Oct. 10, 1967 R. S. HAYDOCK 3,345,675

FURNITURE CADDY CARRIER

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Fig. 1

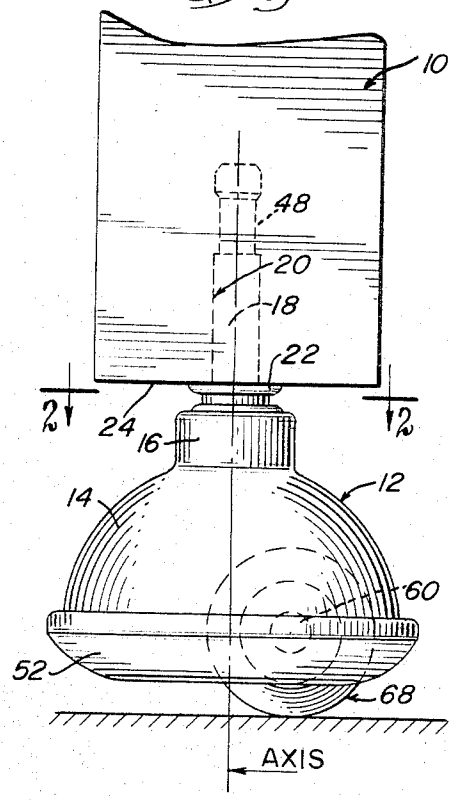


Fig. 2

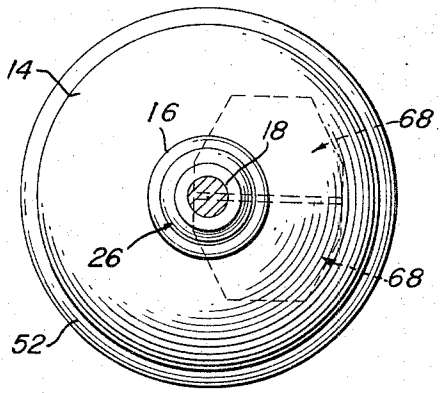


Fig. 3

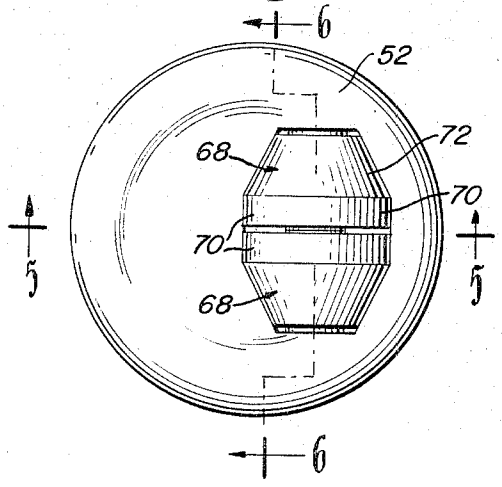
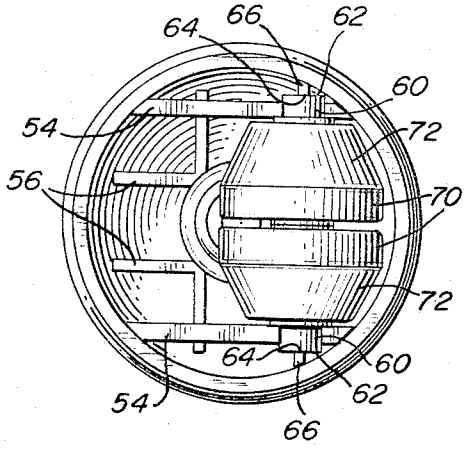


