

(No Model.)

T. POLSTER.
CASTER.

No. 503,438.

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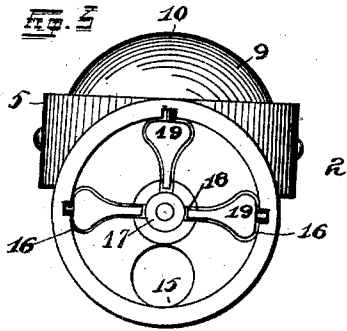
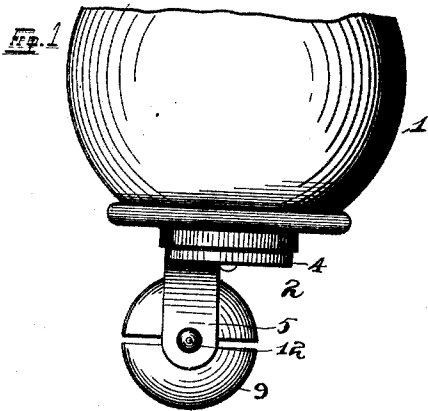


Fig. 3

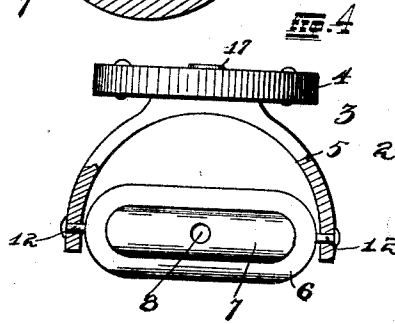
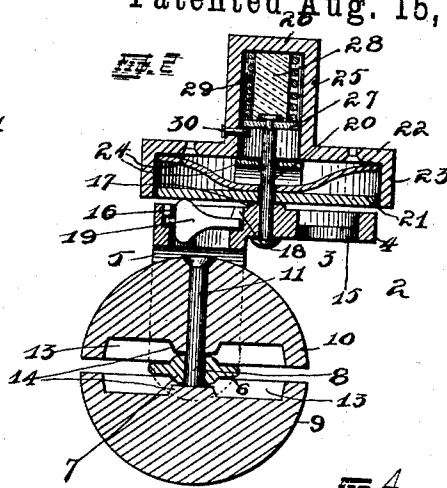
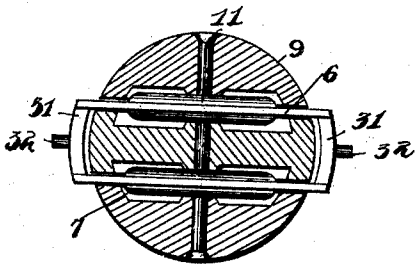


Fig. 6



Witnesses:

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UNITED STATES PATENT OFFICE.

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Application filed March 6, 1893. Serial No. 464,788. (No model.)

To all whom it may concern:

Be it known that I, TOBIAS POLSTER, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Casters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in a "caster" and consists in the novel arrangement and combination of parts as will be more fully hereinafter described and designated in the claims.

The object of my invention is to provide an improved caster having a sectional-ball or half-balls mounted upon the caster-frame, and said frame arranged to produce improved results during operation.

In the drawings: Figure 1 is a side elevation of my complete invention as applied to an article of furniture. Fig. 2 is a vertical enlarged sectional view taken through the same. Fig. 3 is a top plan view of the caster with the base frame removed. Fig. 4 is a side elevation of the caster with the roller and base frame removed. Fig. 5 is a sectional plan view of a modification embodying a double construction. Fig. 6 is a side elevation of one of the rollers made use of to facilitate the movement of the lower frame independent of the base-frame.

Referring to the drawings: 1 indicates the foot-post of some article of furniture with my complete invention 2 applied thereto.

The roller frame 3 consists of a circular disk 4, and secured to said disk at one side of its periphery and upon its under side are two downwardly projecting curvilinear arms 5 substantially U-shaped in inverted view. Pivoted between said arms 5 near their lower extremities is a plate 6 of a substantially elongated rectangular form, but having rounded corners as particularly shown in Fig. 4. Secured upon each side of said plate 5 is a centrally located boss 7, as shown by the section in Fig. 2, and through said plates 6 and boss 7 at their exact center is a circular opening 8.

