Aug. 2, 1927. 1,637,565

A. L. GORDON

PHYSICAL DEVELOPMENT SHOE

Filed Nov. 13, 1926

Fig. 1.

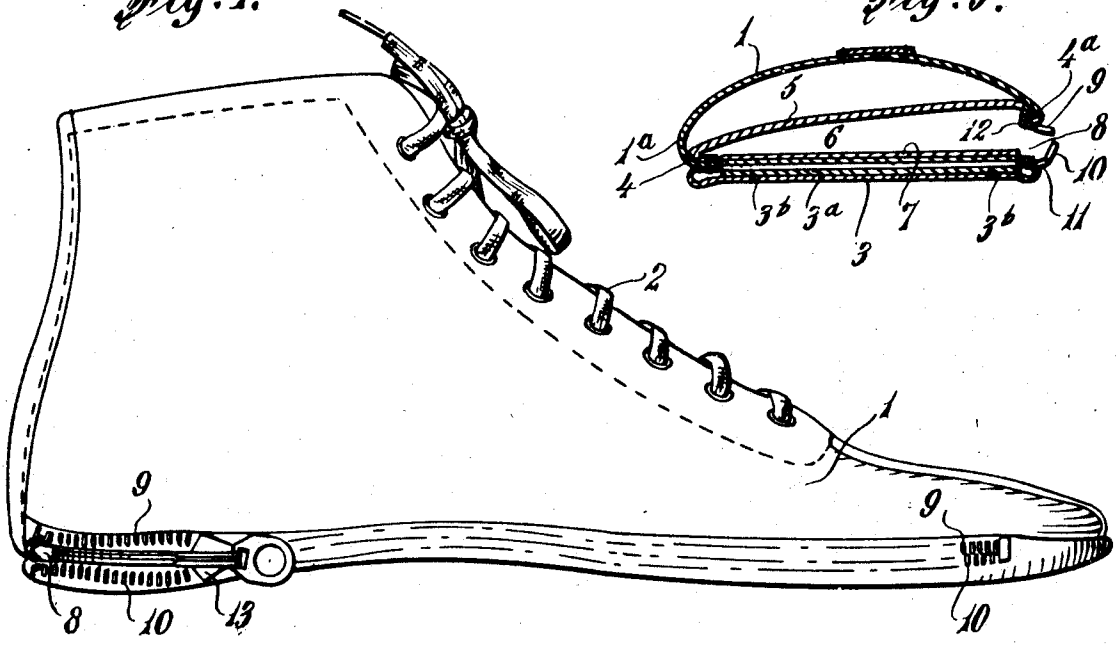
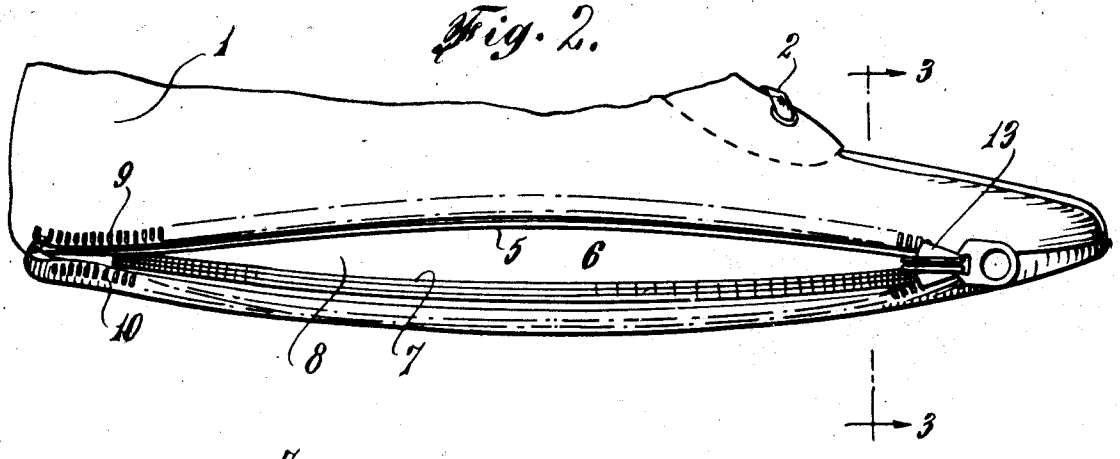


Fig. 3.

