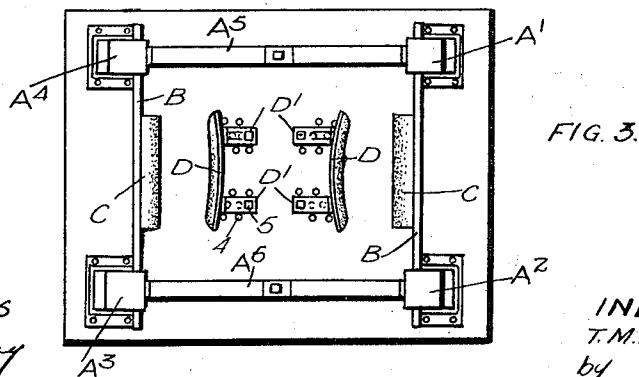
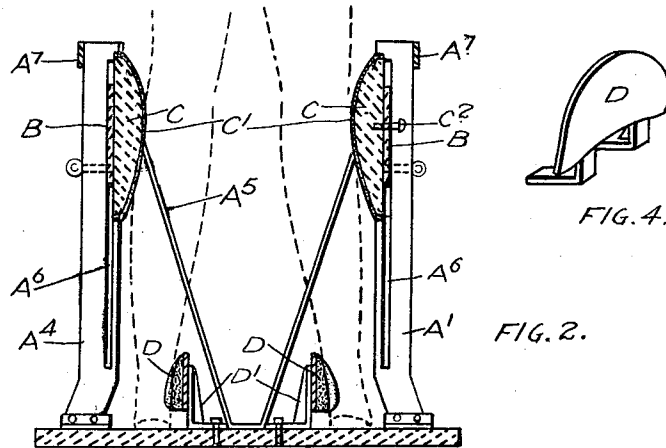
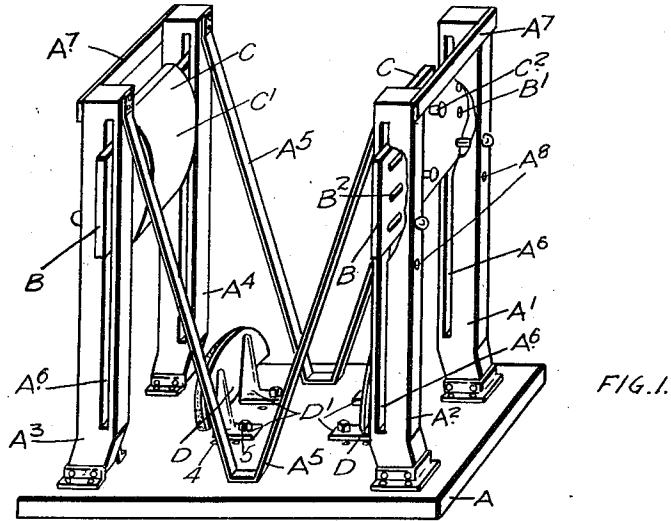


T. M. ALLAN.
 PHYSICAL EXERCISER, STRAIGHTENER, AND HEIGHTENER.
 APPLICATION FILED JUNE 8, 1911.

1,013,097.

Patented Jan. 2, 1912.

3 SHEETS—SHEET 1.



WITNESSES
A. T. Leary
E. B. Chamberlain

INVENTOR.
 T. M. ALLAN.
 by *H. W. Witherspoon*
att.

T. M. ALLAN.
 PHYSICAL EXERCISER, STRAIGHTENER, AND HEIGHTENER.
 APPLICATION FILED JUNE 8, 1911.

1,013,097.

Patented Jan. 2, 1912.

