No. 780,816. PATENTED JAN. 24, 1905.

# W. H. SARGENT.

## BALANCE BALL.

APPLICATION FILED JUNE 16, 1904.

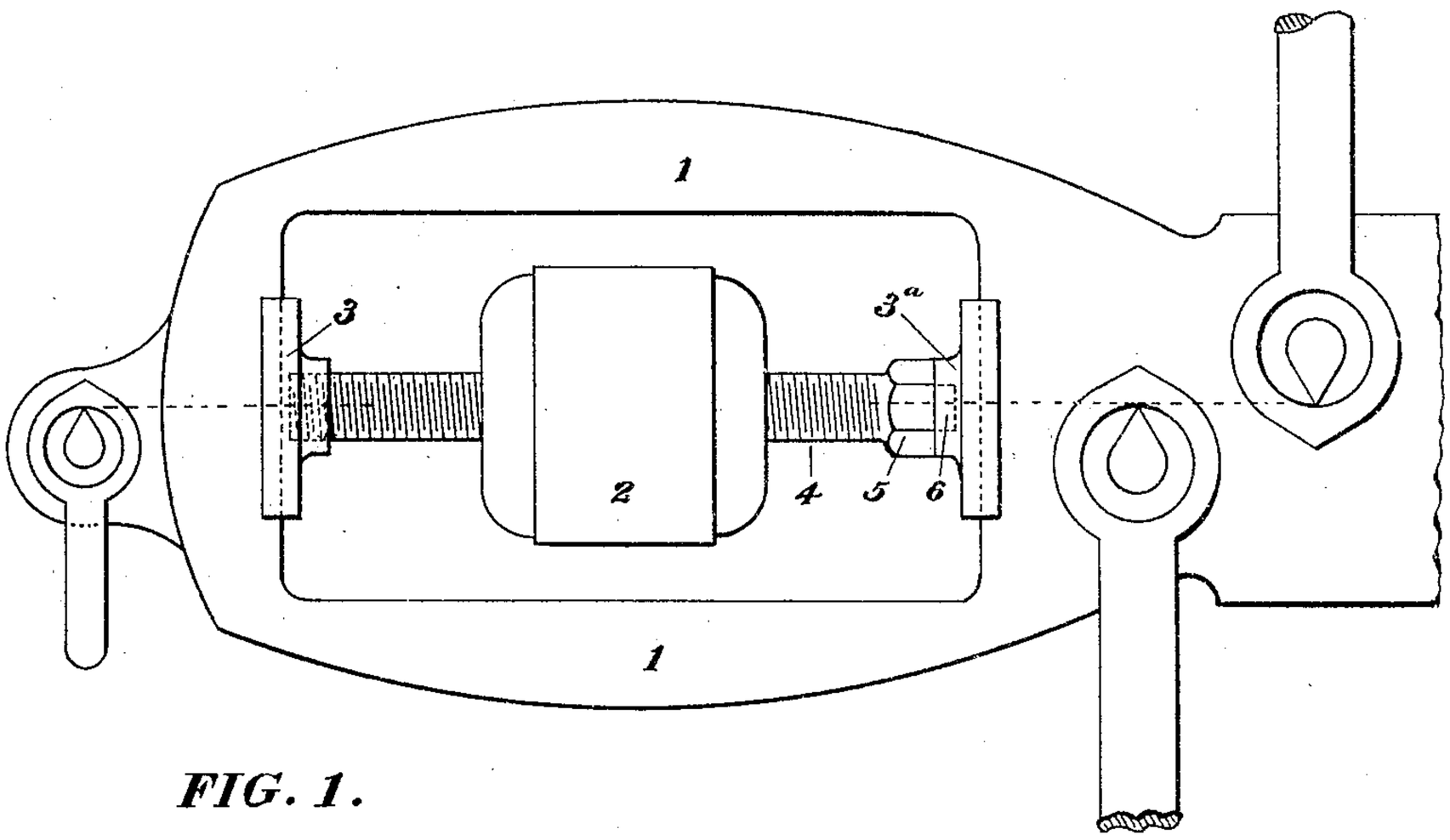


*FIG. 1.*

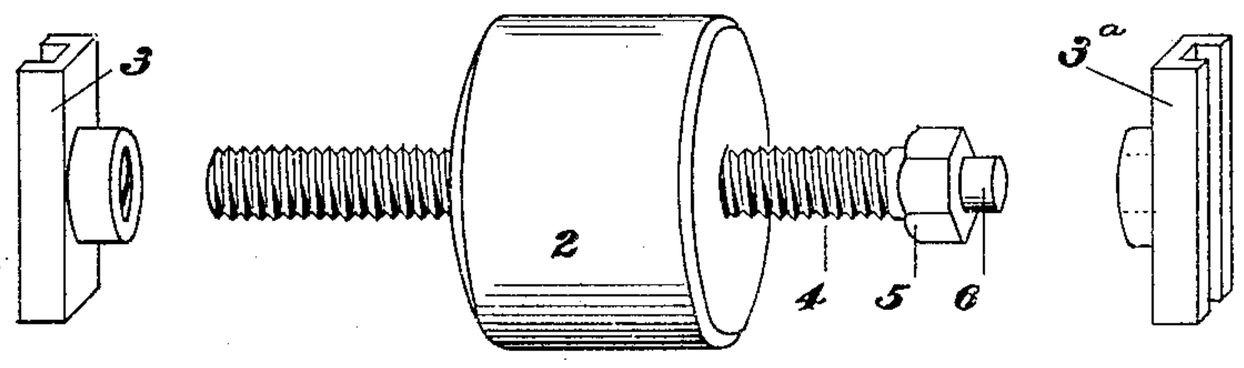


*FIG. 2.*

Witnesses
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# UNITED STATES PATENT OFFICE.

WILLIS H. SARGENT, OF ST. JOHNSBURY, VERMONT, ASSIGNOR TO E. & T. FAIRBANKS & CO., OF ST. JOHNSBURY, VERMONT, A CORPORATION OF VERMONT.

## BALANCE-BALL.

SPECIFICATION forming part of Letters Patent No. 780,816, dated January 24, 1905.

Application filed June 16, 1904. Serial No. 212,844.

*To all whom it may concern:*

Be it known that I, WILLIS H. SARGENT, a citizen of the United States, residing at St. Johnsbury, in the county of Caledonia, State of Vermont, have invented certain new and useful Improvements in Balance-Balls, of which the following is a description, reference being had to the accompanying drawings and to the figures of reference marked thereon.

The present invention relates to an improvement in weighing-scales, and particularly to means for attaching the balance-ball to the beam of a weighing-scale in such a manner that the center of the ball will be on a line with the edges of the pivots.

The object of the invention is to provide a construction in which such an arrangement is possible and to provide also a construction in which the ball-screw may be adjusted up or down, if desired, and may be so firmly fastened in position that it will not work loose and cannot be easily tampered with.

The invention therefore consists in the matters hereinafter described, and referred to in the appended claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a scale-beam, showing my invention applied thereto. Fig. 2 is a detail view showing the separate parts in perspective.

In the drawings the beam is shown at 1 and is provided with the opening to receive the balance-ball 2, which turns on the threaded rod 4. One end of this rod is formed into a hexagon head 5, ending in a straight tip 6, all being solid and of the same piece of metal. At each end of the ball-rod are clips 3 and $3^a$, which fit over the vertical guides formed by side edges of the beam-opening. The clip 3 is tapped out to fit the threaded rod 4, while the other clip, $3^a$, is drilled to receive the tip 6. When