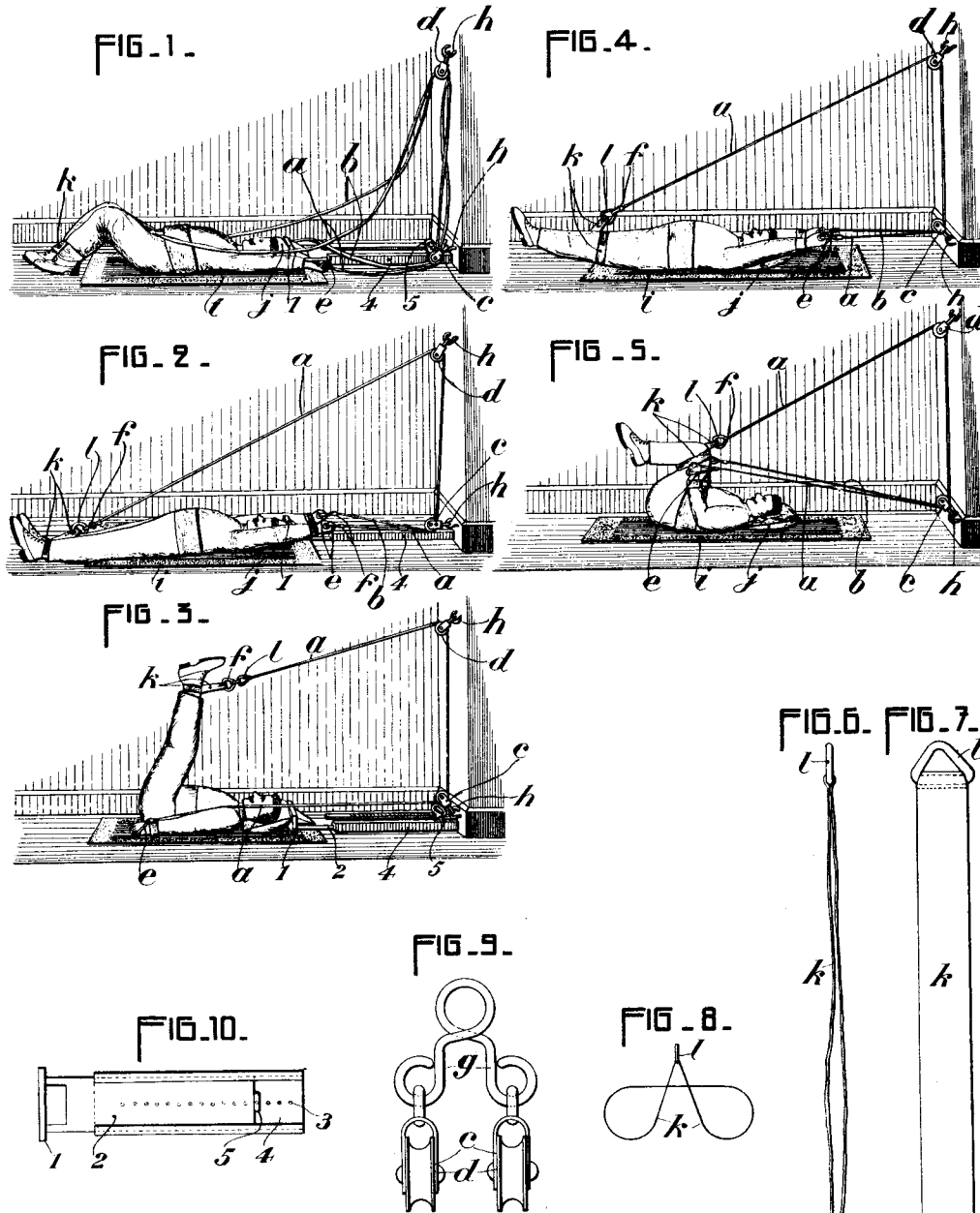


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EXERCISING APPARATUS FOR USE IN A LYING POSITION.
APPLICATION FILED OCT. 21, 1913.

1,144,085.

