(No Model.)

W. SACHS.

EXERCISING APPARATUS.

No. 399,699. Patented Mar. 19, 1889.

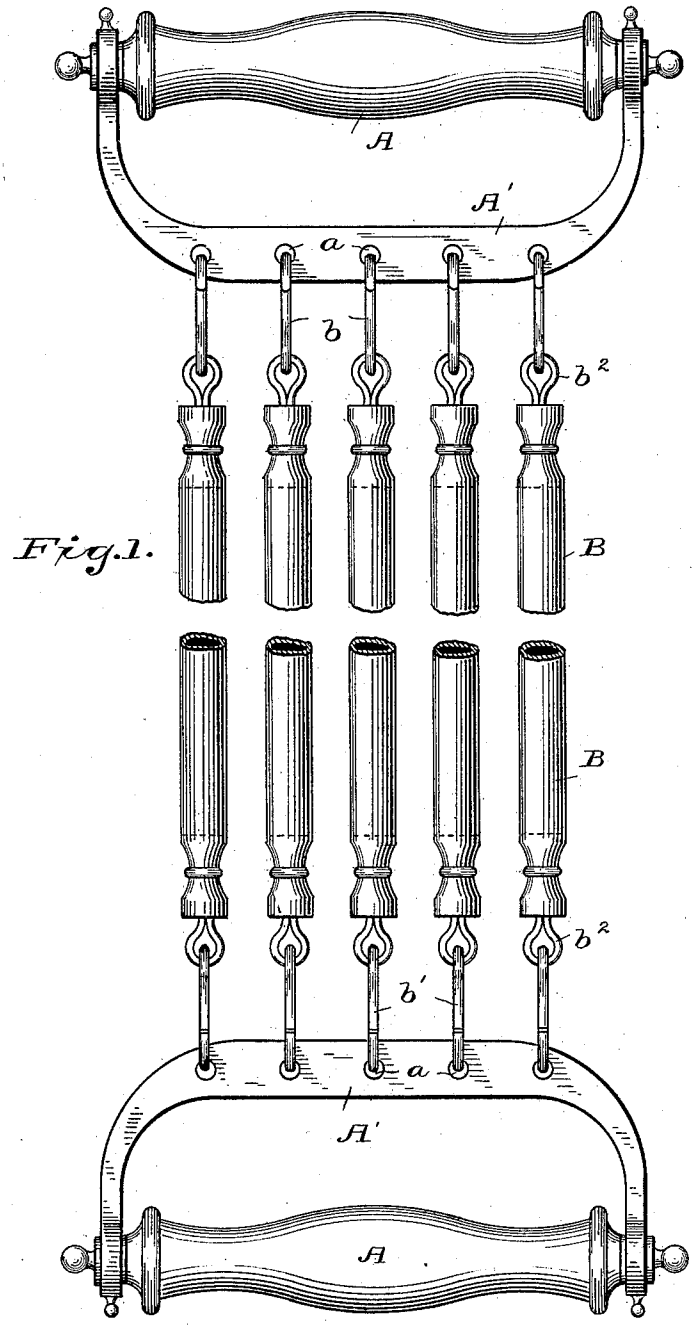


Fig. 1.

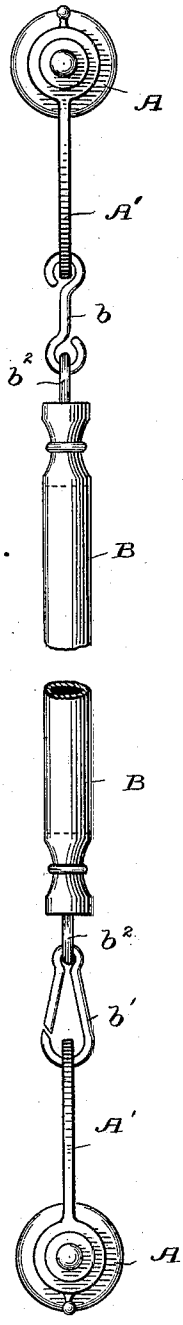


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM SACHS, OF BERLIN, GERMANY.

EXERCISING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 399,699, dated March 19, 1889.

