

No. 684,068.

Patented Oct. 8, 1901.

I. KINNEY.
BALL FOR CASTERS, &c.
(Application filed Apr. 8, 1901.)

(No Model.)

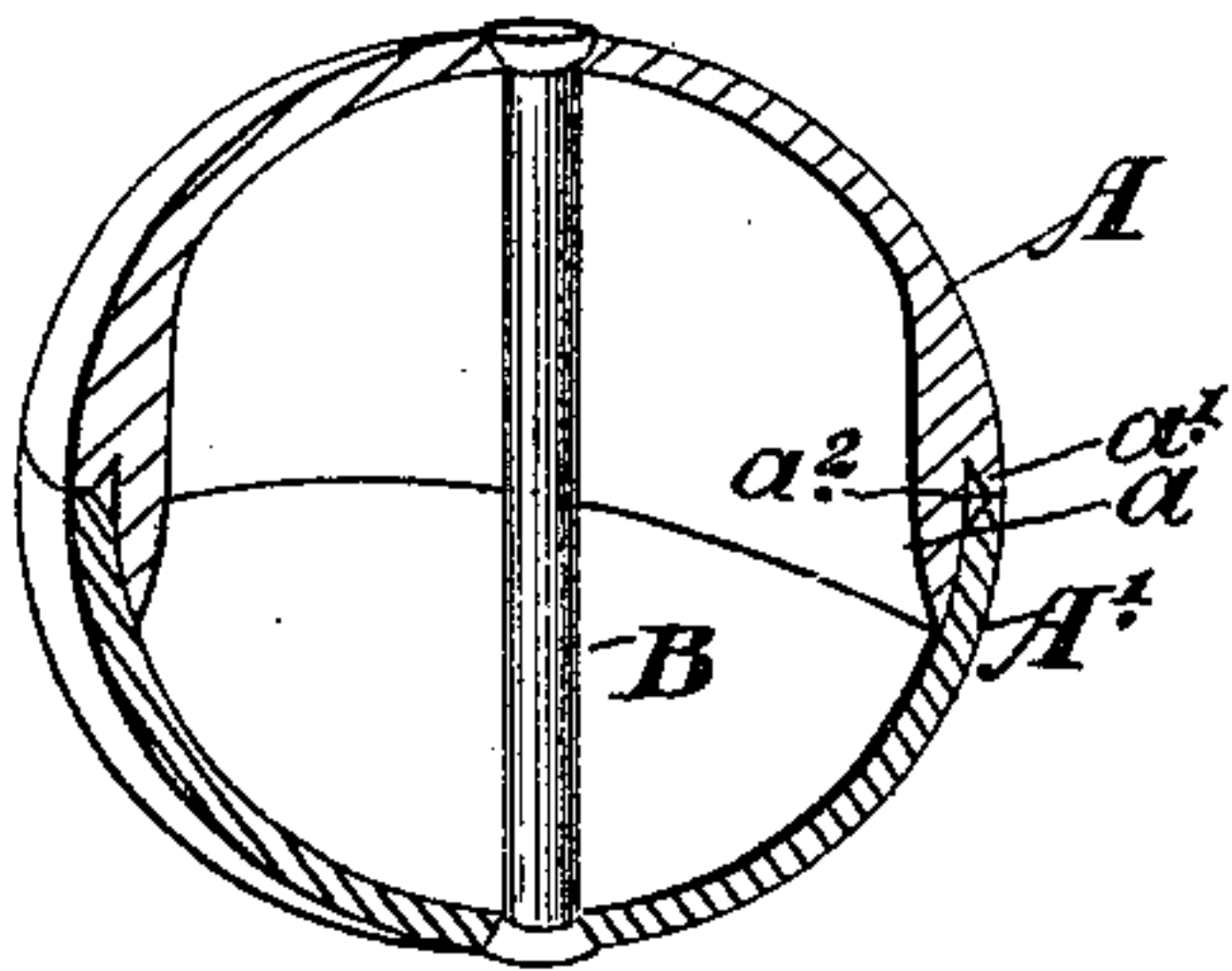


Fig. 1.

