termed front and back boards, and to the front board and at the edges thereof are secured angle irons 11 having their normal faces recessed to form teeth 12. Said irons extend the entire length of the space from which the rungs are omitted and are adapted to receive the frame supporting member.

Pivotally secured to the legs 5 at 13′ is a metallic stirrup 13, the center portion of

which is formed to fit between the side pieces of the ladder and rest in the teeth 12 of the angle irons 11. Between the angle iron and the back board there is space for the stirrup to slide so that it may be positioned in any set of teeth to support the frame at varying angles with the ladder. A spring 15 secured to the back board forces the stirrup 13 into the upper set of teeth and also prevents the said stirrup from accidentally riding out.

In the open portion of the ladder from which the rungs are omitted, the side pieces are formed with oval-shaped openings 16 opposite each other to receive auxiliary sticks 17 which extend beyond the sides of the ladder for special exercises. They may be placed in position at will or removed entirely. The angle irons 11 are formed with spaces 18 in their normal flange to receive sticks 17. The sticks 17 being oval-shaped to fit opening 16 are prevented from turning by reason of this interfit.

A foot supporting board 19 is affixed to the two lower rungs 2, as shown in Figure 1, while adapted to be positioned in either of a pair of holes in a pair of brackets 21 which are secured to the sides 1 of the ladder adjacent the bottom is a rod 20. The holes in the brackets 21 are to allow an adjustment of the rod 20 and are square to fit the square ends of said rod and thereby prevent turning. The foot board and rod are used for special exercises.

An apparatus such as above described could be used for almost an unlimited number of different exercises. For example, when in a vertical position with the frame normal to the ladder, the gymnast making use of the bar 20 and the auxiliary sticks 17 could execute a great number of "at rest" exercises for inferior members, while suspension exercises are possible for superior members.

Figures 8, 9 and 10 show slight modifications of the apparatus as shown in the preceding figures, the difference being in the mechanism for holding the frame or legs 5 at different angular positions to the ladder. The modified form shows the frame supported by a pair of arms made of two equal sections 22 and 23 pivotally connected at 24 to swing in one direction, the free ends of the sections 23 being secured to the legs 5 at 26, while the free ends of sections 22 are fastened to the sides 1 at 25. When the frame is swung to a position at right angles to the ladder, the sections are straight and in this position support said frame. To support the frame in positions at various acute angles to the ladder, a pair of curved toothed arms 27 are pivotally secured to the sides of the ladder at 28 and are held in parallel relation by a cross bar 29. Fixed in the legs 5 near the outer end thereof are a number of oppositely disposed pins 30 which are adapted to seat in the notches in the toothed bar 27, the number of pins, together with the number of notches, making almost an acute angular position of the frame with respect to the ladder possible.

For certain special exercises, it is essential that the feet of the gymnast be prevented from sliding off the bar 20. A spring 31 supported by hooks 32 is, therefore, provided for use, as shown in Figure 9. Auxiliary hooks are provided so that the spring may be moved to a position 31′ when not in use where it will be easily available but out of the way.

The apparatus may be set up at varying angles to a wall or may be used entirely on the ground, as shown in Figure 10, where an altogether different set of exercises may be practiced thereon. To a skilled gymnast, such an apparatus offers unlimited possibilities in the manner of light conditional exercises which are so beneficial to the human body. An apparatus of this type is one easily and cheaply manufactured and one which would occupy but little space in the use and storage of same.

What is claimed is:—

1. A gymnastic apparatus including a ladder construction having uprights and connecting rungs, boards of less width than the distance between the uprights and secured to the respective surfaces of the rungs, said boards terminating above the lower end of the ladder, brackets carried by the uprights below the lower ends of the boards and extending in parallelism laterally of the uprights, said brackets being formed with a plurality of openings to selectively receive and support a transverse bar.

2. An apparatus for domestic exercise including a ladder structure formed with side pieces and cross rungs, a portion of said ladder being free of rungs, the sides opposite said portions being formed with opposed openings, sticks adapted to fit said openings which may be inserted whenever necessary.

3. An apparatus for domestic exercise including a ladder structure formed with upright side and cross rungs, a certain portion being free of rungs, the sides opposite said certain portion having opposed oval-shaped openings and sticks oval-shaped in cross section adapted to be positioned in the openings, the interfit preventing the rotation of the sticks.

4. An apparatus for domestic exercise including a ladder structure, a frame hingedly secured at one end of the ladder, non-rotatable cylindrical rubber shoes carried at the free ends of the frame and ladder to engage a contacting surface and prevent slipping, said shoes presenting a different contacting point for each different angular position of the frame and ladder with the contacting surface.

5. A gymnastic apparatus including a ladder construction having uprights and con-

necting rungs, boards of less width than the distance between the uprights and secured to the respective surfaces of the rungs, said boards terminating above the lower end of the ladder, brackets carried by the uprights below the lower ends of the boards and extending in parallelism laterally of the uprights, said brackets being formed with a plurality of openings to selectively receive and support a transverse bar, and means for preventing slippage of foot from bar.

6. A gymnastic apparatus including a ladder construction having uprights and connecting rungs, boards of less width than the distance between the uprights and secured to the respective surfaces of the rungs, said boards terminating above the lower end of the ladder, brackets carried by the uprights below the lower ends of the boards and extending in parallelism laterally of the uprights, said brackets being formed with a plurality of openings to selectively receive and support a transverse bar, and a spring secured to each side adapted to be used to prevent the foot from slipping from the bar.

In testimony whereof I affix my signature.

ANDREA RAFFO.