3 SHEETS—SHEET 2.

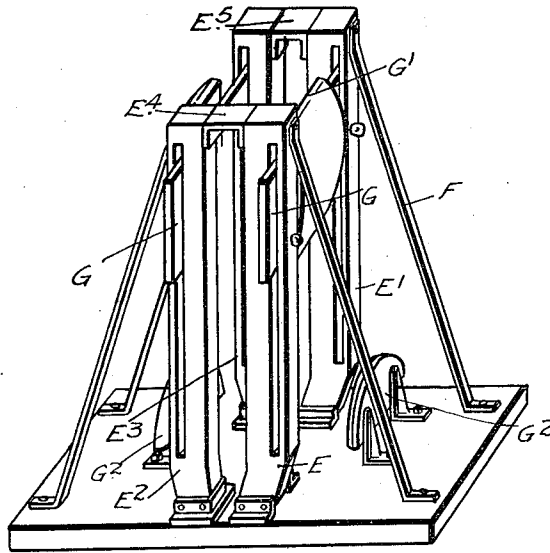


FIG. 5.

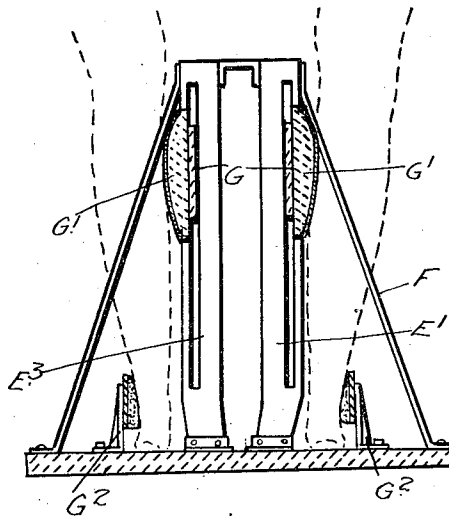


FIG. 6.

WITNESSES.

H. J. Young.
J. H. Buchanan.

INVENTOR.
 T. M. ALLAN.

By *Frederick S. Buchanan*
att'y

T. M. ALLAN.
 PHYSICAL EXERCISER, STRAIGHTENER, AND HEIGHTENER.
 APPLICATION FILED JUNE 8, 1911.

1,013,097.

Patented Jan. 2, 1912.

3 SHEETS—SHEET 3.

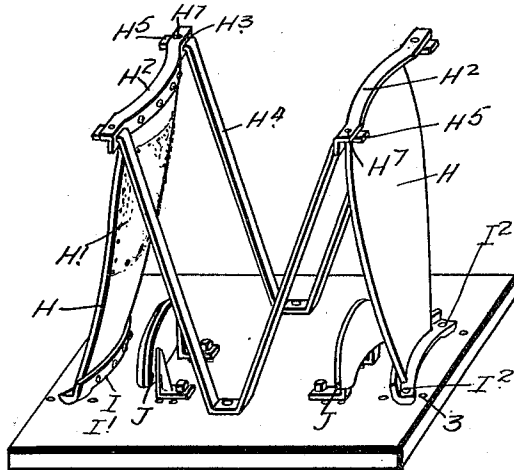


FIG. 7.

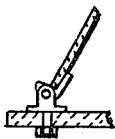


FIG. 9.

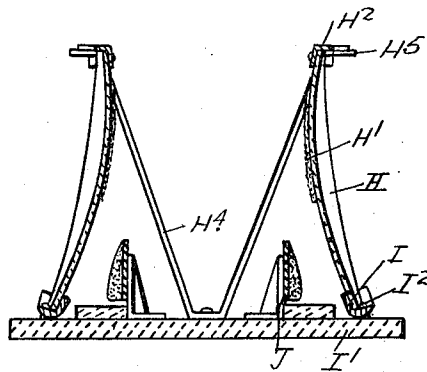


FIG. 8.

WITNESSES
J. S. Yarny
C. H. Chamberlain

INVENTOR
 T. M. ALLAN.

By J. B. Fullerton
 ATTORNEY

UNITED STATES PATENT OFFICE.

THOMAS MARTIN ALLAN, OF TORONTO, ONTARIO, CANADA.

PHYSICAL EXERCISER, STRAIGHTENER, AND HEIGHTENER.