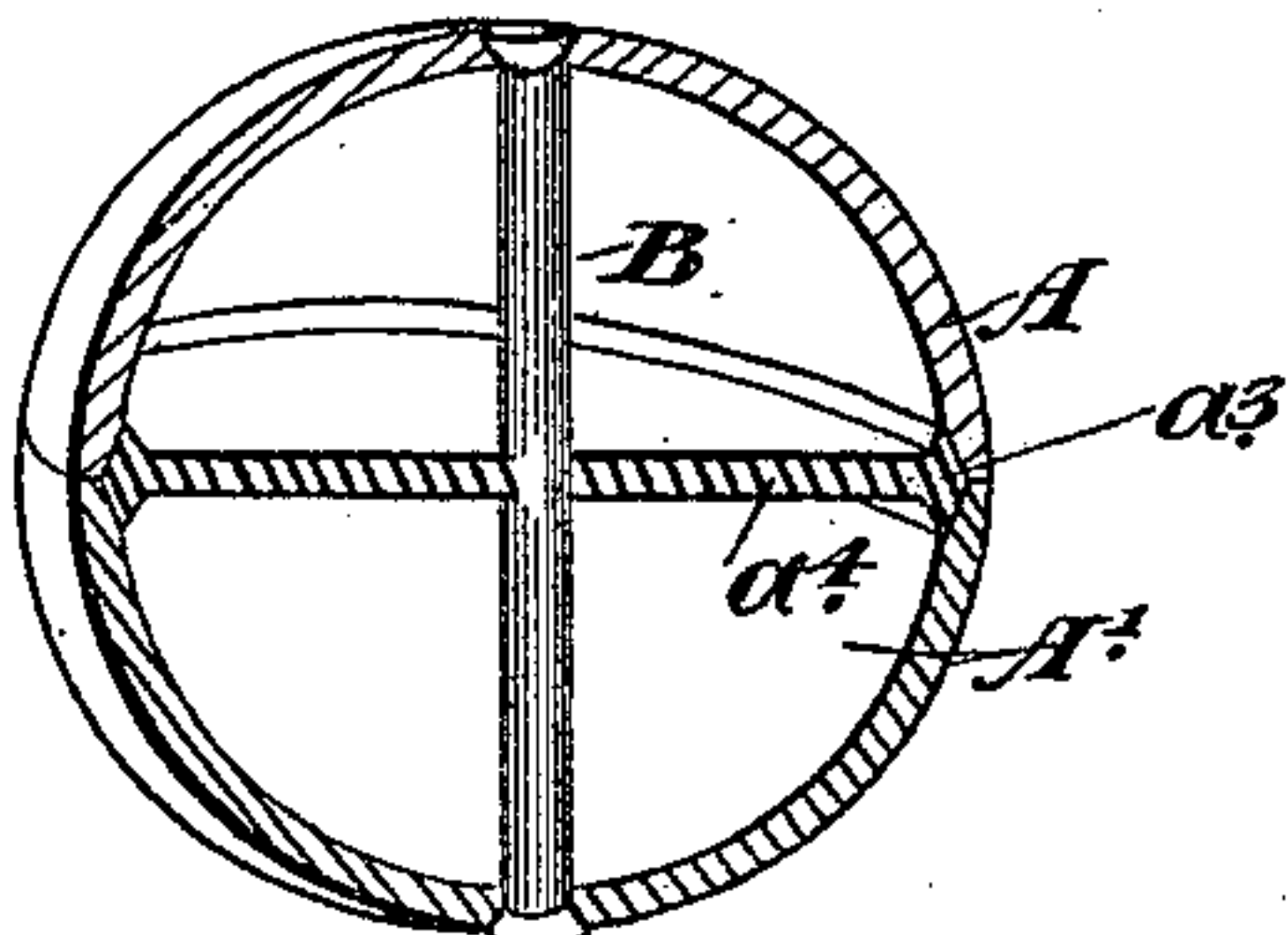


Fig. 2.

