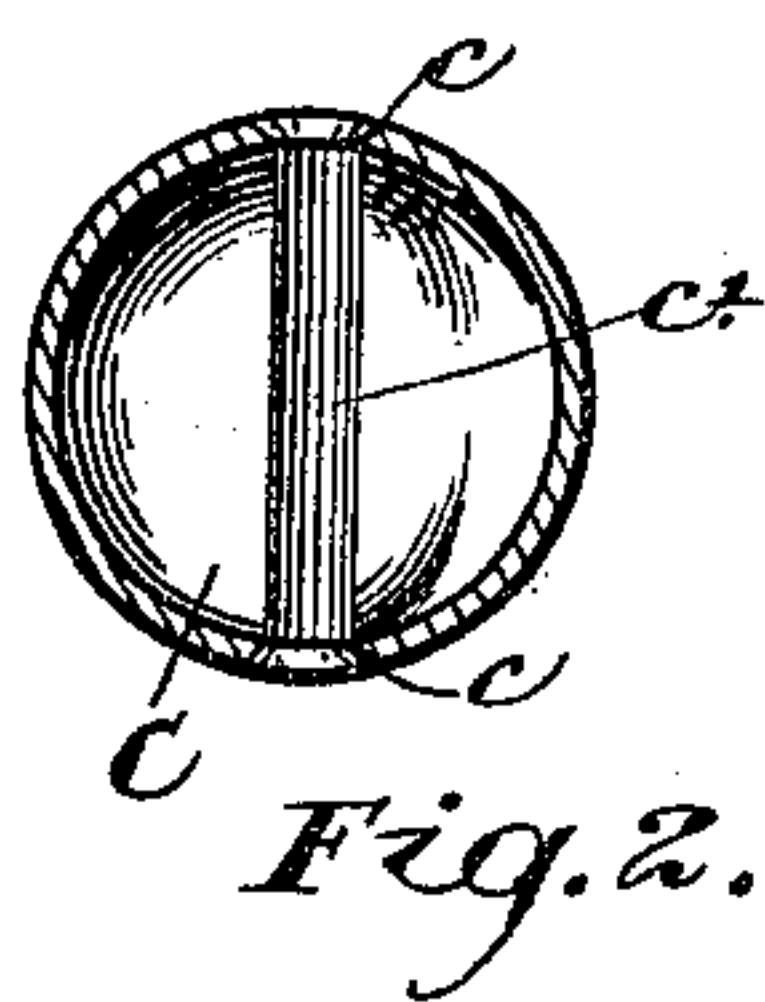
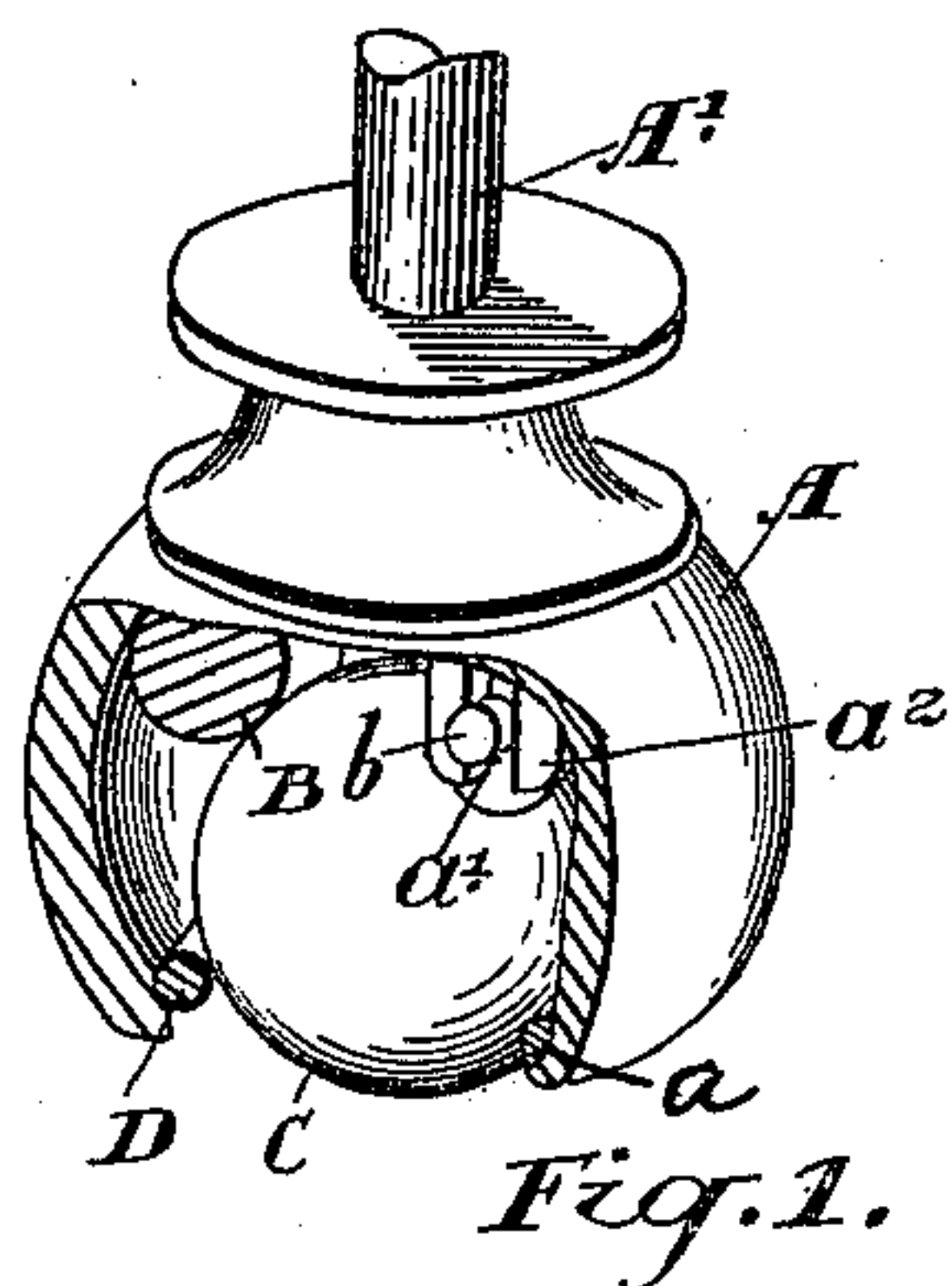