Patented June 22, 1915.

2 SHEETS—SHEET 1.



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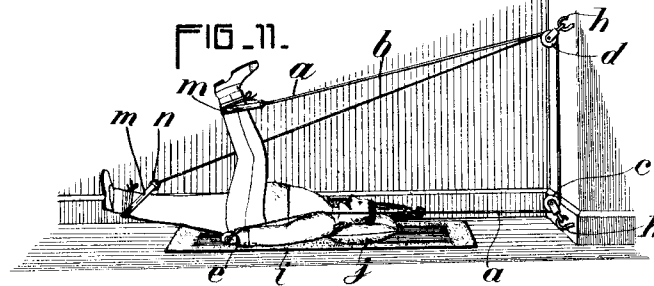
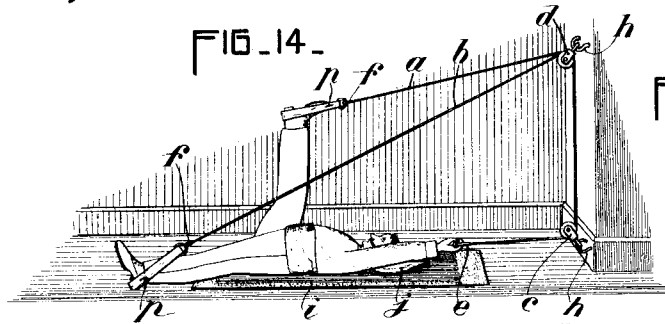


FIG. 12. FIG. 13.

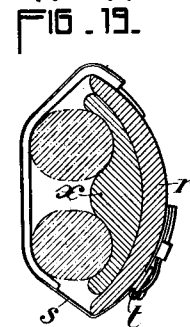
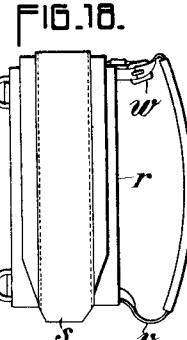
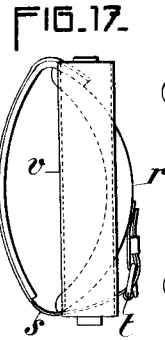
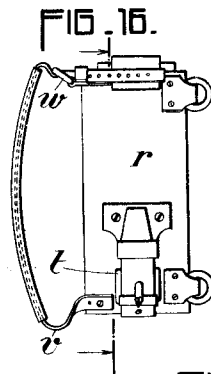
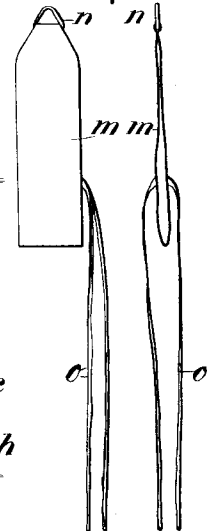
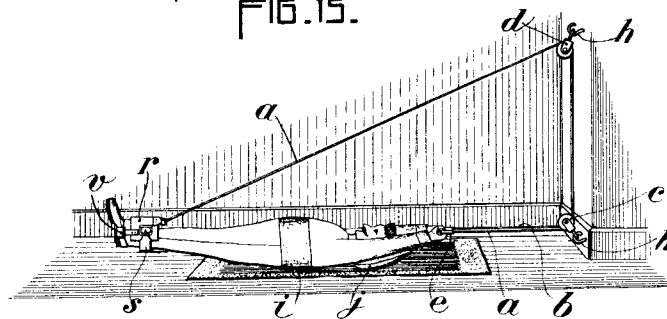


FIG. 15.



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UNITED STATES PATENT OFFICE.

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EXERCISING APPARATUS FOR USE IN A LYING POSITION.

1,144,085.

Specification of Letters Patent.

Patented June 22, 1915.

Application filed October 21, 1913. Serial No. 796,453.

To all whom it may concern:

Be it known that I, ARTHUR ABPLANALP, a citizen of the Swiss Republic, and resident of Basel, Switzerland, have invented a new and useful Exercising Apparatus for Use in a Lying Position, of which the following is a full, clear, and exact specification.

