

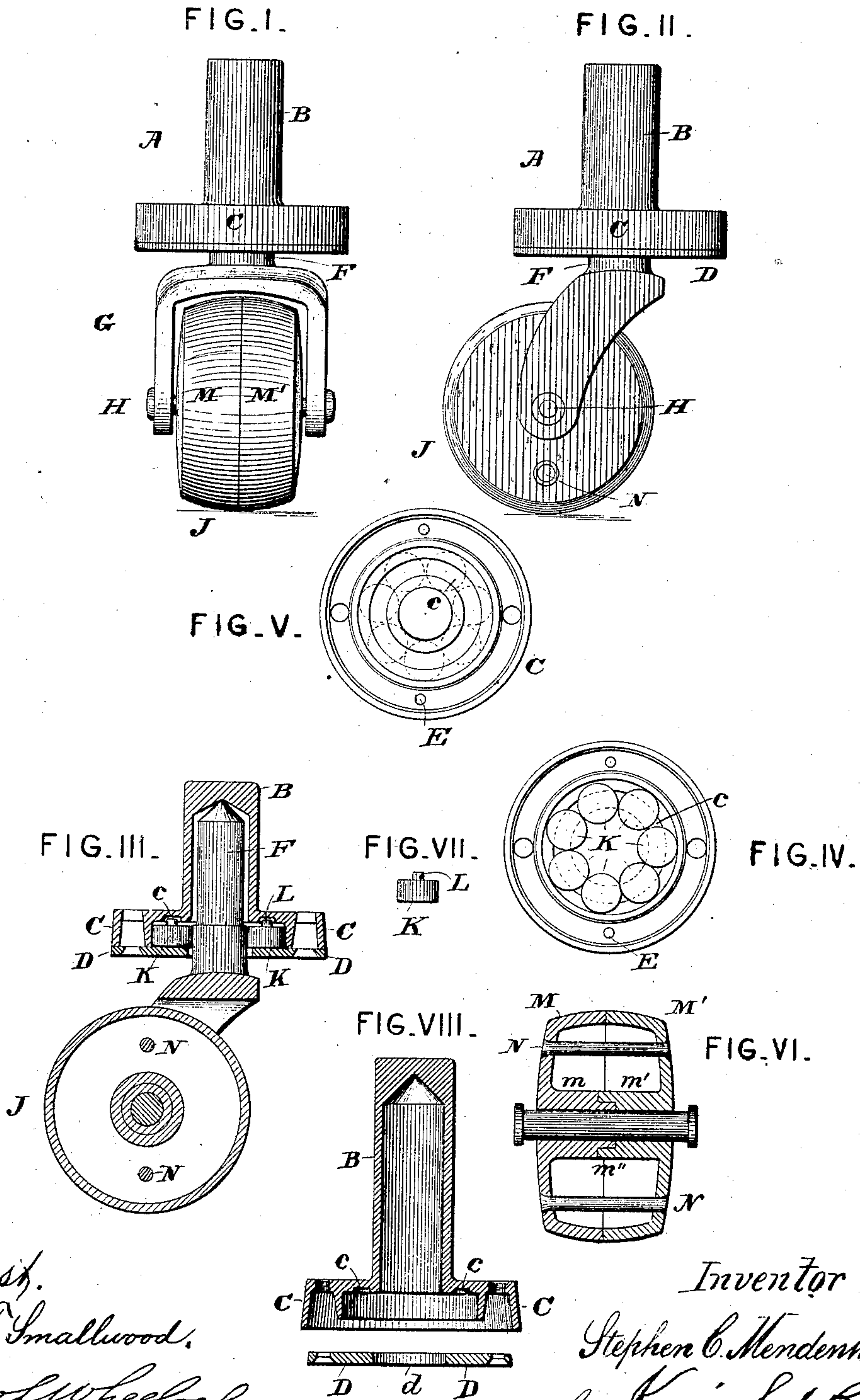
(Model.)

S. C. MENDENHALL.

CASTER.

No. 314,948.

Patented Mar. 31, 1885.



Attest.
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UNITED STATES PATENT OFFICE.

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CASTER.

SPECIFICATION forming part of Letters Patent No. 314,948, dated March 31, 1885.

Application filed August 11, 1884. (Model.)

To all whom it may concern:

Be it known that I, STEPHEN C. MENDENHALL, a resident of Richmond, Indiana, whose place of business is Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in Casters, of which the following is a specification.

My invention relates to improvements in casters for furniture, as hereinafter particularly described.

