S. SZOSTAK & P. NATONEK.

FURNITURE CASTER.

APPLICATION FILED DEC. 14, 1915.

1,186,244. Patented June 6, 1916.

Fig. 1.

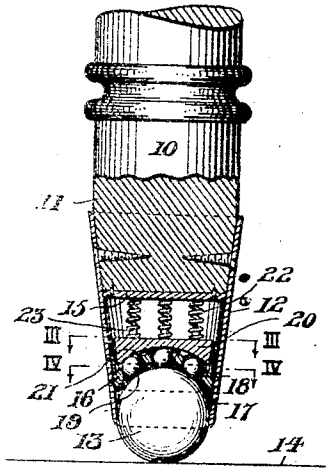


Fig. 2.

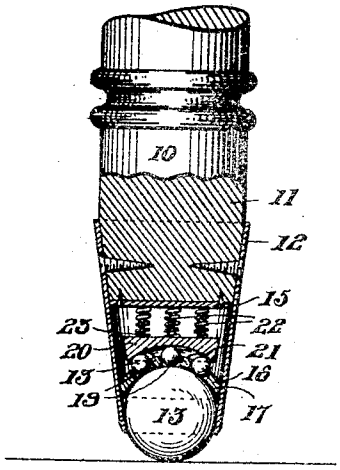


Fig. 3.

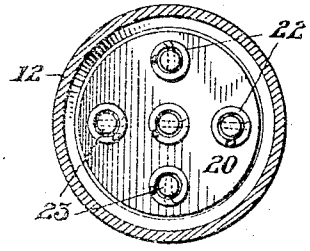


Fig. 5.

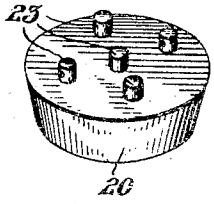


Fig. 4.

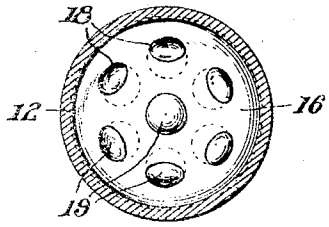
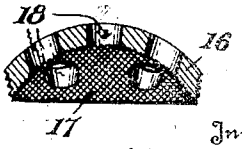


Fig. 6.



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FURNITURE-CASTER.

1,186,244. Specification of Letters Patent. Patented June 6, 1916.

Application filed December 14, 1915. Serial No. 66,778.

To all whom it may concern:

Be it known that we, STANISLAW SZOSTAK and PETER NATONEK, subjects of the Emperor of Austria-Hungary, residing at Cranberry, in the county of Raleigh and State of West Virginia, have invented certain new and useful Improvements in Furniture-Casters, of which the following is a specification.

This invention relates to new and useful improvements in furniture casters.

The primary object of the invention is the provision of a ball caster for articles of furniture such as chairs and adapted to normally allow the free movement of the furniture over a supporting surface but being automatically locked against movement when under load conditions, such as the reception of an occupant within a chair.

A further object is to provide a roller caster upon chair legs and whereby the chair is supported for free movement in any desired direction, the rollers being anti-frictionally positioned, an arrangement being also provided for locking the rollers to retain the chair stationary when a weight or occupant is positioned therein.

The present invention contemplates a revolubly mounted ball supportingly positioned adjacent the bearing surface of a furniture leg, the ball being in normal contact with resiliently maintained anti-friction members but depressible in contact with a stop plate under conditions where a movement of the leg is undesirable.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and then claimed.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:—Figure 1 is a central longitudinal vertical sectional view through the device as normally arranged positioned upon a furniture leg, the latter being shown partly in side elevation and broken away. Fig. 2 is a similar view with the elements positioned in their locked arrangement as found when the leg is under load conditions. Fig. 3 is a horizontal transverse sectional view upon line III—III of Fig. 1. Fig. 4 is a similar view upon line IV—IV of Fig. 1. Fig. 5 is a perspective view of the bearing or cage block detached, and Fig. 6 is a vertical central transverse sectional view through the stop plate or cage of the device detached.