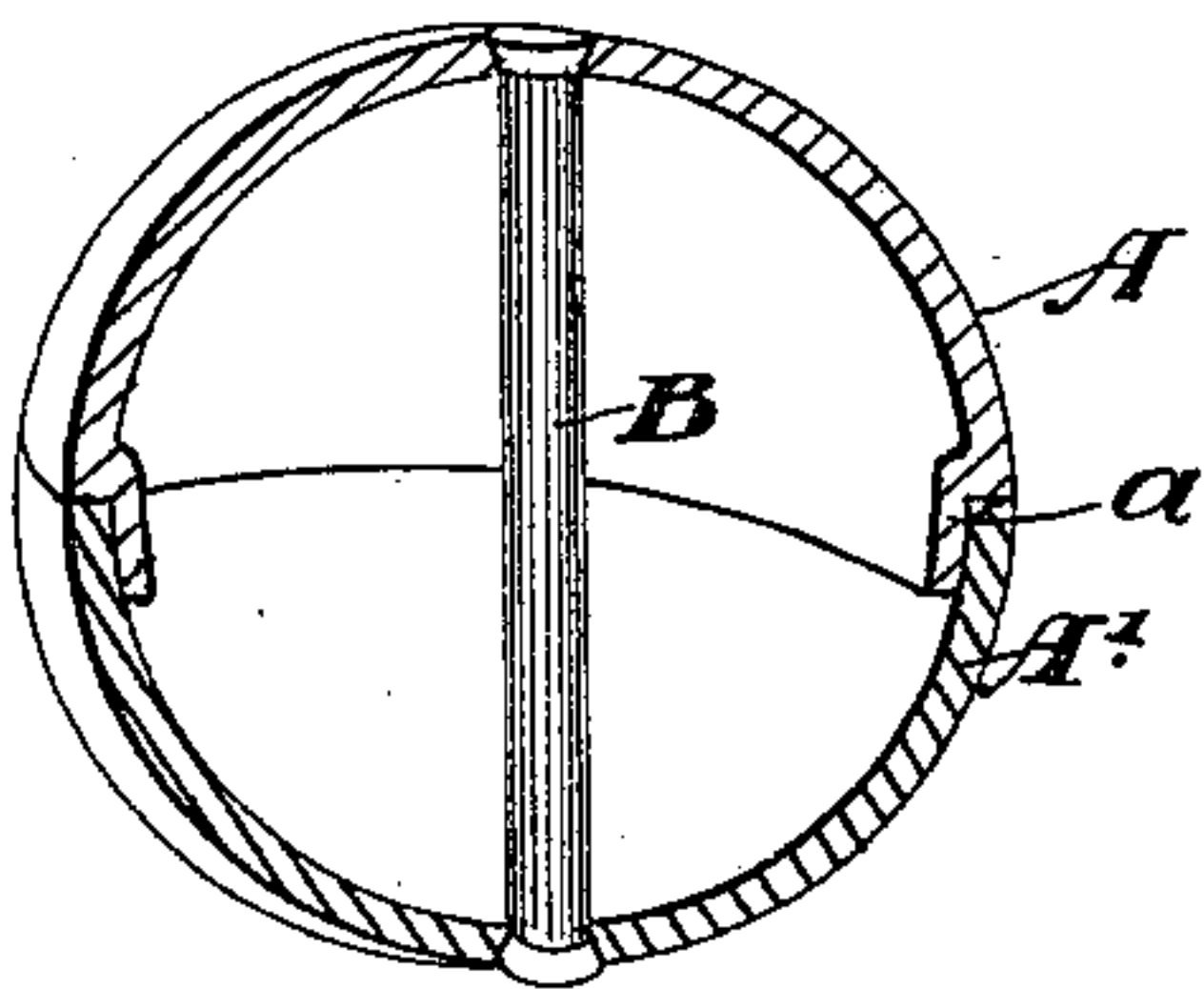


Fig. 3.