No. 684,067.

Patented Oct. 8, 1901.

I. KINNEY.
BALL FOR BALL CASTERS.
(Application filed Nov. 24, 1900.)

(No Model.)



Witnesses.

A. L. S. Young
H. L. Fumble

Inventor.

J. Kinney
by J. H. Stoughton
attys

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 BALL-CASTERS.

SPECIFICATION forming part of Letters Patent No. 684,067, dated October 8, 1901.

Application filed November 24, 1900. Serial No. 37,647. (No model.)

To all whom it may concern:

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

My invention relates to improvements in balls for ball-casters; and the object of the invention is to provide a ball of improved construction capable of being produced at a low cost.

The invention consists in a spherical shell having diametrically oppositely arranged countersunk holes and a spindle extending diametrically of the shell and having outwardly-flaring ends fitting the openings.

Figure 1 is a perspective view of my improved caster with a portion broken away to exhibit the internal construction. Fig. 2 is a sectional detail of the ball.

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

A is the shell of the ball-caster, and A' is the stem thereon. The interior of the shell forming the socket is substantially spherical in form, being cut away at the bottom to present a circular edge, within which is formed an annular groove *a*. The shell A can be cast of any cheap metal and has formed in the interior thereof the pairs of depending lugs *a*² *a*³, provided with notches *a'* *a'*. I preferably provide three pairs of lugs, and into the notches I insert the pintles *b*, formed on the end of the bearing-rollers B. The bearing-rollers B are preferably tapered, and the taper of the rollers is in the same direction circumferentially.

The caster-ball C is placed in position against the roller and the spring-ring D is

sprung into the groove *a*, thereby reducing the size of the opening. Not only must the spring-ring be a divided ring, but there must be a space between the ends, so that it may be contracted, or some other such provision must be made for this purpose. When the ball is in position, it will be seen that it will have roller-bearings on the rollers B, and as these are preferably tapered rollers there will be no grinding action on the ball, as the tangential plane of rotary contact of the rollers upon the ball is not at right angles to the diameters of the ball, and consequently the ball never rotates on an axis, which is practically stationary at the point of contact with the rollers, but the rollers are always caused to rotate, thus minimizing the friction and avoiding any grinding action.

The ball C is made of a shell, preferably of cast-iron, such shell being thin and being formed with two diametrically - arranged holes, which are necessary to leave in order to provide for the casting that is to allow for the core. In order to fill up these holes, a central pin *c'* is inserted through the hole and riveted at both ends, so that it is flush with the exterior surface of the ball.

What I claim as my invention is—

A hollow caster-ball adapted to turn in all directions comprising a spherical shell having diametrically oppositely arranged countersunk holes therein and a spindle extending diametrically of the shell, said spindle having outwardly-flaring ends fitted to said openings, substantially as described.

ISRAEL KINNEY.

Witnesses:

B. BOYD,
L. TRIMBLE.