The invention relates to exercising apparatus suitable for reducing corpulence and for other health exercises adapted to be carried out while in a lying position.

According to the present invention the improved apparatus comprises two cords, chains or similar flexible pulling devices of equal length which are connected at the one end with one or both of the legs of the user, while the other ends are provided with handles, the cords or their specified equivalents passing over pulleys arranged in such a manner that their portions adjacent to the handles form in both their end positions as small an angle as possible with the horizontal, so that the arms of the user can make a movement through an angle of as much as 180° about the shoulders and thereby bring into action the muscles of the arms, chest, shoulders, back, legs and stomach to a considerable extent. For this purpose the two cords or similar pulling devices are each guided over two pivotally suspended pulley blocks, one of the pulley blocks being located a few inches above the floor, while the other pulley block is located at least 18 inches above the floor.

With the apparatus above described it is possible to also produce an additional strain upon the muscles of the arms, chest, shoulders, back, legs and stomach by employing a device equipped with weights for connecting one end of each of the two cords or similar pulling devices to one or both of the legs of the user. Moreover, in order to gradually increase the action on the muscles of the arms, chest, shoulders, back, legs and stomach, devices provided with adjustable weights may be used for connecting successively one end of each of the two cords or

similar pulling devices to one or both of the legs of the user. A device of this nature consists preferably of a curved metal block provided with a pad adapted to be interposed between one or both of the shins, the metal block being attached to the leg or legs, or to the shoe or shoes of the user by means of straps and buckles.

In order to prevent that in consequence of the traction of the user's arms on the cords or similar pulling devices, the body of the user slides or glides toward the wall or other support bearing the pulley blocks, a stopping device may be employed, formed by an adjustable abutment for the cushion receiving the user's head, the said abutment being connected to a small plank capable to slide in a wood-board pushed against the wall or other support and provided with a row of holes serving to determine the position of the said cushion abutment, according to the stature of the user, by means of a removable peg planted in one of the said holes and against which the free extremity of the said small plank strikes, when it tends to move toward the wall or other support.

In the accompanying drawings various modifications and applications of the exercising apparatus are shown, of which—

Figures 1 to 5 illustrate a preferred arrangement, and Figs. 6 to 9 are detail views thereof. Fig. 10 is a plan view of the stopping device shown in Figs. 1 to 10. Fig. 11 illustrates a modification and Figs. 12 and 13 detail views thereof, while Figs. 14 and 15 illustrate two further modifications, Figs. 16 to 19 being detail views of the construction illustrated in Fig. 18. Fig. 19 is a plan view of the stowing device shown in Figs. 1 to 3.

In all the constructions illustrated in the drawing, the two cords *a*, *b* are each running over two pulley blocks *c*, *d* and are provided at one end with a handle *e* and at the other end with a hook *f* by means of which they are adapted to be connected to one or both of the legs of the user. The pulley blocks *c*, *d* are carried in pairs by

clips *g* adapted to be supported by hooks *h* in the wall in such a manner that the pulley blocks *c* are located a few inches above the floor, while the pulley blocks *d* are supported at a distance of about 27 inches above the floor. The user takes up a position, in the case of all of the modifications, on a mat or the like *i*, which may be suitably attached in the desired position on the floor and is combined with a cushion *j* receiving the head of the user. In the construction illustrated in Figs. 1 to 5 a sling *k* drawn to an enlarged scale in Figs. 6 and 7 is provided with a ring *l* for connecting the hook *f* to the legs of the user.

