D. F. Savage,

Dumb Bells,

No. 28,505. Patented May 29, 1860.

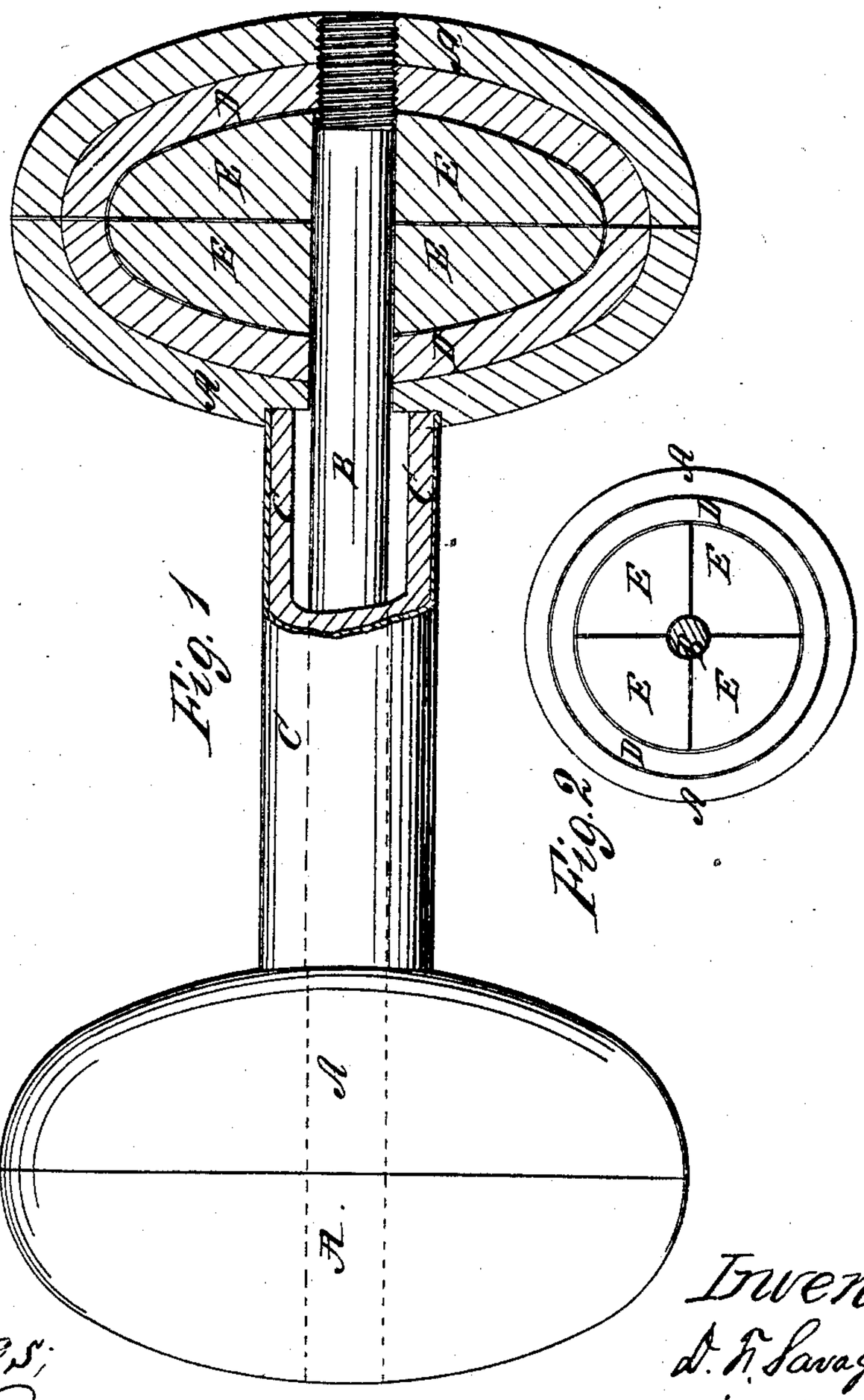

Fig. 1

Fig. 2

Witnesses:
R. A. Spencer
J. W. Coombs

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UNITED STATES PATENT OFFICE.