1,013,097.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed June 8, 1911. Serial No. 632,080.

To all whom it may concern:

Be it known that I, THOMAS MARTIN ALLAN, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Physical Exercisers, Straighteners, and Heighteners, of which the following is the specification.

My invention relates to improvements in physical exerciser and the object of the invention is to devise an exerciser which will be especially adapted for gradually straightening the legs, namely the joints and bones of the lower extremity of the body while exercising and without any suffering or inconvenience and it consists essentially of a base board or platform having standards provided with vertically adjustable rests designed to bear against one side of the limb, and another rest designed to bear against the foot or feet of the user on the opposite side of the limb to the aforesaid rests as hereinafter more particularly explained by the following specification.

Figure 1, is a general perspective view of my device arranged for correcting the outward curve or bow of the leg. Fig. 2, is a sectional view through Fig. 1. Fig. 3, is a plan view of my device. Fig. 4, is a detail of the plate supporting the foot pad. Fig. 5, is a perspective view of my device adapted for correcting knock knees. Fig. 6, is a sectional view through Fig. 5. Fig. 7, is an alternative construction of my device. Fig. 8, is a sectional view through Fig. 7. Fig. 9, is a detail of an alternative connection between the base board and the curved board shown in Figs. 7 and 8.

In the drawings like letters of reference indicate corresponding parts in each figure.

I will first describe my device in relation to Figs. 1, 2, 3 and 4. A is a base board to which are secured the standards A', A², A³ and A⁴ connected together by suitable inclined braces A⁵. Each of the standards A', A², A³ and A⁴ is provided with vertical slots A⁶. Each pair of standards A' A² and A³ A⁴ are connected together at the top by cross connecting bars A⁷. B are spring pieces extending between the standards A' and A² and the standards A³ and A⁴ and at their ends into the slots A⁶. The spring pieces B are provided with a vertical series of holes B' and a vertical series of slots B². Each of the standards A', A², A³ and A⁴ are provided with a series of holes A⁸, one

of which is opposite one of the holes B' and one of the slots B². By this means the spring pieces B may be adjusted vertically in the slots A⁶ to any desired height. C are padded pieces having a curved inner face C' designed to bear against the limb of the user. Each board C is connected to one of the spring pieces B by pins C² allowing of the padded boards being adjusted laterally on the spring pieces B. It will be seen that by this construction that the padded pieces C may be adjusted to any position either vertically or laterally so as to bear against the portion of the leg which requires correction. D are foot plates secured by suitable brackets D' to the base board A. The foot plates D are curved longitudinally so as to fit comfortably against the ankle portion of the leg. They are also curved inwardly at their lower corners so as to allow of the foot of the user to have free play. When in use the user stands between the foot plates D and the pieces C as shown by dotted lines in Fig. 2 of the drawings and swings his body from side to side so as to bear against such pads. This will correctly straighten the limbs and correct the deformity thereof. 4 are a series of holes in the base board A and through which the bolts 5 extend to allow of the foot being adjusted to any angle desired.

When it is required to straighten a knock kneed person my device is constructed as shown in Figs. 5 and 6 in which the standards E and E' are placed back to back with the standards E² and E³. The standards E² are connected to the standards E by a bracket E⁴ and the standard E³ is similarly connected to the standard E' by a bracket E⁵. Each of the standards are supported by suitable inclined braces F. The spring pieces G and the pieces G' of this construction are similar to the pieces B and C described in connection with Figs. 1, 2, and 3, such pieces being arranged back to back as shown in Figs. 5 and 6. The foot pieces G² are similar to the foot pieces D and are also employed and arranged similar to the foot plates D. When in use the user stands with his legs to each side of the pieces G' and to the inside of the pieces G² thus bringing the pressure to bear against the inside of the legs as shown by dotted lines in Fig. 6 and thereby correcting the knock kneed weakness of the patient.