The roller 9 is constructed of two semi-circular parts 10, which when in position are located with their peripheral edges a slight distance apart, this distance being governed by

the thickness of the plate 6. One of said parts 10 has a pin 11 preferably formed integrally therewith, and projecting at right angles from the other face thereof, and the other part 10 is provided with a central opening, countersunk at its extremity in the periphery of the part 10, and into which said pin 11 is adapted to be placed and riveted into the countersunk portion, when the two parts are in position over the plate 6 and boss 7, said pin projecting through the opening 8 and securing the parts in position. The two parts 10 when thus secured together form a perfect globe, and it will therefore be seen that each of the parts is slightly less than a half globe in order to allow for the thickness of said plate 6. This construction thus far described will show that the roller is not only revoluble in its bearings upon the pivots 12 which hold the plates 6 in position, but is also revoluble upon the plate 6 and bosses 7, by the movement of the two parts over the plate 6 and bosses 7. In this connection it is necessary to state that each of the parts 10 is provided in its inner surface with an annular depression 13, which leaves raised central bosses 14 which engage the bosses 7 upon the plate 6 to prevent any movement within the parts. The disk 4 is provided with a large circular opening 15 at one point in its surface, and adjacent one edge to enable the fastening of the parts to the furniture without separating their connection with each other, and with the other three equal quadrant points of the disk 4 are provided substantially pear-shaped openings 16, the larger portion of same being outwardly in each instance. The disk 4 has a raised annular rim and the raised central bosses 17, said rim and said bosses at the extremity of said openings 16 being provided with depressions 18 forming bearings for rollers 19, which are substantially the same form as the openings 16.

Extending upwardly to the bosses 17 is a pin 20 upon which is mounted a circular plate 21 which rests and revolves upon the rollers 19. Said plate 21 is located normally in the lower edge of a construction formed by a plate 22 having a downwardly depending annular rim 23 in which are located two flat steel springs 24 poised in opposite directions and

adapted to hold said plate 21 in the lower edge of the construction above described, said spring being also mounted over the pivot 20.

Projecting upwardly from the center of the plate 22 is a projecting portion 25 hollow and circular in cross-section and provided with a top plate 26.

Upon the upper end of the pivot 20 is a circular plate 27 surmounted by a round piece of elastic material 28 preferably rubber, which is surrounded by a coil spring 29 engaging between said plate 27 and the top 26 of the projecting portion 25 and adapted to equalize the spring pressure upon the rubber, caused by the movement of the furniture across an uneven carpet or floor.

To limit the downward movement of the plate 27 and its adjacent parts I provide one or more inwardly projecting pivots 30 secured in the wall of the portion 25 adjacent the plate 22. It will thus be seen that the pressure caused by the unevenness of the floor when the article of furniture is being moved, is divided between the springs 24 holding the plate 21 in position, and the coil spring 29 and the rubber block 28. Therefore, with the movement of the furniture, the caster has not only a movement independent of the frame secured to the furniture, but also has a revoluble movement by means of the disk 4 in contact with the plate 21, both mounted upon the pivot 20.

In Fig. 5 I have shown a modified construction wherein I have provided two sets of plates and bosses such as 6 and 7 connected at the ends by yokes 31 and provided with pivots 32 for a bearing in the arms such as 5. This construction necessitates the roller being made in three parts, which when complete form a perfect globe revoluble in the same directions as that shown in the remaining figures. By the above-described construction, the center of the ball is located to one side of a vertical-line drawn through the axis of the pivot-pin 20 upon which the caster turns, so that the plate or disk 4 will turn on said pin when the furniture which carries said caster is moved, in case the ball sticks on its pin 11.

I do not claim a ball in sections alone, as I am aware that such is old in the art.

Having fully described my invention, what I claim is—

1. The improved caster, having a disk 4 provided with downwardly-extending arms, a

ball pivotally-mounted between said arms 55 with its center at one side of the center of said disk, pear-shaped openings being formed in said disk, with the larger portion of each opening outward in each instance, rollers 19 having substantially the same form in plan- 60 view as said openings and mounted therein, a circular plate above said disk and engaged by said rollers 19, a vertical pin 20 upon which both disk and plate are mounted, a plate 22 above said circular-plate and arranged to be 65 fixed to a piece of furniture, and a spring for yieldingly holding said plate 22 a distance above said circular-plate, substantially as herein specified.

2. The improved caster, having a disk 4 70 provided with downwardly-extending arms, a ball pivotally mounted to turn between said arms, said disk 4 having a large circular-opening 15 at one point in its surface adjacent its edge and at the three other equi-distant quadrant-points with a pear-shaped opening 16, a raised annular-rim and bosses 17 located on said disk, said rim and said bosses at the extremities of said openings being provided with depressions 18, rollers 19 mounted to turn in said bearings and in said openings, a pin 20 extending upward through the bosses 17, a circular-plate 21 which rests and revolves upon said rollers, a plate 22 having a depending annular-rim 23 forming a hollow construction and mounted above said circular-plate, two flat steel springs 24 mounted in said hollow-construction between said plates, a portion 25 projecting upward from the center of plate 22 and hollow and circular in cross-section, a circular-plate 27 mounted on said pin adjacent the upper end thereof, a piece of elastic-material 28 mounted above this plate 27 in said hollow portion, a coil-spring 29 also mounted in said hollow portion and embracing said elastic material, a top 26 for said hollow portion, means for limiting the downward-movement of plate 27 and attached parts, and means for use in attaching the plate 22 to the piece of furniture, substantially as herein 100 specified.

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

TOBIAS POLSTER.

Witnesses:

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