these various parts are in the position shown in Fig. 1, it is evident that turning the rod 4 by means of the nut 5 will force the clip 3 along on the rod until it bears against the beam with sufficient friction to hold it firmly in position. Turning the nut the other way draws the clip onto the thread and relaxes the friction, so that the device may be adjusted up or down and clamped in any position on the beam or by a few more turns may be removed entirely.

I do not wish to be limited to the shape of the nut nor to any of the other details of construction, as various minor modifications and changes may be made without departing from the spirit of my invention.

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

1. The combination with a scale-beam having vertical guides, of a supporting-rod carrying the ball, and provided at its ends with clips or slides engaging said guides, and adapted to be forced apart into frictional locking engagement with said guides.

2. The combination with a scale-beam having vertical guides, of vertically-sliding clips or slides on said guides, one having a threaded opening, and the other a non-threaded opening, a screw-threaded rod, a ball thereon, said screw-threaded rod having threaded engagement at one end with said threaded opening and having a non-threaded opposite end engaging the opening in the other slide or clip.

3. The combination with a scale-beam provided with an opening, the end walls of which form vertical guides, clips or slides mounted on said guides, one clip or slide having a threaded aperture and the other a non-threaded aperture, a screw-threaded rod, a ball carried thereon, said screw-threaded rod having threaded engagement at one end with said threaded opening and having at its other end a polygonal head and a non-threaded tip entering the aperture in the other clip.

4. The combination with a scale-beam having an opening, the end walls of which form guides, of a rotary threaded ball-carrying rod provided at its ends with clips or slides adjustable vertically on said guides or end walls, and connections whereby the rotation of the ball-rod will force the clips or slides apart into frictional locking engagement with said guides.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIS H. SARGENT.

Witnesses:

FRANK O. FRENCH,

J. M. PERHAM.