

Fig. 1

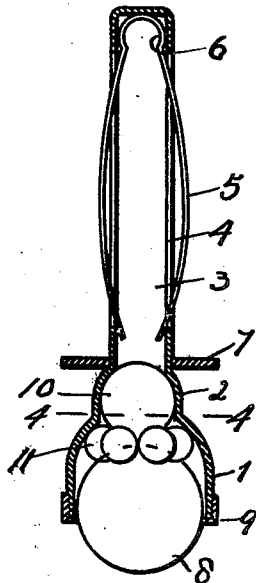


Fig. 3.

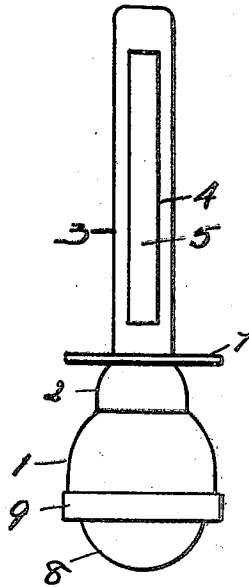


Fig. 2.

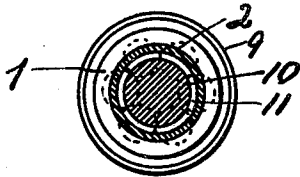


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANK KIRSCHKE, OF PHILADELPHIA, PENNSYLVANIA.

BALL-BEARING CASTER.

Application filed February 20, 1920. Serial No. 360,079.

To all whom it may concern:

Be it known that I, FRANK KIRSCHKE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Ball-Bearing Casters, of which the following is a specification.

My invention relates to a new and useful improvement in ball bearing casters, and has for its object to provide an exceedingly, simple and effective device of this description which may be readily applied to legs of furniture and which when so applied will permit the easy rolling of said furniture in any direction desired.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains, may understand how to make and use the same, I will describe its construction in detail, referring by numerals to the accompanying drawing forming a part of this application, in which:—

Fig. 1, is a plan view of a caster made in accordance with my improvement.

Fig. 2, is a side elevation of a caster.

Fig. 3, is a central vertical section of Fig. 1.

Fig. 4, is a section at the line 4—4 of Fig. 3 the upper or secondary ball being omitted.

In carrying out my invention, as here embodied, 1 represents the casing of the caster which serves as a housing for the balls and this casing has a dome 2 formed therewith of somewhat reduced diameter. Projecting up from the dome is a hollow shank or spindle 3 having slots 4 formed in the side walls thereof and 5 represents a spring composed of two legs and having a head 6 formed therewith which head fits within the upper portion of the spindle while the major portion of each leg of the spring bows outward through the slots 3, the lower ends of said legs being confined in the lower portion of the spindle. This arrangement permits the forcing of the spindle into a hole or bore formed in the leg of the piece of furniture to which the caster is to be applied and the compression of the legs of the spring so as to cause them to exert suf-

ficient pressure upon the side walls of the bore to retain the spindle in place against accidental displacement, but permit its withdrawal from the leg when occasion requires.

7 represents a flange or washer which is intended to seat upon the bottom of the leg in which the caster is inserted to give a wide bearing at this point.

8 represents the primary or caster ball which is fitted within the casing 1 and there held in place by the ferrule 9 which latter is fitted over the lower edges of the casing and held in place by being crimped thereon or by the screw threading or any other well known or convenient method.

10 represents the secondary ball which is fitted within the dome 2, between the primary and the secondary balls are arranged a series of anti-friction balls 11 of smaller diameter, the interior wall contracted and the upper portion of the casing serving as a raceway for these anti-friction balls.

From this description it will be seen that when the primary ball 8 is moved over a surface such as a floor it will revolve in any direction necessary to follow the movements of the caster and these movements will be transmitted to the anti-friction balls 11 and through them to the secondary ball 10 thus greatly reducing the resistance to the free movements of the primary ball 8 permitting the piece of furniture to which the casters are attached to be easily moved in any direction without undue drag upon the floor surface.

Of course I do not wish to be limited to the exact details of construction as herein shown as these may be varied within the limits of the appended claim without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is:—

A caster comprising a housing for balls, a hollow shank formed integral with the housing and having diametrically opposite longitudinal slots therein and a spring provided with a head and outwardly bowed legs, said spring being longer than the slots and located within the shank so that the head and the lower ends of its legs are housed therein while the major portions of the legs normally project through the slots.

In testimony whereof, I have hereunto affixed my signature.

FRANK KIRSCHKE.