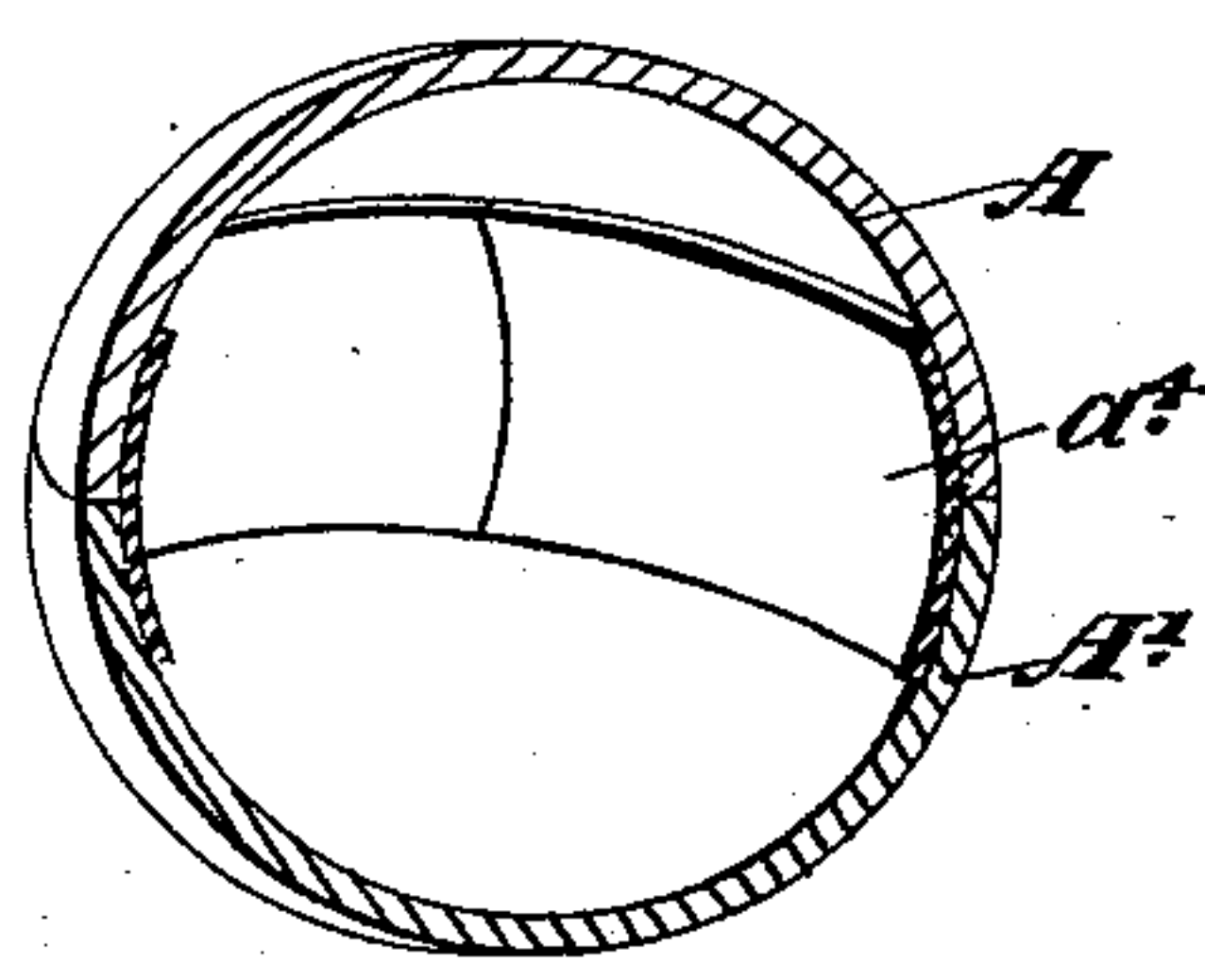


Fig. 4.

