

(No Model.)

S. C. MENDENHALL.

2 Sheets—Sheet 1.

CASTER.

No. 314,962.

Patented Mar. 31, 1885.

FIG. I.

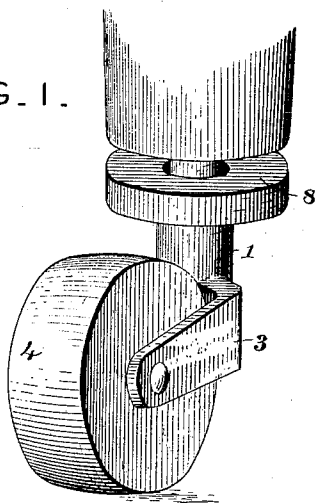


FIG. II.

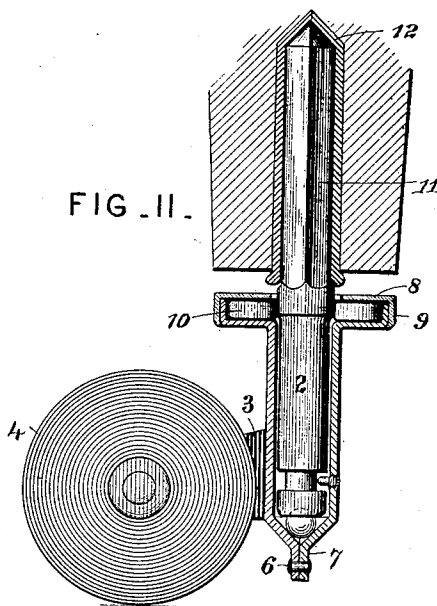


FIG. III.

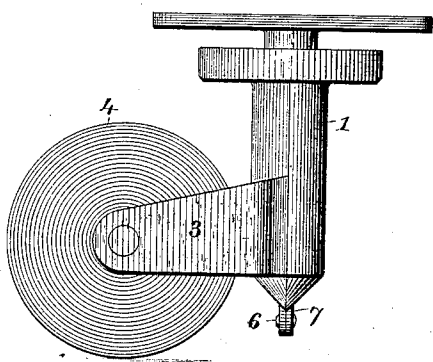


FIG. IV.

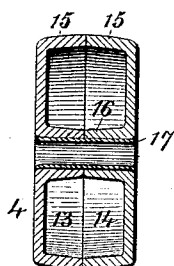
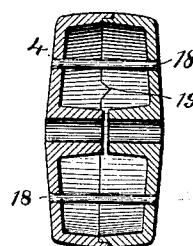


FIG. V.



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FIG. VI.

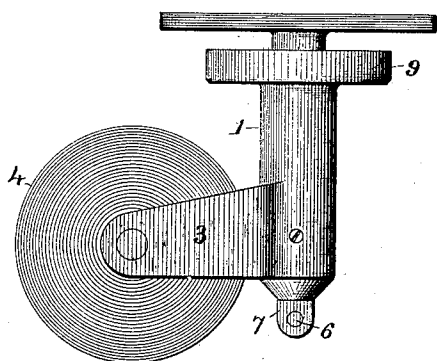


FIG. VII.

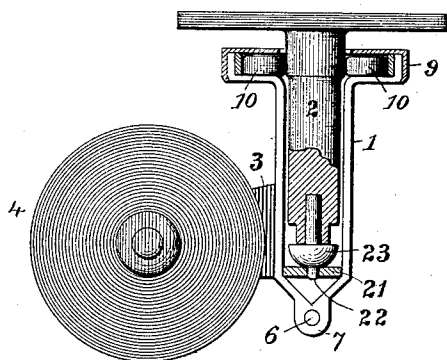
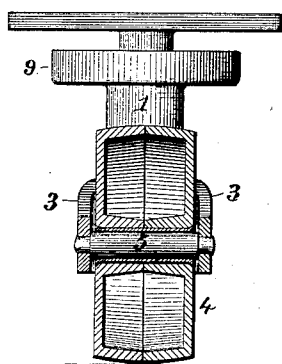


FIG. VIII.



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UNITED STATES PATENT OFFICE.

STEPHEN C. MENDENHALL, OF RICHMOND, INDIANA.

CASTER.

SPECIFICATION forming part of Letters Patent No. 314,962, dated March 31, 1885.

Application filed October 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN C. MENDENHALL, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, (present business address Cincinnati, Ohio,) have invented certain new and useful Improvements in Casters for Furniture and other Purposes, of which the following is a specification.

10 The present invention relates more especially to improvements adapted to casters having a single floor wheel or roller; but they are in part adapted to two-floor-wheel oscillating casters.

15 The invention consists, first, in the reversed socket for a single floor-wheel caster formed in two parts, each part having an ear or fork for embracing the floor wheel or roller and receiving the ends of the axle of said roller. 20 Said axle is made of wrought-iron, with shoulders at each end, upon which the ends of the ears abut to prevent their coming in contact with the floor-roller.

25 The invention further consists in the combination, with a reversed socket supported from the floor-wheel, of a spindle having a cylindrical portion engaging in said socket, and a square portion engaging either directly in the furniture-leg or in a square socket there- 30 in, according to whether a non-separating or a separating caster is desired.