In the accompanying drawings, Figure I is a front and Fig. II a side elevation of a furniture-caster embodying my invention. Fig. III is a vertical section of the same. Fig. IV is an inverted plan of the shell or socket with the anti-friction rollers in position. Fig. V is a similar plan without the said rollers. Fig. VI is an axial section through the caster-wheel. Fig. VII shows one of the anti-friction rollers detached. Fig. VIII shows a slightly-modified form of socket and cap.

A represents the shell top or socket, which may consist of cast-iron or other cast metal, and which has the customary tubular portion or stem, B, to occupy the orifice in foot of the piece of furniture, which portion terminates below in the expanded disk-like portion or cup C, which cup is closed at bottom by annular plate D, which is made fast by rivets E to said cup portion. A central orifice, *d*, in the plate D affords room for the spindle F of the yoke or saddle G, having customary axle H for caster-wheel J. The space inclosed by the cup C and plate D is occupied by a series of rollers, K, which revolve in a horizontal plane within the cup, with their peripheries impinging against that of the spindle F. From the centers of the tops of these rollers project teats L, which occupy annular groove *c* in the cup-roof. These teats and groove, besides holding said rollers to their proper place around the spindle, prevent their dropping out when the spindle has occasionally to be withdrawn from its socket, as in the case of bedstead and lounge casters. The caster-wheel J is composed of two similar halves, M M', having interior hubs, *m m'*, which unite by male and female joints, as at *m''*, and are permanently fastened to each other by means of rivets N. A caster-wheel thus constructed is very perfectly and at the same time very cheap-

ly produced, its component halves being readily cast in "green-sand molds" from very simple patterns. This wheel is, further, light in weight and economical in the amount of metal required, while from its external appearance it cannot readily be distinguished from a perfectly solid metallic wheel. It will be seen that the two halves of the wheel are held securely to one another without dependence on the lateral support of the cheeks or horns of the saddle.

I am aware that the use of balls or rollers for providing a vertical anti-friction bearing for the upper part of a caster upon its saddle has been proposed; also, that the top of a furniture-caster has been provided with horizontal rollers mounted on axles and adapted to receive the side pressure of the spindle, while the weight of the furniture was in the main transmitted to the top of said spindle. Such constructions I therefore disclaim.

The important novel feature of the anti-friction device in the present invention consists in combining, with a spindle upon the top of which the weight of the furniture is supported, a furniture-socket, within an annular chamber of which are supported such a number of loose horizontal rolls as will provide a complete bearing for the spindle all around, which will develop less friction than balls or than rolls having a fixed axle, and which will at the same time be much cheaper to manufacture.

I claim herein as new and of my invention—

1. A caster top or socket having an annular chamber, a series of loose horizontal flat wheels or rolls arranged in said chamber, substantially as described, and of less thickness than the height of said chamber, whereby said rollers are entirely free from vertical strain, in combination with a spindle occupying said top, bearing laterally against said wheels or rolls, which in turn bear laterally on the inner wall of the chamber, substantially as set forth.

2. An anti-friction stem-caster comprising a chambered socket closed at top, a series of loose flat anti-friction wheels or rolls without fixed axles arranged horizontally within said socket, so as to bear laterally upon the wall of the chamber while being free from vertical pressure, and a spindle occupying said socket,

of greater length than the same, so as to receive the weight of the furniture vertically on its top, while bearing horizontally against the peripheries of the loose anti-friction wheels or rolls, substantially as set forth.

3. In combination with a caster top or socket having an annular chamber grooved substantially as shown, a series of loose horizontal anti-friction rolls or wheels occupying said chamber, and having teats or projections bearing in said grooved portion, to prevent the rolls or wheels from falling out of the top when the spindle is removed, substantially as set forth.

4. The combination of a stem-caster socket-top having an annular enlargement at bottom, two concentric rims on said top, between which the screws for attachment to the furniture may pass, a series of loose horizontal wheels or rolls occupying the enlargement in said socket-top and bearing outwardly against the inner rim, a cap-plate for retaining the rollers in place resting against said inner rim, and a spindle occupying the said socket and

bearing against the inner peripheries of said anti-friction rolls, substantially as and for the purpose set forth.

5. A floor wheel or roller formed in two parts, each part with flat or unbroken outer surfaces and having a circular rim, which rims are placed edge to edge, and means, substantially as described, for securing the two parts together, so as to give the wheel a solid appearance on the exterior.

6. A hollow metallic caster-wheel composed of two vertically-separated parts or halves with central hubs, which fit one into the other and hold the two halves accurately concentric without any support from the horns of the caster-saddle, said halves being held to one another by rivets, substantially as set forth.

In testimony of which invention I hereunto set my hand.

STEPHEN C. MENDENHALL.

Attest:

GEO. H. KNIGHT,
CHAS. E. PRIOR.