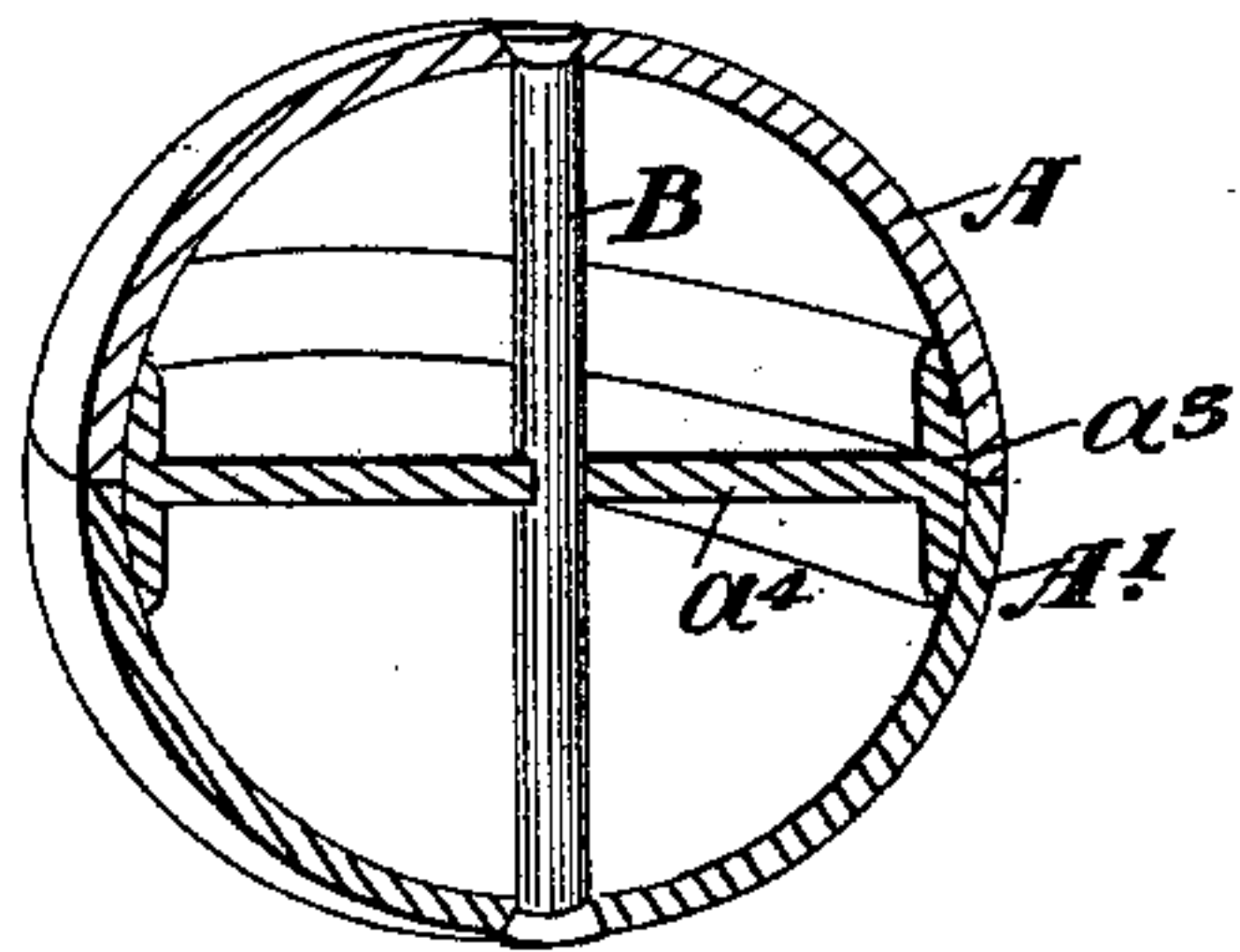


Fig. 5.