Fig. 4



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Fig. 5

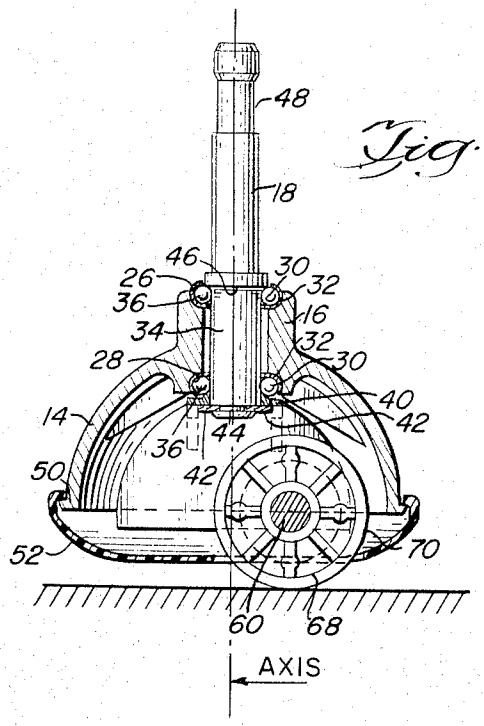


Fig. 6

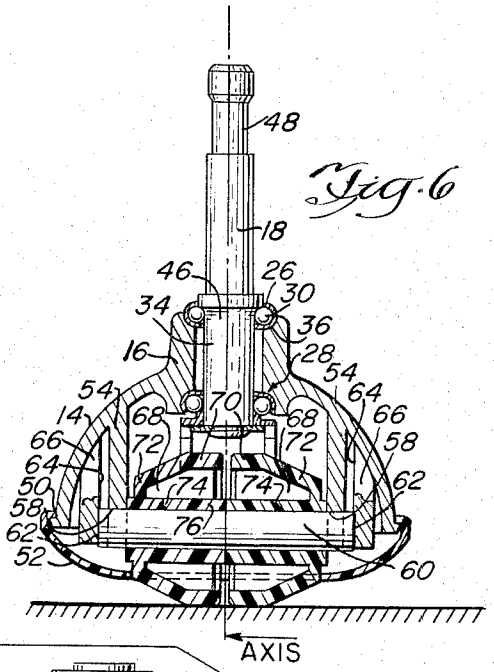
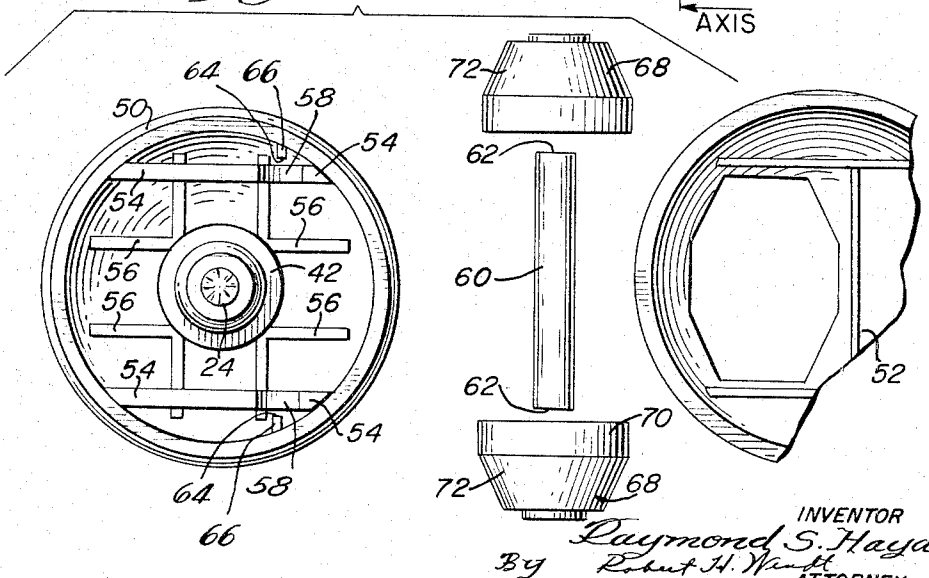


Fig. 7



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FURNITURE CADDY CARRIER

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Filed Jan. 13, 1966, Ser. No. 536,237
3 Claims. (Cl. 16—45)

The present invention relates to a furniture caddy carrier, and is particularly concerned with a caster, the greatest diameter of which rotates around its own center or axis, and does not oscillate.

One of the objects of the invention is the provision of an improved furniture caddy carrier, in which the design of the caster is such that it gives a symmetrical look to the unit, to which it is attached, through the full 360° of rotation on its own axis, or at any degree within the 360°.

Another object is the provision of an improved caster in which the greatest diameter rotates around its own center or axis, and does not oscillate, and also a caster which is symmetrical above its center of gravity relative to its own center or axis.

Another object is the provision of an improved caster, which is simple in construction, having a minimum number of parts, adapted to be used for a long period of time without repair or replacement of parts, adapted to be most economically manufactured, and sold within the price range of a vast number of purchasers.

Other objects and advantages of the invention, will be apparent from the following description, and the accompanying drawings, in which similar characters of reference, indicate similar parts throughout the several views.

Referring to the two sheets of drawings;

FIG. 1 is a fragmentary side elevational view of a caster, installed in the leg of an article of furniture, embodying the invention;

FIG. 2 is a top plan view, taken on the plane of the line 2—2 of FIG. 1, looking in the direction of the arrows;

FIG. 3 is a bottom plan view;

FIG. 4 is a bottom view with the cover removed;

FIG. 5 is a vertical, medial, sectional view, taken on the plane of the line 5—5 of FIG. 3, looking in the direction of the arrows;

FIG. 6 is a medial, vertical, sectional view, taken on the plane of the line 6—6 of FIG. 3, looking in the direction of the arrows; and

FIG. 7 is an exploded view of the parts, showing the bottom of the carrier, the wheels, the stub shaft, and a fragment of the cover from the bottom.

Referring to the drawings, FIG. 1, **10** indicates the fragment of a leg of an article of furniture, **12** indicates the caster or carrier, in its entirety, **14** indicates the body of the carrier, having a fixed cylindrical hub **16**, rotatably mounted upon a stem **18**, in a socket **20**, in the leg **10**, the socket **20** being lined in the conventional way.