It being understood that the invention is employable with the leg of any piece of furniture such as a chair, the same is herewith illustrated positioned upon a cylindrical leg 10. The lower end of the leg 10 is tapered as at 11 and has an inverted frusto-conical tubular ferrule 12 secured thereto and with a spherical bearing member or ball 13 revolubly arranged in the contracted open lower end thereof, it being understood that the diameter of the ball 13 is sufficient to prevent the ball from being removed out of the open end of the ferrule and that the ball normally rests upon any desired supporting surface such as 14, whereby the leg may be readily moved over said surface. A face plate 15 is secured to the flat lower end of the leg 10 and is in the form of a circular disk seated within the ferrule 12. A dished stop plate 16 is screw-threaded within the ferrule 12 at a point slightly inwardly of the ball 13, whereby the inward movement of the said ball is limited while the lower face 17 of the said stop plate is roughened affording a frictional engaging surface for the ball 13. The stop plate 16 is also employed as a manner of cage, the same being provided with a plurality of receiving perforations 18 therethrough within which anti-friction balls 19 are freely arranged in constant bearing engagement with the upper surface of the ball 13.

A bearing or cage block 20 is freely positioned within the ferrule 12 above the stop plate 16 and has a concave lower side 21 by means of which the cage block is shiftably positioned upon the balls 19. A plurality of positioning springs 22 are tensioned between the upper side of the cage block 20 and the adjacent face of the plate 15 for normally projecting the balls 19 through the perforations 18 and thereby depressing the ball 13 anti-frictionally mounted out of contact with the plate 16. The springs 22 are secured at their lower ends to lugs 23 projecting from the upper face of the cage block 20. The operation of the device will be clear from the present detailed description thereof, the springs 22 being of sufficient strength

to retain the ball 13 out of engagement with the stop plate 16 under normal conditions such as for instance when the chair is unoccupied and at which times the chair may be readily moved upon the surface 14, the ball 13 freely revolving during such operation. When the chair is occupied, the leg 10 is depressed, bringing the ball 13 into engagement with the roughened surface 17 of the stop plate 16 and thus retaining the chair stationary and acting as a frictional break for the caster ball 13.

A serviceable device is thus provided which is cheap and easy to manufacture and which furnishes an anti-friction caster for furniture automatically positioned in locked arrangement at times when it is undesirable to shiftably move the furniture about.

While the form of the invention herein shown and described is what is believed to be the preferable embodiment thereof, it is nevertheless to be understood that minor changes may be made in the form, proportion and details of construction without departing from the spirit and scope of the invention hereinafter claimed.

What is claimed as new is:—

1. A device of the class described comprising in combination with a furniture leg, a supporting ball mounted with anti-friction bearings revolubly journaled thereon and a lock means for preventing rotation of the ball.

2. A caster comprising in combination with a furniture leg, a tapered ferrule secured to the free lower end thereof, a supporting ball revolubly mounted in the tapered open end of the said ferrule, anti-friction members positioned within the said ferrule in constant resilient engagement with the said ball and a lock member for the said ball in substantially the same plane as the said anti-friction members and in contact with the said ball when the leg is under load conditions.

3. A caster comprising in combination with a furniture leg, a tapered ferrule secured to the free lower end thereof, a supporting ball revolubly mounted in the tapered open end of the said ferrule, resiliently positioned members in contact with the said ball and lock means for the said ball within the said ferrule.

4. A caster comprising in combination with a furniture leg, a tapered ferrule secured to the free lower end thereof, a supporting ball revolubly mounted in the tapered open end of the said ferrule, a dish-shaped limiting stop plate carried by the said ferrule spaced slightly inward from the said ball and having a lower roughened surface and provided with a plurality of cage perforations therethrough, and resiliently tensioned anti-friction members revolubly mounted within the said perforations.

5. A caster comprising in combination with a furniture leg, a tapered ferrule secured to the free lower end thereof, a supporting ball revolubly mounted in the tapered open end of the said ferrule, a dish-shaped limiting stop plate carried by the said ferrule spaced slightly inward from the said ball and having a lower roughened surface and provided with a plurality of cage perforations therethrough, spherical anti-friction members freely positioned within the said perforations, a cage block having a concave lower surface seated upon the said anti-friction members and projection springs tensioned between the adjacent faces of the said cage block and end of the said leg.

In testimony whereof we affix our signatures.

STANISLAW SZOSTAK.
PETER NATONEK.