Fig. 2.



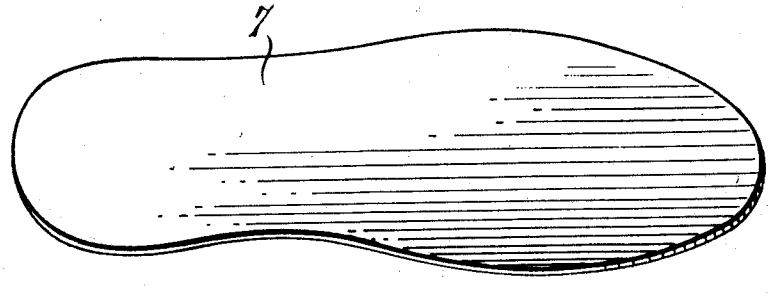


Fig. 4.

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UNITED STATES PATENT OFFICE.

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PHYSICAL-DEVELOPMENT SHOE.

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The object of my invention is to provide a shoe which may be weighted more or less at will for use in exercising muscles of the human body, whereby when a person walks, runs or otherwise exercises the legs the weight in the shoe will cause strengthening of the muscles, joints and other parts of the body.

In carrying out my invention I provide a shoe having a compartment with an opening in one side to permit the insertion and removal of one or more weighted members, substantially in the form of a loose sole, with means to retain the open side of the compartment closed, whereby the compartment may be opened to permit the insertion of one or more weighted members according to the weight that it is desired shall be used for exercising, and whereby the shoe may be used without a weight in the compartment if desired.

My invention comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part hereof, wherein

Fig. 1 is a side view of a shoe embodying my invention;

Fig. 2 is a side view illustrating the compartment open for the insertion or removal of the weighted members;

Fig. 3 is a cross section substantially on line 3, 3, in Fig. 2, and

Fig. 4 is a perspective view of one of the weighted members.

Similar numerals of reference indicate corresponding parts in the several views.

At 1 is indicated a shoe which, generally, may be of any suitable construction, being shown of the lace-shoe variety having laces 2 for retaining the shoe closed upon a person's foot. The lower or out-sole 3 may be of any desired construction, attached to the upper 1^a by means of stitching, as indicated at 4, and provided with a sole member 3^a on the sole 3 and stitched thereto at 3^b. An in-sole 5 may also be attached to the upper by stitching along one side at 4^a. The upper and the in-sole are free from the out-sole at one portion, whereby a compartment 6 is provided between said soles within which one or more detachable weighted members or inserts 7 may be placed. In the example illustrated the upper is disconnected from the out-sole for a suitable distance along one side of the shoe providing an opening at 8 communicating with the compartment 6. I have shown the opening 8 of such dimension as to permit the weighted member or members 7 readily to be inserted into and removed from the compartment 6. The members 7 may be of any desired contour and preferably are substantially the shape of the out-sole, except that they are of smaller dimension than the latter so as readily to fit within the compartment 6. The weighted members will be between the wearer's foot and the out-sole. The weighted members 7 may be made of lead so as to be of the desired weight in accordance with the area and thickness thereof for each member, and are pliable.

I provide means to secure the edges along the opening 8 of compartment 6 closed when the member or members 7 are therein to retain them in the compartment. Any suitable closing means for the opening 8 may be provided. I have shown the variety of closure comprising interengageable teeth 9, 10 secured to the edges of strips of fabric 11, 12, stitched respectively along the edges of the material at the margins of the opening 8, and a die member 13 slidable along the teeth for engaging and disengaging them, commonly called "zippers". When the die 13 is moved to the left in Fig. 1 the teeth will be caused to engage to fasten the edges of compartment 6 together to retain the member 7 therein, and when the die is pulled to the right in Fig. 1 the teeth will be disengaged to release the edges of the compartment so that it may be opened to permit the insertion and removal of the weighted member 7, as indicated in Fig. 2. The construction of fastening does not interfere with the use of the shoe nor with the flexibility of the sole, although the fastening means is shown along the edge portion of the sole.