In Figs. 7 and 8 I show a modified form

of my device in which H are curved boards provided with suitable pads H'. The boards H are secured at the top to suitable cross bars H² having longitudinal slots H³.
 5 H⁴ are inclined braces provided with horizontal extensions H⁵ which pass through the slots H³ hereinbefore described and are secured therein by the bolts H'. The lower end of the boards H are provided with bars
 10 I adjustably secured to the base board I' by the bolts I² which may be secured in any one of the series of holes 3. In this construction also use foot pieces J similar to the foot pieces D and G² previously de-
 15 scribed. The lower end of the boards H may be connected if desired to the base board by hinges. The object of adjustably connecting the boards H to the base is for the purpose of swinging the lower end of
 20 the board inwardly or outwardly and thus allow the concave portion of the board to bear against different parts of the leg.

From this description it will be seen that I am enabled by my device to correct any
 25 deformity of the lower limbs known as bow legs and it will also correct the deformity known as knock knees. It will also straighten most cases of bending to either side of the long bones of the legs between
 30 the knee and the ankle. By my device I am also enabled to correct the drawing in of the front part of the foot or feet known as parrot toe and still further it will also correct the tendency of turning out the foot or
 35 feet. By the strengthening effect it will increase the user's height and thus may be used by people not having any bows or bends in the limbs thereby rendering the joint more supple.

40 It will of course be understood that the exerciser may be used for both legs or for one only and that it will be adapted for correcting bends of limbs at different levels for each limb.

45 By the use of my device any tendency to either bowing or bending outwardly or inward of the limbs, joints or long bows may be prevented. It will also be readily seen that my device may be adjusted to suit the
 50 requirements of each individual.

What I claim as my invention is:

1. A physical exerciser of the class described comprising a suitably supported upper rest designed to bear against one side of
 55 the leg of the user intermediately of its height and a suitably supported lower rest designed to bear against the leg of the user at its opposite side in proximity to its lower extremity, as and for the purpose specified.

60 2. A physical exerciser of the class described comprising a suitably supported upper rest designed to bear against one side of the leg of the user intermediately of its

height and a suitably supported lower rest designed to bear against the leg of the user
 65 at its opposite side in proximity to its lower extremity, and means for vertically adjusting the upper rest, as and for the purpose specified.

3. A physical exerciser of the class described comprising a suitably supported upper rest designed to bear against one side of the leg of the user intermediately of its height, and a suitably supported lower rest
 70 designed to bear against the leg of the user at its opposite side in proximity to its lower end, and means for vertically and laterally adjusting the upper rest, as and for the purpose specified.

4. A physical exerciser of the class described comprising a pair of standards having vertical slots therein, a spring piece extending through the slot of each standard at the ends, means for adjustably securing
 80 the spring piece within the slot, a rest piece adjustably secured to the spring piece and designed to bear against one side of the leg of the user at any point in its height and a
 85 suitably supported foot rest designed to bear against the opposite side of the leg of the user in proximity to its lower end, as and for the purpose specified.

5. A physical exerciser of the class described comprising a pair of standards having vertical slots, and a vertical series of
 90 holes extending through the standard into the slots, a spring piece provided at one end with a vertical series of holes designed to register with the holes of one standard and at the other end with a vertical series of
 100 slots designed to register with the holes of the other standard and pins extending through the holes of the standards into the slots and holes of the spring pieces, pads secured to the spring pieces designed to
 105 bear against the leg of the user at one side, and a lower rest designed to bear against the opposite side of the leg of the user in proximity to its lower end, as and for the purpose specified.

6. A physical exerciser comprising a suitable base, two pairs of opposing standards secured to the base, inclined braces connecting the standards to the base, and rests
 110 adjustably secured to the standards so as to bear against one side of each leg of the user, and lower rests connected to the base by suitable brackets and designed to bear against each leg of the user in proximity
 115 to their lower end, as and for the purpose specified.

THOMAS MARTIN ALLAN.

Witnesses:

B. BOYD,
 H. PRESTON.