DANIEL F. SAVAGE, OF BOSTON, MASSACHUSETTS.

DUMB-BELLS.

Specification of Letters Patent No. 28,505, dated May 29, 1860.

To all whom it may concern:

Be it known that I, D. F. SAVAGE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Dumb-Bells; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1, represents an exterior view of one ball, and a vertical cross section taken through the other ball on nest of shells forming several distinct balls or spheroidal enlargements,—both of which balls are connected together by a rod, and between the two balls is placed a hollow swelled handle, shown partly in section. Fig. 2, shows a section of one ball or nest of balls, the central one being made up of solid quarter sections.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to produce a graduated dumb-bell so that the weight of the same may be increased or diminished at pleasure to almost any extent, at the same time to preserve the spherical or spheroidal shape of the balls. The object of varying the weight of the balls is to graduate them to the muscular development of the person using them, for instance, when dumb-bells are first used by a person with soft muscles, they are required to be very light in order that the proper exercise may be taken without straining or injuring the muscular or even the ligamentous parts that are brought into active exertion, and by a constant exercise of this kind, the muscles soon begin to develop very rapidly and the weight of the bells should be gradually increased. At present this can only be done by the purchase of new bells, but with my plan, the same bells may be graduated to the strength of different persons, either augmented or diminished in weight with very little trouble.

My invention consists in constructing the balls of any suitable number of sections, each of which may be secured together by a rod passing through the axes of the same, and connecting the two balls, or nests of sections forming the balls together; and it consists in connecting the hemispherical or semi-spheroidal shells together in such a manner that each pair of shells may be brought together and made to form a perfect dumb-bell, or so that the outer shell may be filled up with one, two, or more smaller ones, and the whole confined in place; the balls being thus made up of large and small shells, the lightest weight is obtained by using only the empty shells, while the weight may be gradually increase by filling up the shells one by one with the sections, as will be hereinafter described and represented.

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

In the accompanying drawing A, A, represent the two exterior halves or shells of one ball which may be round or spheroidal when brought together. These, with a corresponding pair are made up of cast metal and secured together at each end of a rod B, by cutting screw threads on the extreme ends of this rod, and passing the rod through the axes of the shells as shown in Fig. 1, and setting the two pairs of shells up against a hollow handle C, or they may be secured together in any other suitable manner.

The plan represented in the drawings where a hole is made through the shortest axis of the spheroidal shells, and a female screw thread cut in the shells, on the extremity of the rod B, will most likely be the plan adopted, as nuts and other prominences on the balls would be very inconvenient and otherwise objectionable.

Annular cavities are formed around the axis, and on the outer surface of each interior shell, A, corresponding in diameter to the ends of the handle C, which, when the shells are properly screwed up, receive the ends of the handle, and serve to secure the handle in place and in conjunction with the rod B, to clamp the shells together. These shells A, A, are cast hollow and are from three eighths to a half inch in thickness—or more or less. They may be of any desirable size and weight, or as above stated either spherical, or in the shape of a flattened sphere as shown in the drawings. On the inside of these outer shells are inclosed smaller shells made in two halves D, D, and secured if necessary by the screws on the ends of the rod B, in the same manner as described for the outer or covering shell, and on the inside of this second shell, may be placed another shell, or a solid ball E, which is made up of sections, as shown in Fig. 2. These hollow balls when thus made up of sections divided

in such a manner that they may be readily separated, and the sections removed for diminishing the weight or vice versa, will combine the advantages of compactness, cheapness, and utility, with the additional advantage of graduating their weight to any desirable requirement of the muscles.

Should it be desirable to use smaller balls than those forming the exterior shell, a longer handle may be used, and these outer shells may be removed, and the remaining balls clamped together and secured to the rod B, in the same manner as in securing the shells A A.

There are several ways in which my invention may be carried out, whereby the balls may be increased or diminished in weight which will not be necessary to describe here, as the principle of sectional dumb-bell balls has been fully set forth, and this constitutes the essential feature of my invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

Making the balls of a dumb-bell, in hollow or solid sections, substantially as set forth, and thus rendering the same capable of being increased or diminished in weight.

D. F. SAVAGE.

Witnesses:

ROYAL BOSWORTH,

J. C. YOUNG.