

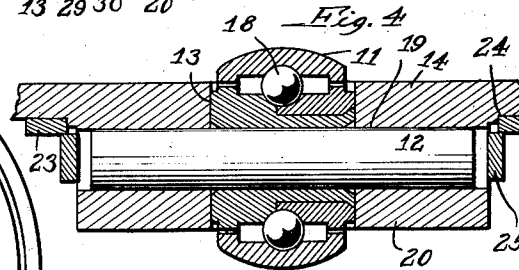
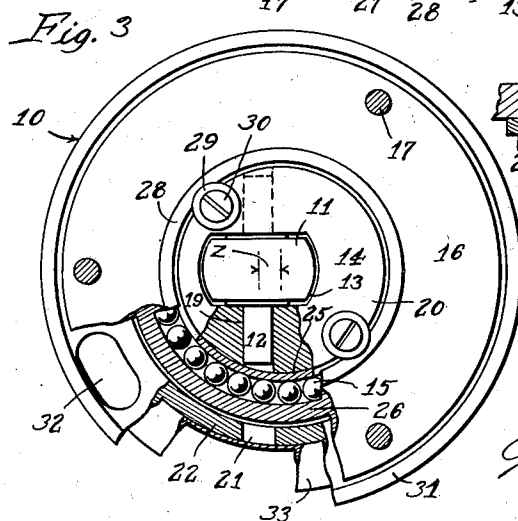
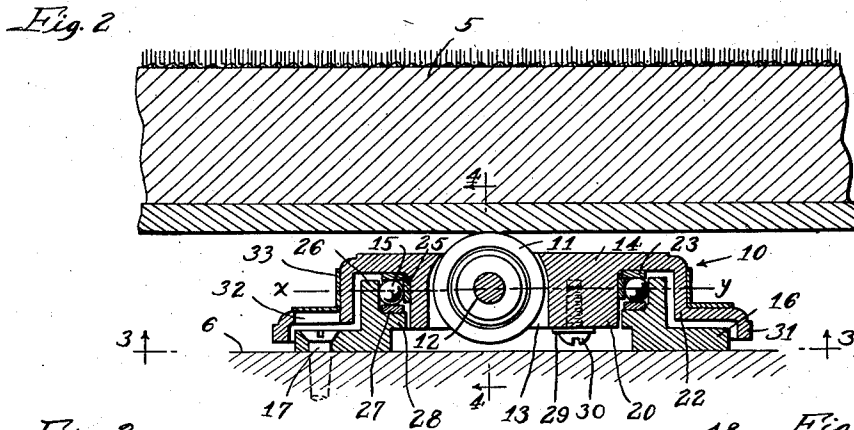
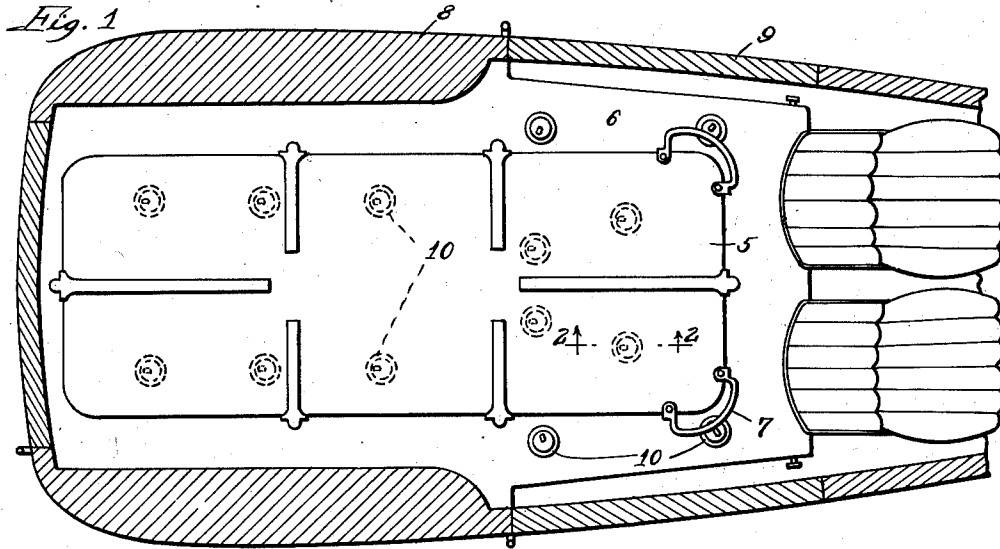
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2,088,093