Application filed June 25, 1888. Serial No. 278,195. (No model.) Patented in Germany October 25, 1887, No. 43,389.

To all whom it may concern:

Be it known that I, WILLIAM SACHS, (of the firm of A. Sachs,) a subject of the King of Prussia, residing in Berlin, in the Kingdom of Prussia, in the German Empire, have invented certain new and useful Improvements in Dynamical Exercising Apparatus, (for which I have obtained Letters Patent in the German Empire, No. 43,389, dated October 25, 1887,) of which the following is a specification.

My invention relates to an improved dynamical exercising apparatus, such apparatus having hitherto been constructed of a single rubber tube or solid rubber string of suitable length with a handle attached to it at both ends. Such a single piece of rubber, however, was only equivalent to a constant dynamical force. If an apparatus of this description is to be used by a child, the elastic power or resistance of the piece of rubber must be comparatively small, while for a full-grown person it must be great. Accordingly with apparatus as hitherto constructed an elastic tube or piece of different strength was required for each individual person of different strength, for males and females, and children of different ages. Moreover, when a person has been exercising even for a comparatively short period, the muscles improve in strength and require for further exercise an apparatus of greater resistance. The rubber tube or piece, having a constant elastic power, was no longer adapted to the increased dynamical force of the person. Consequently another tube or length of rubber had to be provided, the former one being no longer of use.

My invention has for its object the construction of an apparatus which can be adapted to the dynamical faculties of persons of any age and strength. The resistance of the apparatus may be varied within reasonable limits, according to requirements, which vary according as the apparatus is used by different persons of unequal strength, or by one person during a period sufficient to produce a gradual increase of muscular power.

In carrying out the invention I make the handles of the apparatus suitable for attachment either to a single elastic tube, band, or cord, or to a metallic spring, or to two, three, or more such elastic connections at a time, each of said connections being easily attached and detached by a hook, clasp, or other suitable connecting device.

In the accompanying drawings, Figure 1 is a side elevation of my improved dynamical exercising apparatus arranged with five elastic rubber tubes. Fig. 2 is an end elevation of the same. The rubber tubes are shown broken off in both figures.

A are the handles of the apparatus, each being provided with a hoop, A′, having a suitable number of holes, *a*, into which catch the connecting-hooks *b b′* of the tubes, or elastic cords or bands of rubber B, or spiral springs of suitable resistance. The hooks *b* or carabine swivels *b′*, or other suitable connecting-links, catch into or are attached or secured to suitable hoops, rings, hooks, or eyes, b^2, attached to the ends of the elastic bands B, such hoops, rings, or eyes b^2 being securely fastened by a core or suitable fastening to the tube or band, in order to prevent disconnection when the elastic band or bands are forcibly distended.

The shape of the handles and the means of connecting the elastic bands B to them may be varied to a great extent. For instance, a disk or ring may be employed instead of the hoop A′ with hooks, rings, loops, or eyes attached to it, and the hooks or swivels *b′* may be attached to the bands B instead of to the handles.

The elastic bands B, whether of rubber or metallic springs, may be of equal strength, or they may be of different dynamical resistance or elasticity.

It will be easily seen that by attaching only a single elastic band B to the handles A A′ the maximum amount of resistance will be obtained, and that by attaching another band the resistance will be increased, every additional band attached adding its power of resistance to those already attached. If the bands B are of equal strength, the unit will be multiplied by the number of bands attached. If, however, the bands B are of unequal strength, a variety of units may be obtained, and also a variety of combinations of different bands. By this means the apparatus will answer any requirements which may occur from the smallest resistance adequate to the

muscular power of a little child up to the maximum of resistance which requires athletic force to overcome it.

This improved apparatus will accordingly be very useful not only to individual persons, but also more particularly it will be found convenient for the use of families, schools, gymnastic clubs, and in general for the use of a number of persons of different strength.

I claim as my invention—

A dynamical exercising-machine consisting of handles A A, hoops A′ A′, secured thereto, said hoops being provided with suitable holes, and a series of elastic cords or their equivalents provided with fastening devices on each end adapted to be detachably connected with the holes in the hoops, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM SACHS.

Witnesses:
ITHMAR LENZ,
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