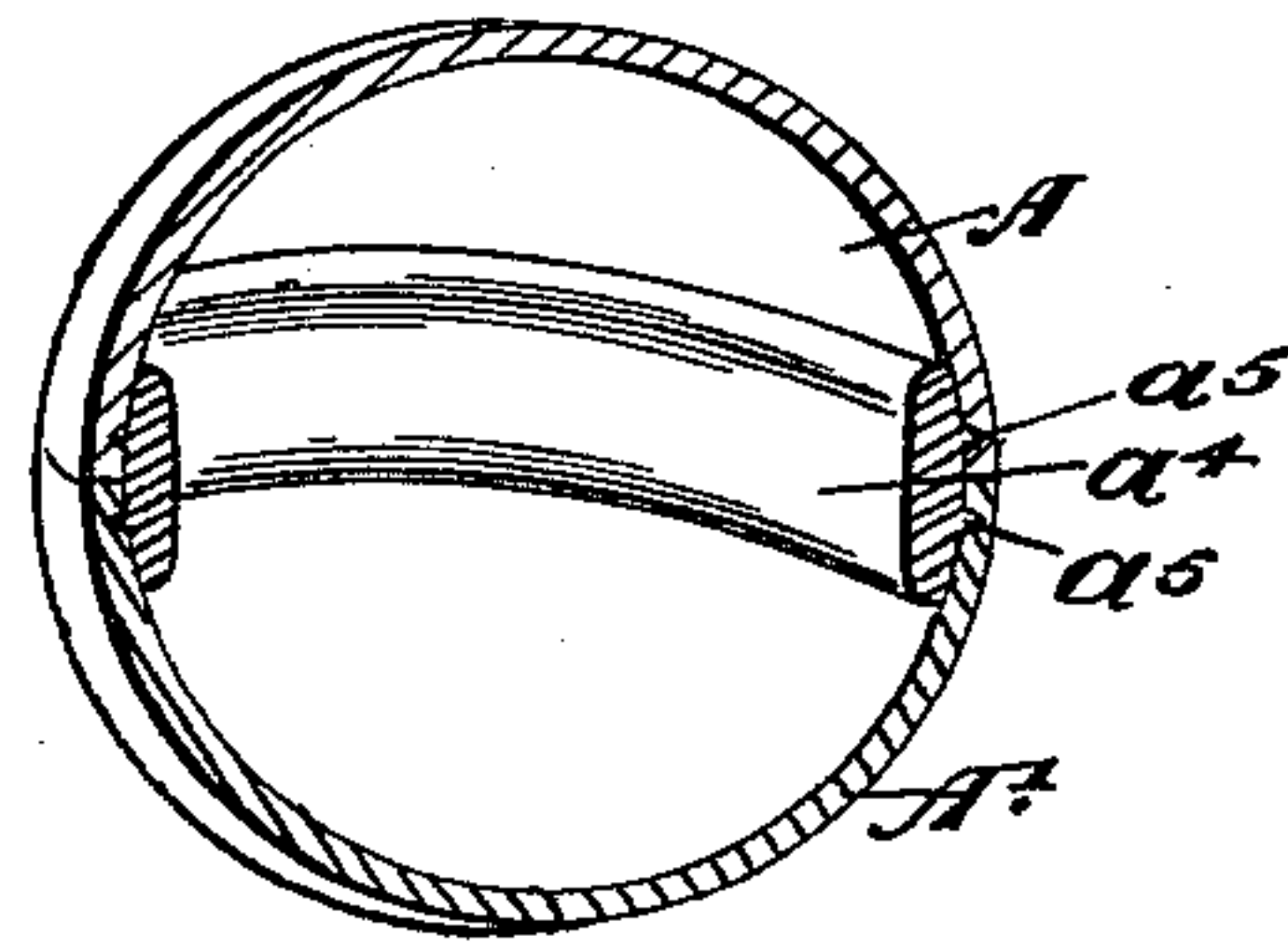


Fig. 6.