According to the construction illustrated in Figs. 1 to 3 the sling *k* is placed around the ankles while according to the construction illustrated in Figs. 4 and 5 it is placed around the knees of the user in such a manner as to clasp and hold the two ankles or knees together. This is accomplished by the person desiring to use the apparatus, by placing the feet through the sling *k* with the ring *l* hanging downwardly, and drawing the ring *l* up on the outer sides between the feet or calves of the legs, as illustrated diagrammatically in Fig. 8 of the drawings and finally attaching the terminal hooks *f* to the ring *l*. Fig. 1 shows the user lying on his back, whose two feet have been clasped by the sling *k* and who is just preparing to grip the handles *e* by the hands. Fig. 2 shows a further position in which the cords and the legs and arms of the user are extended, this being the first position of the exercise, in which the feet are slightly raised above the floor. Fig. 3 shows the user in the final position of one of the exercises in which both arms have completed a movement through an angle of 180°, and the two legs still extended have been drawn up to an angle of more than 90°. From the last position illustrated in Fig. 3 the arms and legs are again returned to the position illustrated in Fig. 2, then returned again to the position shown in Fig. 3 and so on without making a stop in the first and last positions. In this manner an uninterrupted swinging movement of both of the legs and of the arms takes place, in an upward and downward direction, at a uniform rate of speed, and during the exercise the feet do not touch the floor though the hands do so in the end positions so as to enable the legs of the user to be raised as high as possible. It will be noted that during the whole exercise the knees are held close together. It is advisable that during the exercise care be taken not to permit the arms to do all the work, and to simply draw up the legs, it being preferable to allow the muscles of the legs or stomach to bear the greater strain, this being more especially desirable when the apparatus is used for the purpose of reducing corpulence. In this

case the arms should only assist slightly so that the exercise can be continued uninterruptedly for as long as possible.

The rate of speed is altered according to whether the exercise is intended to be used for the purpose of general health, the reduction of flesh, or only for the development of the muscles, otherwise the apparatus and exercise remain the same.

In Figs. 1, 2 and 3, the cushion *j* lies against an adjustable abutment 1 intended to prevent the user's body from sliding or gliding toward the wall bearing the pulley blocks *c*, *d*, in consequence of the traction exerted by the user's arms on the cords *a*, *b*, and constituting therefore a stopping device for the user's body. The said abutment 1 is connected to a small plank 2, capable to slide in a wooden board 4 pushed against the wall and provided with a row of holes 3 (Fig. 10) serving to determine the position of the abutment 1, according to the size or stature of the user, by means of a peg 5 planted in one of the said holes and against which the free extremity of the plank 2 strikes, when by the use of the apparatus it tends to move toward the wall. Figs. 4 and 5 illustrate similar positions to those shown in Figs. 1 to 3 except that the sling is placed around the knees so that the knees are bent when the legs are raised so that they are forced as far as possible against the chest, thus exerting considerable strain on the muscles of the stomach. It will be seen that in the exercises illustrated in Figs. 2 to 5 the strain exerted on the handle of each of the cords is transmitted to both of the legs of the user.

In the modification illustrated in Fig. 11, a special sling *m* having a ring *n* is provided for each leg of the user (Figs. 12 and 13) and are provided with strings *o* for fastening them to the ankles. In this arrangement an exercise is shown in which the legs are moved separately up and down, that is to say they always move in opposite directions, while the arms are also moved simultaneously, one forward and the other backward through an angle of 180°. Fig. 14 illustrates a similar exercise but in this case the user presses his heels against the inside of cloth slings *p* which are provided with rings for attaching the slings to the flexible pulling devices.

Fig. 15 illustrates the first position for the exercise described with reference to Figs. 2 and 3, but in this construction a weight is employed which is adapted to bear equally on both of the legs.

Figs. 16 to 19 are detail views of the device, provided with a weight for connecting the legs of the user with two cords. The curved metal block *r* is provided with a leather strap *s* and buckle *t* by means of which it is attached to the shins of the user. A pad *x* is interposed between the metal

block *r* and the shins, the leather strap *s* being also provided with felt or similar padding where it comes in contact with the legs. A strap *v* is also attached to the metal block *r* which enables the same to be fastened to the shoes of the user by means of the buckle *w*. In order that the muscles of the user may be subjected to a gradually increasing strain the apparatus is provided with a number of these connecting devices of different weight so that the weights applied to the legs of the user may be gradually increased. The devices with the weights can also be arranged so that they can be used for connecting one cord for one of the legs so that the exercise described with reference to Figs. 14 and 11 can be practised with the legs weighted.

