H. W. TITUS.

DUMB BELL.

APPLICATION FILED JULY 23, 1909.

980,025. Patented Dec. 27, 1910.

Fig. 1.

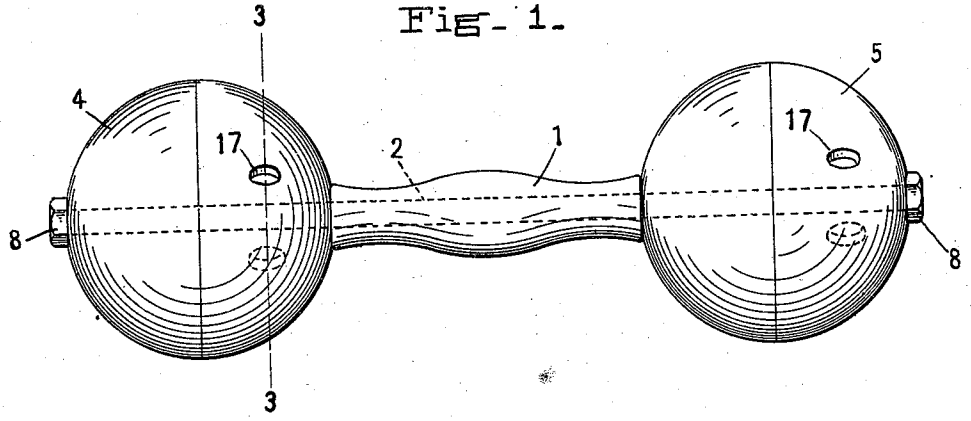


Fig. 2.

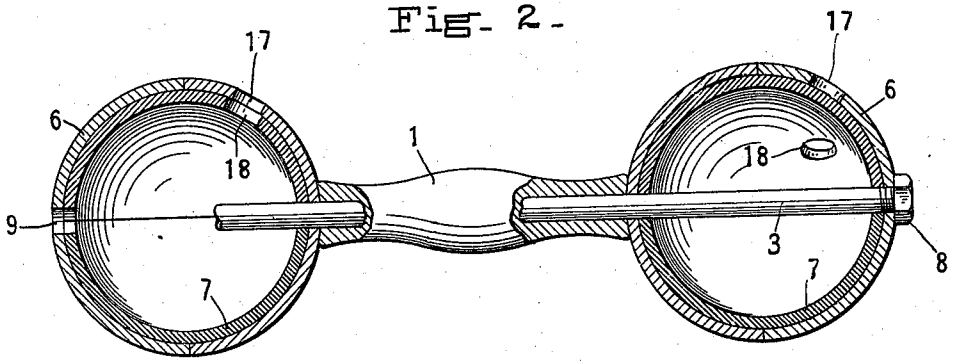


Fig. 3.

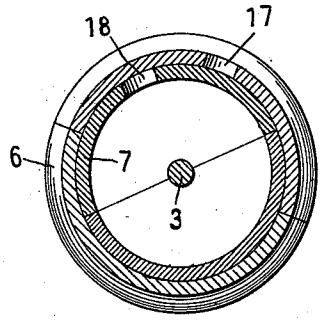
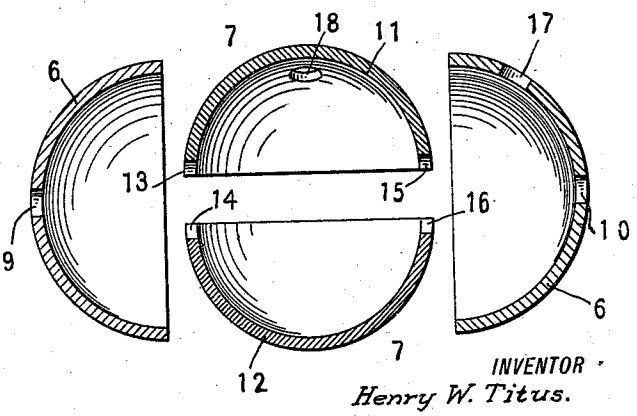


Fig. 4.



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DUMB-BELL.

980,025. Specification of Letters Patent. **Patented Dec. 27, 1910.**

Application filed July 23, 1909. Serial No. 509,137.

To all whom it may concern:

Be it known that I, HENRY W. TITUS, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Dumb-Bells, of which the following is a full, clear, and exact description, whereby any one skilled in the art may make and use the same.

The invention relates to exercising apparatus or dumb-bells. That is, a device having weights interconnected by a bar or handle which may be used in gymnastic exercises for developing the strength and muscles of the user.

It relates more particularly to dumb-bells in which the weight may be varied at will to give a gradual increase or decrease in weight to vary the conditions of exercise.

It is so arranged that it may be readily assembled or taken apart to secure the greatest convenience in shipment or for packing while traveling.

The objects of the invention are, to provide a very simple and efficient device, which may be constructed at an economical cost and will have features of adjustability as to weight and compactness when unassembled, which make it especially desirable for use as a folding or knock-down device.

A further object is to provide a very simple and very light structure, the parts of which are so arranged that, when fitted together, they will form practically an integral structure having great stability and strength, and adapted to be weighted to any desired degree.

Referring to the drawings:—Figure 1 is a view in side elevation of the device. Fig. 2 is a sectional view of the spheroids or balls showing the attachment of the parts to the handle. Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detail sectional view of the parts making up the spheroids or balls.