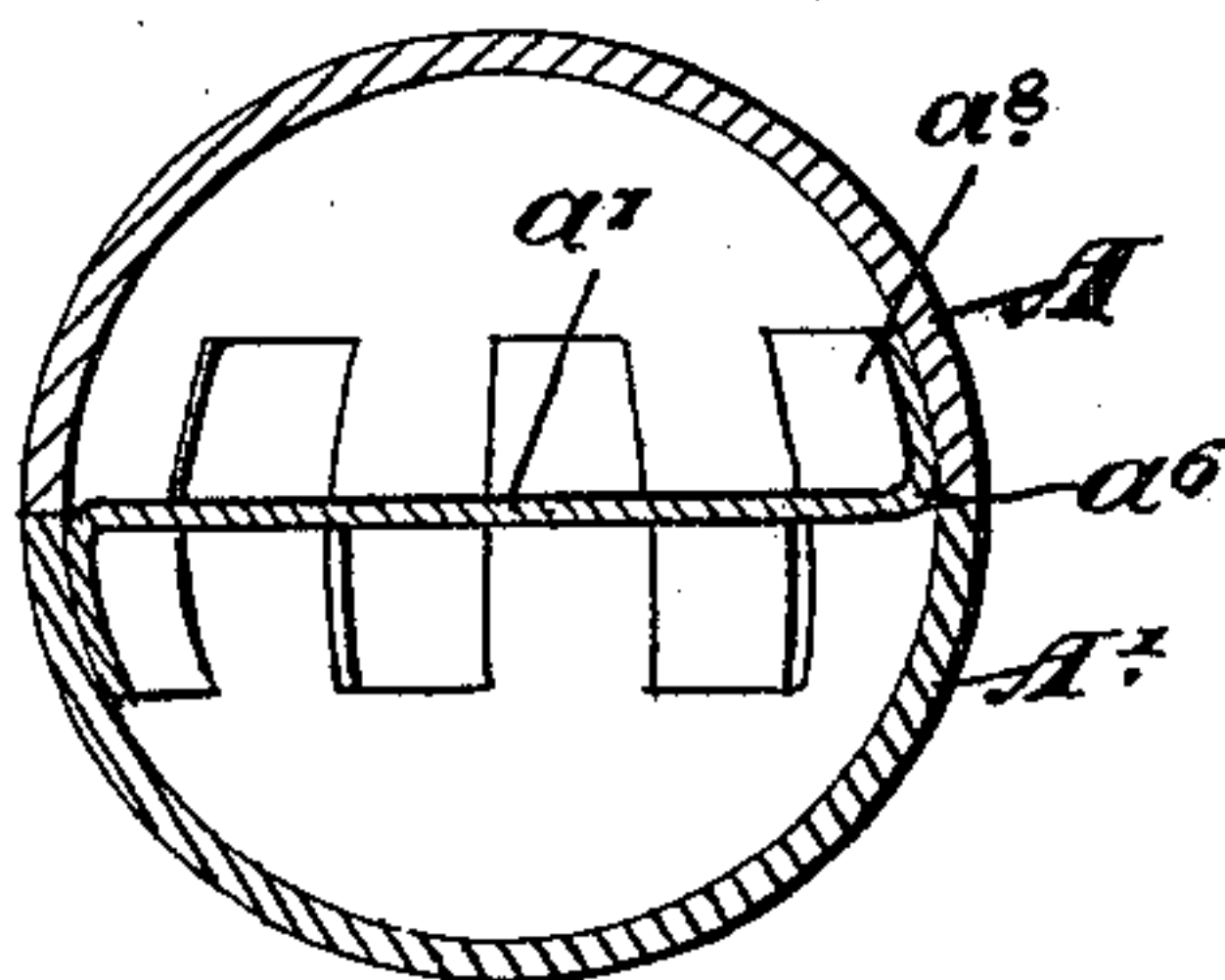


Fig. 7.

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UNITED STATES PATENT OFFICE.

ISRAEL KINNEY, OF TORONTO, CANADA, ASSIGNOR OF ONE-HALF TO THE GOLD MEDAL FURNITURE MANUFACTURING COMPANY, LIMITED, OF SAME PLACE.

BALL FOR CASTERS, &c.

SPECIFICATION forming part of Letters Patent No. 684,068, dated October 8, 1901.

Application filed April 8, 1901. Serial No. 54,923. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL KINNEY, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented
5 certain new and useful Improvements in Balls, of which the following is the specification.

My invention relates to improvements in balls; and the object of the invention is to
10 devise a light and strong ball which will be cheap to manufacture; and it consists of a hollow ball made in two or more sections having the abutting edges of the sections connected together by a suitable internal flange
15 or band, the parts being otherwise constructed and arranged in detail, as hereinafter more particularly explained.