The shoes may be worn in an ordinary way and the weighted members or inserts 7 may be inserted in or removed from compartment 6 according to the kind of exercises to be performed and according to progress being made. With the shoes upon the wearer's feet, and weighted as desired, he may exercise his legs in various ways while in standing position, and one of the advantages is

that while the wearer is lying on his back he may swing his legs in various directions, up and down and criss-cross, and overhead, whereby extra strain will be placed upon the muscles for exercising and strengthening them, having effect on the calf, thigh, hip, leg and abdominal muscles, serving to stimulate and strengthen such muscles as are called into play beyond the ordinary degree. As the strength of the muscles becomes increased the weights may be added to the shoe from time to time. For instance, if each member or insert 7 weighs one pound a person may start to exercise with one of such members in each shoe and after a time, as the muscles strengthen, he may add another member within the compartment of the shoe, and so on progressively. The shoes with the weighted members also are useful for exercising the muscles in walking and running, and will be found advantageous for athletes to strengthen the leg muscles and for gymnastic and other physical culture exercises. An advantage is that the weighted members 7 may be quickly inserted, removed and replaced according to the exercises to be performed, while the shoes remain upon the feet, because it will be simply necessary to unfasten the side of the compartment 6, remove or insert one or more members 7 and refasten the edges of the compartment to retain the members therein. By removing the weighted members the shoes may be worn like ordinary gymnasium or athletic shoes.

My invention is not limited to the details of construction set forth, as the same may be varied, within the scope of the appended claims, without departing from the spirit of my invention. For instance, instead of having the opening 8 for the compartment 6 along one side of the shoe the opening may be along the heel or the toe portion of the shoe with appropriate fastening means to detachably retain the edges of the compartment closed.

Having now described my invention, what I claim is:—

1. A shoe provided with an opening in one side adjacent to the out-sole, one or more weighted members adapted to be inserted through said opening to rest upon said sole to increase the weight of the shoe, and means to detachably retain the edges of said opening closed to retain the weighted members within the shoe upon the out-sole.

2. A shoe having a compartment located adjacent to its out-sole and provided with an opening in one side for admission into said compartment, one or more weighted members adapted to be inserted into said compartment to add weight to the shoe, and means to detachably retain edges of the opening closed for retaining the members in the compartment.

3. A shoe having an out-sole and an in-sole separated and providing a compartment therebetween, said compartment having an opening along the sole, one or more weighted members substantially conforming to the shape of the sole adapted to be inserted into and removed from the compartment for weighting the shoe, and means to detachably retain the edges of the opening closed for retaining the member or members within the compartment.

4. A shoe having an upper, an out-sole and an in-sole, the in-sole and the out-sole being free from each other along a portion of the shoe providing a compartment having an opening, one or more weighted members comprising flat pliable material to be inserted into said compartment to increase the weight of the shoe, and means to detachably retain the edges of the opening closed for retaining the members within the compartment.

5. A shoe comprising an upper, an out-sole and an in-sole, said soles being secured to the upper except along a portion of the out-sole providing a compartment between said soles having an opening, one or more weighted members comprising flat pliable material substantially conforming to the shape of the sole to be inserted into the compartment for weighting the shoe, and means to detachably connect the edge portions of said opening to detachably retain the weighted members in said compartment.

6. A removable insert for a shoe comprising a relatively thin pliable metallic member having a shape substantially conforming to the contour of the shoe sole adapted to be inserted in the shoe over the out-sole, said insert having sufficient weight to cause exercise of the wearer's muscles.

ABRAHAM L. GORDON.