Dumb-bells have long been used in various systems of physical development and have been formed in various ways. Usually, a short handle or grip is employed with a pair of spheroids at either end thereof, and, in some instances, these spheroids or balls have been made detachable with reference to the handle. Dumb-bells have also been employed with a long handle or bar having weights at both ends, and are commonly known as "bar-bells." There is also the well-known form of kettle-bell wherein the handle is attached to the spheroid or weight of any desired form, the handle being in the form of a loop. Such devices have heretofore been made in more or less cumbersome forms and of such structure that they could not be readily or conveniently taken apart and packed for transportation, while traveling, and it is one of the principal purposes of the present invention to provide a suitable dumb-bell for exercising purposes wherein the several parts of the device may be nested together and packed in a comparatively small space.

In a co-pending application, Serial Number 475,458, filed February 1st, 1909, there is shown a device which meets certain of the conditions above indicated. In the present device, however, the parts are so arranged that there can be no leakage of the weighting material during the manipulation of the device and without materially increasing the weight, the device may be made much stronger and more efficient.

Referring to the drawings, the numeral 1, denotes a short handle having a central bore 2, through which may be passed a spindle or bar 3. On either end of said handle are arranged hollow spheres or spheroids 4, 5, of special construction. Each of these spheroids consists of an outer casing 6, and an inner casing 7, which fit snugly about each other and are held in place upon the bar 3, by any suitable means as for instance, clamping nuts 8. The outer casing 6, is formed of two hemispherical sections each provided with a perforation 9, 10, through which the bar 3, may pass. These hemispherical sections are divided on a line substantially at right angles to the axis of the bar. The inner casing 7, is composed of two hemispherical sections 11, 12, the meeting edges of which are on a line parallel with the axis of the bar 3, and substantially at right angles to the meeting edges of the sections of the outer casing. These inner hemispherical sections are provided with semicircular recesses 13, 14, 15, 16, formed in the edges of the shell sections and arranged to form, when the shell sections are properly brought together, openings through which the bar 3, may pass. It will be noted that the inner casing fits snugly within the outer casing and that the parting lines of the several hemispherical sections

are substantially at right angles to each other.

Through one of the outer hemispherical members is a perforation 17, and arranged in one of the inner hemispherical members is a perforation 18, the two openings 17, 18 being situated in the same planes cutting the axis of the bar 3 at right angles. By slightly loosening the clamping nuts, the outer hemispherical member may be turned until its perforation registers with that of the inner casing member, and thereupon shot, sand, or other weighting material may be introduced to or removed from the hollow spheroids.

It is quite immaterial whether the perforations are formed in the outermost section as indicated at the right of Fig. 1, or in the innermost section, as illustrated at the left of Fig. 1. When the outer casing member has been relatively moved with reference to the inner casing, the perforations will be brought out of registering position and the opening to the interior of the spheroid will therefore be closed.

It is intended to form the several hemispherical sections from a very light material as, for instance, sheet steel pressed to form, and by using an inner and outer casing with the parting lines of its sections substantially at right angles to each other, a very strong structure is provided, and one which will withstand a considerable compression strain. As the parts are all pressed up from sheet steel or light material, there is practically no danger of fracture, such as occurs when a cast spheroid is thrown with considerable force, or is dropped upon a floor. It will be noted that the several parts of the device are firmly clamped and locked together by a single bar passing entirely through the device and secured in place by clamping nuts. There is a special advantage in providing these thin stamped up spheroidal members, in as much as they may be made from a comparatively light material and yet, when assembled, will give sufficient strength to retain variable weights introduced to the interior thereof. Furthermore, the variations in weight may be varied to almost an infinitesimal degree. By gradually increasing the weights used for daily exercise, a gradual development of muscular condition may be attained, which will preclude the possibility of "forcing" which gives knotty, hard muscles with improper circulation. With this device, the muscles may be so gradually developed that the desired length of fiber and toughening of tissue may be secured with perfect blood circulation. Any condition of development may be secured by proper variations in the weighting of the spheroids, and the user may continue his use of the device even while traveling, as the several parts may be closely nested together and readily reassembled. For instance, the several hemispherical parts may be nested one within the other, occupying very little space and yet, when assembled, may be filled with the finest sand or shot without liability of leakage, even when the parts are loosened to add more material. This is the particular advantage of having the inner and outer casing, in which the meeting edges of the hemispherical section may be brought closely together. A slight slackening of the binding nuts will be all sufficient, to permit moving the sections, so that the perforations 17, 18, will come into registering position, and weighting material may then be introduced or extracted, without liability of leakage between the meeting edges of the hemispherical members.

The device may be made in various forms, either as a hand-bell, bar-bell, or kettle-bell, without departing from the spirit or intent of the invention.

Obviously, the form of the several sections of the casings might be varied, to any desired extent, to provide weight receptacles of various sizes and shapes, and the detached arrangements might be changed, to a considerable degree, without departing from the spirit or intent of the invention, which contemplates the double walled casing or weight receptacles having sectional walls.

What I claim as my invention and desire to secure by Letters Patent is:—

A dumb-bell having a handle and provided with weight receptacles, and a connecting bar passing through said handle and weight receptacles, said weight receptacles comprising inner and outer casings, the inner casing having two hemispherical sections forming a hollow spheroid with the line of juncture parallel with the axis of the bar, the outer casing having two hemispherical sections forming a hollow spheroid closely encircling the inner spheroid and with the line of juncture transverse to the axis of the bar, a perforation through one of the sections of the inner casing, and a perforation through one of the sections of the outer casing adapted to be brought into registering position upon relative rotation of the parts.

HENRY W. TITUS.

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