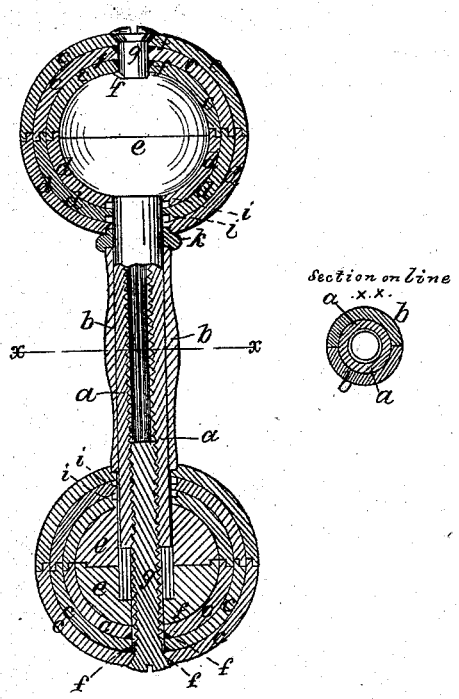
D. P. Butler,

Dumb Bell.

No. 48,514 Patented July 4. 1865.



Witnesses { S. N. B. Kidder
W. B. Gleason

D. P. Butler
A. Gould Agt
J. B. Crosby
Atty

UNITED STATES PATENT OFFICE.

D. P. BUTLER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN DUMB-BELLS.

Specification forming part of Letters Patent No. **48,514**, dated July 4, 1865.

To all whom it may concern:

Be it known that I, D. P. BUTLER, of Boston, in the county of Suffolk and State of Massachusetts, have invented Improved Dumb-Bells; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention has for its object the production of dumb-bells (such as are used for exercise) having the form and proportion of the common dumb-bells, and capable of graduation as to weight and size without affecting the general form or symmetry of the article under such graduations; and the invention consists in the peculiar construction of nested dumb-bells capable of dissection for the purposes of graduation as to weight and size, and of preserving, under such changes, the same common form, which is generally that of oblate spheroidal balls united by a cylindrically-shaped handle.

The drawing represents a view of my improved dumb-bells, partly in section and partly in elevation.

a denotes an axial spindle; *b*, a hollow handle, made in two parts, placed upon and surrounding the spindle.

c d represent a series of hollow semi-spheroidal shells nested together and over an inner spheroid, *e*, which may be in either one or two parts, and may be made as a shell or shells, or may be solid, with the exception of a central aperture. The inner shells, *d*, and one-half of the spheroid *e* fit upon the stem *a*, and each is provided with a suitable lip or flange, upon which the corresponding outer shell or semi-spheroid fits, the adjacent lips or flanges on each set of shells forming together a halved joint. Each shell *c* has a central hole, *f*, into which the end or head of a screw, *g*, fits, and the spindle *a* has a female screw-thread, into which the thread of the screw *g* works. By this means the two series or nests of shells are held together, and upon opposite ends of the spindle *a*, as seen in the drawing, the two inner semi-spheroids or shells abutting against the shoulders formed by the ends of the handle *b*, or against rings *k*, interposed between the shell and the handle, and being thereby held at the proper distance apart, each shell having a shouldered recess, *i*, which fits over the adjacent ends of the sectional handle, or over a flange upon the ring *k*, the ring being also recessed to fit over and confine the two parts of the handle together.

By the interposition of rings it will be evident that the distance between the shells can be increased at pleasure, thereby lengthening the handle, while by making the handle sectional it may be readily changed for a longer or shorter handle, or for one of different shape, as circumstances or fancy may dictate or require.

Now, it will be obvious that each end of the spindle may have fastened upon it any two of the shells which fit together, and only those two, or it may have any number, from the smaller single spheroid *e* up to the whole nest, as shown in the drawing, and the handle *b* may be substituted by a longer or shorter handle, to graduate the distance apart of the bells at pleasure. Thus it will be seen that the instrument combines a capability of change or graduation as to weight and size with a construction which preserves the same general and symmetrical form throughout these changes, and that this graduation is capable of being expeditiously effected by the most ordinary skill and with but little or no trouble. Small dumb-bells of a given weight are sometimes not so convenient to exercise with as larger ones of the same weight, though generally the reverse is the case; but this construction fully answers either requirement. For persons beginning to practice with dumb-bells this arrangement enables them to begin with the lightest weight and gradually to increase the same by the addition from time to time, as may be desirable, of an extra shell, thus obviating the necessity of having a cumbersome set of different instruments.

In casting the spindle *a* the hollow part, excepting near the ends, may be made of larger diameter than the diameter of the thread upon the screw *g*, in which case it will, of course, be only necessary to cut the nut or thread in the spindle near the ends thereof.

I am aware that it is not new to make dumb-bells in sections. Such construction is shown in the United States Patent No. 28,505, granted to D. F. Savage. It is the peculiar construction or manner of confining the parts to-

gether, as herein described, that constitutes my invention, and not, broadly, sectional dumb-bells.

I claim—

1. The series of movable shells, held together and to the spindle or handle by a halved joint on each set of shells, and a screw, *g*, passing through the center of each shell and into the spindle, substantially as set forth.

2. The sectional handle *b*, made in two parts, fitting upon and detachable from a central spindle, *a*.

3. The employment of the rings *k*, interposed between the handle and shells, for increasing the length of the handle, substantially as set forth.

In witness whereof I have hereunto set my hand this 3d day of April, A. D. 1865.

D. P. BUTLER.

Witnesses:
FRANCIS GOULD,
W. B. GLEASON.