CASKET TABLE CASTER FOR HEARSES

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CASKET TABLE CASTER FOR HEARSE

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19 Claims. (Cl. 193—37)

This invention relates to casters and has particular reference to one designed for use on the floor of a hearse for the easy and quiet operation of the casket table thereon.

Caster devices for use under casket tables have heretofore been so constructed that it was necessary to drill large holes in the floor to mount the same, owing to the fact that there is very little space between the floor and the bottom of the table. These earlier casters, furthermore, did not give true anti-friction operation in all directions and the table would actually slide instead of roll on certain of the casters, with the result that the operation of the table was not as quiet and easy as desired. It is, therefore, the principal object of my invention to provide a new and improved caster which, besides being so constructed that it will give true anti-friction operation in all directions of table movement, is of such compact design that the entire assembly is above the floor line and may be fastened to the floor by screws, instead of having to be set into the floor.

In the carrying out of my invention, I provide a roller for the table to operate upon and this roller is set in a revolving support to one side of the center thereof so as to give a true caster action—the roller being arranged to come into line automatically with the direction of movement of the table. The center of the roller is, furthermore, in the same plane with the ball bearing for the revolving support, thus eliminating any tendency whatever for binding and making for the best obtainable compactness. The construction is also substantially dust-proof, as hereinafter described.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a horizontal section through the body of a hearse showing the casket table therein with the casters indicated in dotted lines therebeneath and also shown in plan on both sides of the front end thereof;

Fig. 2 is a section on the line 2—2 of Figure 1 showing the caster in cross-section substantially full size;

Fig. 3 is a bottom view of the caster taken on the line 3—3 of Fig. 2 and showing certain parts broken away to better disclose the construction, and

Fig. 4 is a sectional detail on the line 4—4 of Fig. 2.

The same reference numerals are applied to corresponding parts throughout the views.

Referring first to Figure 1, 5 is the casket table

movable relative to the floor 6 along guides, not shown, either by hand using the handles 7, or by the operation of power operated means, not shown, to extend the table from the hearse body 8 through the opening at either side afforded by the opening of the doors 9. The table, while moving along the guides into and out of the hearse, is arranged to ride on the casters 10 provided at the various points indicated in Figure 1.

Figs. 2, 3 and 4 illustrate the caster 10, as made in accordance with my invention. Briefly stated, it comprises a table supporting roller 11 operating on a horizontal pintle 12 in an off-center hole 13 in a revolving support 14 that is carried on a ball bearing 15 on a base 16 suitably secured to the floor 6, as by screws 17. The line $x-y$ in Fig. 2 indicates that the roller 11 operates on a center 12 in the same horizontal plane with the centers of the balls of the bearing 15. In that way, the construction is made as compact as possible, being hardly any larger in over-all height than the diameter of the roller 11. This enables use of the caster in the small space available between the floor 6 and the bottom of the table 5, and obviates the necessity for either recessing the floor or making a hole in it, as was necessary heretofore. Furthermore, since the center 12 is not offset with relation to the centers 15, there is no tendency for canting of the revolving support 14 when lateral thrust is imposed upon the roller 11, and consequently no likelihood of the parts binding. The extent to which the roller 11 is offset from the center of the support 14 is indicated by the dimension z in Fig. 3. This eccentricity is sufficient to insure good caster action; the roller 11 will cause the support 14 to turn immediately just as soon as there is any side thrust upon the roller 11 due to a change in direction of movement of the table. As a result, the rollers 11 of the various casters are always pointed in the direction of movement of the table and are accordingly allowing the table to roll thereon instead of sliding. The table will, therefore, move quietly and easily in every direction since it operates on anti-friction bearings at all times—it operates on the ball bearing 15 in the turning of the support 14 and on the ball bearing 18 in the turning of the roller 11.