35 The invention further consists in forming the floor wheel or roller in halves in such a manner that when put together it will present the appearance of a solid wheel, but being much lighter than such a wheel. To this end I cast or strike up two half-wheels having circular rims and hubs, the edges of which are placed together, and the wheel then completed 40 by simple tube or rivets spun or swaged over the sides of the roller.

45 The invention further consists in an improved anti-friction bearing for the spindle in its socket, the spindle being provided with an end piece of hard steel or other metal having a projecting stud which engages in a central hole in a movable diaphragm in the socket. This arrangement is such that the spindle is prevented entirely from coming in contact 50 with the walls of the socket, and at the same time the parts are prevented from wearing loose.

In order that my invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawings, 55 in which—

Figure I is a perspective view of the rear of my improved caster. Fig. II is a vertical sectional view thereof, showing one method of making the socket. Fig. III is a side elevation 60 showing the invention applied to plate-casters. Fig. IV is a vertical sectional view of one form of floor wheel or roller. Fig. V is a similar view of the preferred construction of said roller. Fig. VI is a side elevation, 65 and Fig. VII a vertical sectional view, of a plate-caster, showing the preferred method of constructing the socket. Fig. VIII is a rear view of the same, showing the floor-wheel in vertical section. 70

In my improved caster the socket 1, receiving the cylindrical portion 2 of the spindle, is reversed, being mounted upon ears 3, embracing the floor wheel or roller 4. The said socket is cast in two parts, with both ears 3 on one 75 part, as shown in Fig. II, or with one ear on each half, as shown in Fig. VII. This latter is the preferred construction, as thereby I am enabled to employ a shouldered axle, 5, for the floor wheel or roller, against the shoulders on 80 which axle the ears may abut when the ends of the axle are riveted over to prevent binding between the ears and the floor-wheel. The ears, being placed upon the ends or spindles of the floor-wheel axle, are held together by 85 riveting said spindles, and by a rivet, 6, inserted in lugs 7, formed on the bottom of the socket. The floor-wheel axle is preferably made of wrought-iron, as usual.

A cup, 8, having a downwardly-projecting 90 rim, 9, is forced over the top of the socket, and the edge of said rim spun over to hold said top together. The socket is enlarged at top to form an annular chamber, within which is inserted a series of loose horizontal anti- 95 friction rollers, 10, to take up side strains between the socket and spindle.

The improvement is particularly intended for stem-casters, the upper end of the spindle being made square, as shown at 11, to occupy 100 a square bearing in the two-part socket-piece 12, which is driven into the furniture-leg, as shown in Fig. II. When the caster is intended as a non-separating caster, the socket-piece

12 may be omitted, and the spindle driven directly into the furniture-leg, in which it is then held by the square corners or ridges thereon.

In Fig. II, I have shown an anti-friction ball, upon which the bottom of the spindle rests in the manner described in another application of mine, this form being equally applicable to the purposes of the present invention. In Fig. VII, however, I have shown the preferred form of anti-friction movement, in which a cast-steel plate, 21, is driven into the bottom of the socket, and is provided with a central socket or bearing for the stud 22, formed on the top of the cast-steel pin 23, which is driven into the lower end of the spindle. Such construction of anti-friction movement will prevent contact between the sides of the spindle and socket, and will be subject to very little wear and friction.

The floor-wheel employed is cast in two pieces, 13 14, each having a rim, 15, and a half-hub, 16, which are placed together for making up the wheel, so as to give it externally a solid appearance. The edges of the rims 15 may be dovetailed, as shown in Fig. V, to give greater strength. The two halves are fastened together by riveting over a tubular bushing, 17, passing through the cast hubs, as shown in Fig. IV, or by pins 18 running from side to side of the wheel, as shown in Fig. V. The latter method is that preferred, and when adopted one of the halves of the wheel will be provided with a tongue, 19, entering a corresponding notch in the other half, so as to prevent any twisting of the parts.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a caster, in combination with a single floor-wheel, a reversed socket formed in halves, and ears formed one on each half of the socket, embracing the floor-wheel, substantially as shown and described. 40

2. In combination with a wheel frame or socket formed in halves, having ears embracing the floor-wheel, a shouldered axle for said wheel, substantially as shown. 45

3. In combination with a spindle having an upper end square in cross-section, a furniture-socket having corresponding bearing for said spindle, substantially as shown and described. 50

4. In combination with a wheel-frame and reversed socket thereon, a spindle having a cylindrical lower end and a polygonal upper end, substantially as shown. 55

5. In combination with a caster-socket having a hard-metal plate with a central circular bearing, a spindle having a hard-metal end piece with projecting stud to occupy said bearing, substantially as set forth. 60

6. In combination with two half-wheels formed with circular rims fixed together edge to edge, and means for riveting the same, a tongue or projection upon one half-rim occupying a corresponding notch or recess in the other, for the purpose set forth. 65

7. A wheel made of two half-wheels having rims dovetailed together, substantially as shown.

STEPHEN C. MENDENHALL.

Witnesses:

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