The stem **18** is surrounded by the usual washer **22**, forming a part of the lining just mentioned, and bearing against the lower end **24** of the leg **10**.

The stem **18** is rotatable in the hub **16**, being mounted in the hub **16** by means of upper **26**, and lower **28**, ball bearing assemblies, each of which has a plurality of balls **30**, mounted in upper and lower races **32**, **32**, the balls **30** engaging a cylindrical portion **34** of the stem **18**.

Each race **32** is engaged in an annular enlargement **36** in the cylindrical bore **38**, in the hub **16**, and the balls **30** bear against an annular washer **40**, which in turn engages washer **42**, which is engaged by the riveted end **44** of the stem **18**.

At the upper end of a cylindrical portion **34** of stem **18**, the balls **30** bear against an annular shoulder **46**, on stem **18**, this shoulder having an inner circular curvature, fitting against the balls **30**.

The annular indentation **48** in the upper end of stem **18** is the usual shape of a stem, resiliently engaging a retaining member in the aforementioned lining.

All of the parts of the caddy carrier may be made of metal or a suitable plastic, except that the wheels may be rubber or plastic, and the carrier may be provided with an adapter (not shown) for different sizes, and some may be threaded and some plain.

Referring to FIGS. 4, 5 and 6, the carrier **14** is of generally half spherical shape on its exterior, integrally joined to hub **16**, centrally located on the upper end of carrier **14**, and at its lower end the carrier has an outwardly projecting annular shoulder **50** for retaining cover **52**.

On its inside, the carrier **14** is generally hollow, except for reinforcing ribs **54**, **54**, and **56**, **56**, and the ribs **56**, **56** are formed with half cylindrical bearing sockets **58** for receiving the single stub shaft **60** of cylindrical shape, with plane ends **62**, **62** engaging the inner sides **64**, **64** of a pair of downwardly projecting ribs **66**, **66** to resist end thrust on shaft **60**.

The shaft **60** supports a pair of oppositely turned rollers **68**, **68**, each having a hollow interior, and a cylindrical inner end portion **70**, **70** and a conical outer end portion **72**, **72** integrally mounted on a cylindrical bearing **74**, **74**, bearing against each other, and against the inside **64**, **64** of ribs **66**, **66**, and having a cylindrical bore for receiving the shaft **60**.

The parts are constructed of substantially rigid plastic, but having sufficiency so that the shaft **60** will be permitted to force apart the bearing sockets **58** to snap into the bearings, and be retained, or also pulled out of said bearings.

The operation of the caster is as follows:

The caster rotates on its own center or axis and does not oscillate. It is symmetrical above its own center of gravity, relative to its own center or axis. The design of the caster is such that it is intended to give a symmetrical look to the unit to which it is attached, through the full 360° of rotation on its own axis, or at any degree within the 360°.

It will thus be osberved that I have invented an improved caster which is attractive in appearance and efficient in its operation. The caster is simple in construction, having a minimum number of parts, adapted to be used for a long period of time without repair or replacement of parts, adapted to be manufactured most economically and sold within the price range of a vast number of purchasers.

What I claim is new and desire to secure by United States Letters Patent is:

1. In a furniture caddy carrier, the combination of a caster body having a fixed cylindrical hub, rotatably mounted upon a substantially cylindrical stem, adapted to be mounted in a socket, in a leg of an article of furniture, the said stem being rotatably mounted in said hub, by means of an upper and a lower ball bearing assembly, mounted in upper and lower races, each having a plurality of balls, the balls engaging a cylindrical portion of said stem, each race being engaged in an annular enlargement, in a cylindrical bore in said hub, the balls bearing against an annular washer, which engages a second washer, which is engaged by the riveted end of said stem, said stem having balls also at the upper end of the stem, bearing against an annular shoulder on the stem, said shoulder having an inner circular curvature fitting against the balls, the said carrier being of generally half-spherical shape on its exterior, and integrally joined to said hub, centrally located on the upper end of the carrier, and the lower end of the carrier having an outwardly projecting annular shoulder for retaining a cover, which snaps on or off the carrier, the said carrier being generally hollow, except for reinforcing ribs, two of said ribs being formed with half cylindrical bearing sockets for receiving a shaft,

a single stub shaft of cylindrical form, snapping into or out of said bearings, said shaft having plane ends, engaging the inner sides of a pair of downwardly projecting ribs, to resist end thrust on said shaft, the said shaft supporting a pair of oppositely turned rollers, each roller having a hollow interior, and a cylindrical inner end portion, and a conical outer end portion, integrally mounted on a cylindrical bearing with said bearings against each other and against the inside of projecting ribs, and each bearing having a cylindrical bore for receiving said shaft, the said caster rotating around on its own axis without oscillation, and being symmetrical above its own center of gravity relative to its own axis.

2. The structure of claim 1 in which the rollers are formed of a rubber material.

3. The structure of claim 1 in which the rollers are formed of a plastic material.

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