The parts 14 and 16 are, for the purpose of economy in construction, made as die castings. The pintle 12 is entered through a hole 19 in the central cylindrical boss 20 provided on the support 14, there being a hole 21 in the depending rim portion 22, as indicated in Fig. 3, to permit such assembly. After the pintle is entered, a hardened race ring 23 for the ball

bearing 15 is placed in position located by an annular shoulder 24, as appears in Fig. 4, and then another hardened race ring 25 is pressed over the boss 20 to hold the ring 23 in place and also cover up the ends of the hole 19. The balls of the bearing 15 operate between the ring 25 as an inner race and the rim 26 of the base 16 as an outer race, and between the ring 23 as an upper race and another hardened ring 27 as a lower race. The ring 27 is supported in the base 16, as shown. An annular internal flange 28 on the base 16 has its bottom surface nearly in the same plane with the bottom of the boss 20 so that washers 29, fastened by screws 30 to the boss 20 and overlapping the flange 28, will serve to hold the assembly together, that is, keep the support 14 retained on the base 16. An outwardly and downwardly projecting flange 31 is provided on the rim 22 to enclose the base 16 both for neat appearance and to exclude dust and dirt from the bearing 15. This construction necessitates holes 32 in the flange 31 to afford access to the screws 17 when fastening the caster to the floor or removing the same. A finishing ring 33 of angular cross-section fits over the rim 22 of the support 14 and down onto the flange 31 to cover these holes 32 and at the same time cover the hole 21 in the rim 22 for good appearance and to further seal the bearing 15 against dust and dirt.

While the caster has been described as applied to use in a hearse for support of the casket table, it should, of course, be understood that the invention is not limited to that specific application but may be employed wherever a caster of such compact design and easy running characteristics might be desired. Furthermore, while the caster is shown mounted on a stationary part to support a movable part, the arrangement might be reversed, if desired.

I claim:

1. As an article of manufacture, a caster for use on the floor of a hearse in the space beneath the casket table, comprising a roller of a diameter nearly equal to the distance between the table and floor and arranged to turn on a horizontal axis, a horizontal support for said roller in the same plane as said roller having the latter rotatably mounted therein with its axis in radially spaced relation to the vertical axis of rotation of said support, and an anti-friction bearing for said support disposed in the same horizontal plane with the axis of the roller and extending around the periphery of the roller support.

2. In a caster device, a ring-shaped base having a relatively enlarged central opening, a circular plate fitting in the opening and arranged to be supported on said base, an anti-friction bearing on the base supporting said plate for rotation on a substantially vertical axis, and a roller within the circle defined by the anti-friction bearing and of a diameter which is only slightly larger than the height of said plate and base assembly, said roller being mounted on a horizontal axis in an opening provided in said plate in laterally offset relation to the vertical axis of rotation, said roller projecting from the plate for operation, the horizontal axis of the roller being in the same horizontal plane with the anti-friction bearing for said plate.

3. A device of the character described comprising a ring-shaped base formed to provide an annular internal bearing shoulder, a plate arranged to be mounted on the base formed to pro-

vide an external annular bearing shoulder, an anti-friction bearing disposed between and engaging said shoulders to support the plate on the base for rotation on a substantially vertical axis, said base having an internal annular flange below the bearing, said plate having a central circular boss portion, the bottom surface of which is in substantially the same horizontal plane with the bottom surface of said flange, means removably secured to the bottom surface of the boss and projecting from the periphery thereof beneath the bottom surface of the flange to retain the plate and base in assembled relation, and an anti-friction bearing member mounted in an opening provided in said boss in laterally offset relation to the vertical axis of rotation of said plate, said bearing member projecting from the top surface of said plate for operation.