It will be understood that various modifications may be made in the construction of the apparatus. For instance the cords or other flexible pulling devices may be made of elastic or non-elastic material without in any way departing from the scope of the present invention.

What I claim is:

1. In an exercising apparatus for use in a lying position, the combination of two flexible strings of equal length provided at one end with means for their connection with the legs of the user and at the other end with handles adapted to be gripped by the hands of the user, with two pairs of pivotally suspended pulley blocks, which are exclusively borne by a fixed vertical support and of which one pair is located only a few inches and the other at least 18 inches above the floor, and over which the said strings are guided in such a manner that their portions adjacent to the handles and to the pulley blocks located only a few inches above the floor form in their end positions as small an angle as possible with the horizontal, substantially as described.

2. In an exercising apparatus for use in a lying position, the combination of two flexible strings of equal length, provided at one end with a weighting device adapted to be connected with the legs of the user and at the other end with handles adapted to be gripped by the hands of the user, with two pairs of pivotally suspended pulley blocks, which are exclusively borne by a fixed vertical support and of which one pair is located only a few inches and the other at least 18 inches above the floor, and over which the said strings are guided in such a manner that their portions adjacent to the handles and to the pulley blocks located only a few inches above the floor form in their end positions as small an angle as possible with the horizontal, substantially as described.

3. In an exercising apparatus for use in a lying position, the combination of two flexible strings of equal length, provided at

one end with a weighting device adapted to be connected with the legs of the user and at the other end with handles adapted to be gripped by the hands of the user, with pivotally suspended pulley blocks which are exclusively borne by a fixed vertical support and over which the said strings are guided in such a manner that their portions adjacent to the handles form in both their end positions as small an angle as possible with the horizontal, the said weighting device consisting of a curved metal block having a shin protecting pad and straps and buckles for its fastening, substantially as described.

4. In an exercising apparatus for use in a lying position, the combination of two flexible strings provided at one end with handles adapted to be gripped by the hands of the user, a series of different weighting devices, which may be adapted successively to the other end of the said strings and consist of curved metal blocks having a shin protecting pad and straps and buckles for their connection with the legs of the user, with pivotally suspended pulley blocks which are exclusively borne by a fixed vertical support and over which the said strings are guided in such a manner that their portions adjacent to the handles form in both their end positions as small an angle as possible with the horizontal, substantially as described.

5. In an exercising apparatus for use in a lying position, the combination of two flexible strings of equal length provided at one end with means for their connection with the legs of the user and at the other end with handles adapted to be gripped by the hands of the user, with an adjustable stopping device to prevent the user's body from sliding on the floor and with two pairs of pivotally suspended pulley blocks which are exclusively borne by a fixed vertical support and of which one pair is located only a few inches and the other at least 18 inches above the floor, and over which the said strings are guided in such a manner that their portions adjacent to the handles and to the pulley blocks located only a few inches above the floor form in their end positions as small an angle as possible with the horizontal, substantially as described.

6. In an exercising apparatus for use in a lying position, the combination of two flexible strings of equal length provided at one end with means for their connection with the legs of the user and at the other end with handles adapted to be gripped by the hands of the user, with an adjustable stopping device to prevent the user's body from sliding on the floor and with pivotally suspended pulley blocks which are exclusively borne by a fixed vertical support and over which the said strings are guided in such a manner that their portions adjacent to the

handles form in both their end positions as small an angle as possible with the horizontal, the said stopping device being formed by an adjustable abutment for a head cushion of the user, connected to a small plank and adapted to slide in a wood-board pushed against the support of the pulley blocks and provided with a row of holes serving to determine the position of the said abutment, according to the stature of the user, by means of a peg inserted in one of the said

holes and against which the free extremity of the said plank strikes, when it tends to move toward the said support, substantially as described.

In witness whereof I have hereunto signed my name this 10th day of October 1913, in the presence of two subscribing witnesses.

ARTHUR ABPLANALP.

Witnesses:

PHILIP HOLLAND,
AMAND RITTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."