Figure 1 is a sectional perspective view of a ball constructed in accordance with my invention, showing the internal flange or band
20 integral with one of the hemispherical sections. Fig. 2 is a sectional perspective view showing the band formed with a central diaphragm. Fig. 3 is a view of a slightly-varied form to Fig. 1. Fig. 4 is a similar view showing the internal flange or band formed independently of the two hemispherical sections.
25 Fig. 5 is a view of a slightly-varied form of Fig. 2. Fig. 6 is a view of a slightly-varied form of Fig. 4. Fig. 7 is a view of a varied form of Figs. 2 and 5.

In the drawings like letters of reference indicate corresponding parts in each figure.

In Fig. 1 the form consists of two cast hemispherical sections A and A'. In this form the internal flange or band a is attached to or forms part of the section A. An annular
35 projection a' is located to the outside of the flange a and forms a V-shaped annular groove a^2 , into which a corresponding edge of the section A' fits. A rivet B, with countersunk heads, is provided to secure the two sections together.

In Fig. 2 the two sections A and A' are
45 connected together by an internal flange or band a^3 , having a central diaphragm a^4 , through which extends the connecting-rivet B. The edge of the band a^3 is substantially broad, V-shaped in form and extends into corresponding recesses or depressions at the
50 abutting edges of the sections. In this figure also the form shown is designed to be a cast

form. The form of the outside of the band and the edges of the sections fitting thereon serves to preserve the contour of the exterior
55 edges, so that there is no inequality thereof, and also holds the band in place.

In Fig. 3, which is an alternative form to Fig. 1, the ball is intended to be made of two sections A and A', turned up, of sheet metal.
60 The internal flange or band a in this case extends also downwardly within the edge of the section A'. The rivet B secures the two sections together. This rivet, however, may be dispensed with, in which case the interior
65 of the section A' may be soldered onto the flange or band a .

In Fig. 4 I show the internal flange or band a^4 split; but it will of course be understood that it may be made undivided, if preferred.
70 The two sections A and A' are passed over the band and are preferably soldered thereon in any suitable manner. The band of course has the solder applied to it before the parts are put together, and then heat is applied to
75 the outside, so as to secure the sections to the band and to each other.

In Fig. 5 I show a slightly-varied form to Fig. 2, in which, however, the flange or band has no broad V-shaped periphery, but is intended to have the sections soldered to it.
80

In Fig. 6 the band a^4 may be cast, as well as the sections A and A', or they may be of sheet metal. The flange or band a^4 in this instance has annular projections a^5 formed
85 on it to each side of the abutting edges of the sections. Although I show in this figure the V-shaped annular projections a^5 as forming portion of the band, it will of course be understood that they might form portion of the
90 sections and extend into recesses in the band; but I prefer the form shown. The band a^4 may be also split, if desired, and in fitting the edges together the edges have to be sprung over the annular projections a^5 on the band
95 a^4 , so as to securely hold them in place. In this form of course it will be seen that there will be no necessity for soldering the band to the abutting edges of the sections.

In Fig. 7 I show an alternative form, in
100 which the flange or band a^6 is formed by being struck out of a disk-shaped piece of metal, the central portion of the disk forming a diaphragm a^7 . The band is formed in

this instance of a series of teeth, each adjacent tooth being turned one above and the other below the diaphragm a^7 . The sections of the ball are soldered to these upwardly and
5 downwardly extending teeth, forming the bands a^6 , and thereby are securely held together with the exterior contour perfect.

Although I show only two sections or hemispheres, it will of course be understood that
10 the ball may be made of any desired number of sections that may be found most convenient and cheap to manufacture.

These balls are designed for casters principally and antifriction-rollers.

15 What I claim as my invention is—

1. A ball comprising two sections, an internal flange or band, the arc of the cross-section of which fits the internal contour of the
20 abutting edges of the sections and means for

holding the two parts together onto the flange as and for the purpose specified.

2. A ball comprising two sections, an internal flange or band, the arc of the cross-section of which fits the internal contour of the
25 two sections and covers the joint between the abutting edges of the sections and a pin extending through the center of the two sections at right angles to the plane of junction and suitably countersunk as specified. 30

3. A ball comprising two sections, an internal flange or band fitting and covering the joint between the abutting edges of the sections and provided with a diaphragm and means for holding the two parts together onto
35 the flange as and for the purpose specified.

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Witnesses:

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