4. A device of the character described comprising a ring-shaped base formed to provide an annular internal bearing shoulder, a plate arranged to be mounted on the base formed to provide an external annular bearing shoulder, an anti-friction bearing disposed between and engaging said shoulders to support the plate on the base for rotation on a substantially vertical axis, said base having an internal annular flange below the bearing, said plate having a central circular boss portion, the bottom surface of which is in substantially the same horizontal plane with the bottom surface of said flange, means removably secured to the bottom surface of the boss and projecting from the periphery thereof beneath the bottom surface of the flange to retain the plate and base in assembled relation, said boss having a vertical hole provided therein in laterally offset relation to the vertical axis of rotation of said plate, said boss also having a horizontal hole provided therein intersecting the vertical hole, a roller disposed in the vertical hole so as to project from the top surface of the plate for operation, and a pintle for said roller entered in the horizontal hole.

5. A device as set forth in claim 4 including a bearing race ring fitting around the boss and serving to cover the outer end of the horizontal hole, said ring forming an inner race for the anti-friction bearing provided between the base and plate.

6. A device as set forth in claim 4 wherein the plate has a downwardly projecting rim portion enclosing the base and having an outwardly projecting flange, said rim having a hole therein in register with the end of the horizontal hole in said boss whereby to permit entry of the pintle through the rim into the boss, and an outer ring enclosing said rim and disposed in engagement with the outwardly projecting flange, serving to cover the hole in said rim.

7. A device as set forth in claim 4 wherein the plate has a downwardly projecting rim portion enclosing the base and having an outwardly projecting flange, said rim having a hole therein in register with the end of the horizontal hole in said boss whereby to permit entry of the pintle through the rim into the boss, the base also having an outwardly projecting flange provided with screw holes arranged to receive screws for fastening the base to a support, the outwardly projecting flange of said plate having one or more holes provided therein to register with said screw holes, and an outer ring fitting over the rim of said plate in engagement with the outwardly projecting flange thereof, said ring having one portion covering the hole in the rim and another

portion covering the one or more holes in the flange.

8. A device as set forth in claim 4 including a bearing race ring fitting around the boss and serving to cover the outer end of the horizontal hole, said ring forming an inner race for the anti-friction bearing provided between the base and plate, and another race ring held in position by the last mentioned ring so as to serve as an upper race ring for said anti-friction bearing.

9. A device as set forth in claim 4 wherein the plate has a downwardly projecting rim portion enclosing the base, said rim having a hole therein in register with the end of the horizontal hole in said boss whereby to permit entry of the pintle through the rim into the boss, and an outer ring enclosing said rim, serving to cover the hole in said rim.

10. A device as set forth in claim 3 wherein the plate has a downwardly projecting rim portion enclosing the base and having an outwardly projecting flange, the base also having an outwardly projecting flange provided with screw holes arranged to receive screws for fastening the base to a support, the outwardly projecting flange of said plate having one or more holes provided therein to register with said screw holes, and an outer ring fitting over the rim of said plate in engagement with the outwardly projecting flange thereof, said ring covering the one or more holes in the flange.

11. A caster suitable for use in the confined space between the floor of a hearse and the casket table operating thereover, said caster comprising a ring base having an upwardly extending ring-shaped bearing portion, a plate having a ring-shaped recess provided in the bottom thereof whereby to provide an outer annular wall spaced from a central body portion, said recess receiving said ring-shaped bearing portion so as to permit rotation of said plate relative to said base, said outer annular wall serving to enclose said ring-shaped bearing portion, and a roller eccentrically disposed relative to said plate in an opening provided in said central body portion and mounted therein for rotation on a substantially horizontal axis at a low elevation relative to the plate, so that the top of the roller is slightly above the plane of the top of said plate whereby to engage the bottom of a casket table, and the bottom of the roller is slightly above the plane of the bottom of said base whereby to have clearance with respect to the floor of the hearse on which the caster is mounted.

12. A caster as set forth in claim 11, wherein the roller is disposed with its horizontal axis in substantially the same horizontal plane with the interfitted ring-shaped bearing and recess, substantially as and for the purpose set forth.

13. A caster comprising a revoluble body member having a downwardly projecting circular boss portion with a vertical hole provided therein in laterally offset relation to the axis of rotation of said body member, said boss portion also having a horizontal hole provided therein intersecting the vertical hole, a roller disposed in the vertical hole and projecting above said body member for operation on a horizontal axis, a pintle therefor entered in said horizontal hole, an anti-friction bearing fitting around said boss portion and serving to retain the pintle in the horizontal hole, a base into which said boss portion and bearing are entered for rotary movement, said body member having an annular rim portion projecting downwardly in laterally spaced relation

to the circular boss portion and serving to enclose the base and bearing therein, and means removably secured to the bottom of said boss portion to engage an under surface of said base to retain the body member in assembled relation to the base.

14. A device of the character described comprising a ring-shaped base, a plate mounted on the base for rotation on a substantially vertical axis, said plate having a bottom surface elevated with relation to the bottom of said base and in substantially the same horizontal plane with an annular shoulder provided on said base surrounding the plate, means removably secured to said plate and projecting beneath said annular shoulder to retain the plate and base in assembled relation, and a roller mounted in an opening provided in said plate in laterally offset relation to the vertical axis of rotation thereof and projecting from the top of the plate for operation.

15. A device of the character described comprising a ring-shaped base, a plate bearing on said base in a horizontal plane for rotation on a substantially vertical axis, said plate having a bottom surface elevated with relation to the bottom of said base and in substantially the same horizontal plane with an annular shoulder provided on said base surrounding the plate, means removably secured to said plate and projecting beneath said annular shoulder to retain the plate and base in assembled relation, said plate having a vertical hole provided therein in laterally offset relation to the vertical axis of rotation of said plate, and also having a horizontal hole provided therein intersecting the vertical hole in substantially the same horizontal plane with the plate bearing, a roller disposed in the vertical hole and projecting from the top of the plate for operation, and a pintle for said roller entered in the horizontal hole.

16. A device as set forth in claim 15, wherein the plate has a downwardly projecting rim portion enclosing the base, said rim having a hole therein in register with the end of the horizontal hole whereby to permit entry of the pintle through the rim into the horizontal hole, and an outer ring enclosing said rim and serving to cover the hole therein.

17. A device as set forth in claim 15, wherein the base has an outwardly projecting flange provided with one or more screw holes arranged to receive screws for fastening the base to a support and wherein the plate has a downwardly projecting rim portion enclosing the base and having an outwardly projecting flange enclosing the outwardly projecting flange of the base, the rim having a hole provided therein in register with the end of the horizontal hole and the outwardly projecting flange having one or more holes provided therein to register with the screw holes in the flange of the base, and an outer ring fitting over the rim of said plate in engagement with the outwardly projecting flange thereof, said ring having one portion covering the hole in the rim and another portion covering the one or more holes in the flange.

18. A device as set forth in claim 15, wherein the plate has a downwardly projecting rim portion enclosing the base and having an outwardly projecting flange, the base also having an outwardly projecting flange provided with one or more screw holes arranged to receive screws for fastening the base to a support, the outwardly projecting flange of said plate having one or

more holes provided therein to register with said screw holes, and an outer ring fitting over the rim of said plate in engagement with the outwardly projecting flange thereof, said ring covering the one or more holes in the flange.

5 19. A caster comprising a revoluble body member having a downwardly projecting circular boss portion with a vertical hole provided therein in laterally offset relation to the axis of rotation of said body member, said boss portion also
10 having a horizontal hole provided therein intersecting the vertical hole, a roller disposed in the vertical hole and projecting above said body

member for operation on a horizontal axis, a pintle therefor entered in said horizontal hole, an anti-friction bearing fitting around said boss portion and serving to retain the pintle in the horizontal hole, a base into which said boss portion and bearing are entered for rotary movement, said body member having an annular rim portion projecting downwardly in laterally spaced relation to the circular boss portion and serving to enclose the base and bearing therein, and means for securing the body member in assembled relation to the base.

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