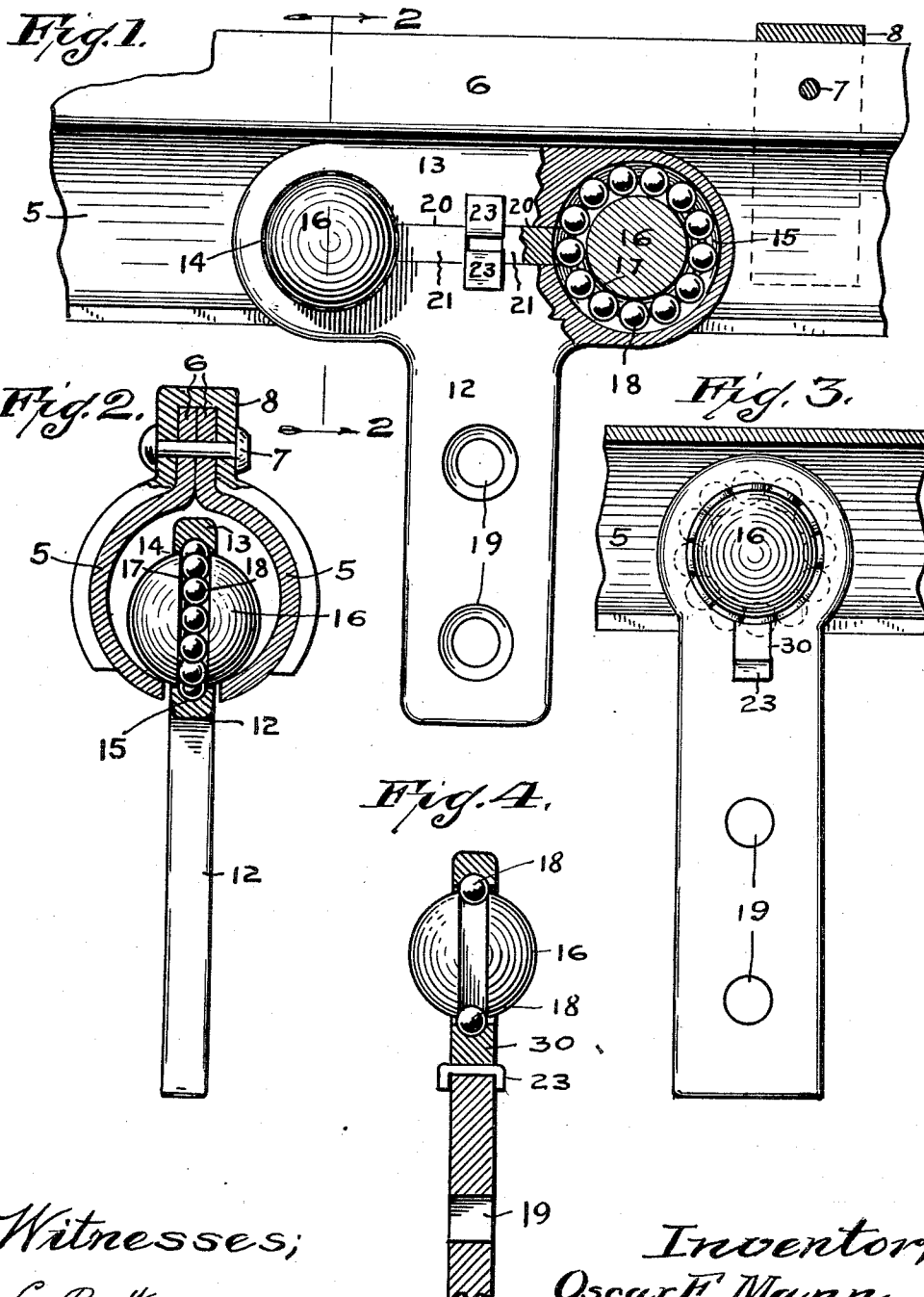


O. F. MANN.
HANGER.

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Witnesses;
L. B. Moerner.
Wm. Hurst.

Inventor;
Oscar F. Mann,
By Minturn & Werner,
Attorneys,

UNITED STATES PATENT OFFICE.

OSCAR F. MANN, OF MEMPHIS, TENNESSEE, ASSIGNOR TO JOHN E. MANN, OF MEMPHIS, TENNESSEE.

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1,005,860.

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To all whom it may concern:

Be it known that I, OSCAR F. MANN, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Hangers, of which the following is a specification.

This invention relates to improvements in hangers for supporting doors and various other articles which are required to be moved along elevated tracks from which they are suspended, and the object of the invention is to provide a simple and inexpensive device which will reduce the friction to a minimum and be so constructed as to avoid the usual tendency of hangers to bind and become cramped so as to interfere with the movement of the suspended body.

I accomplish the objects of my invention by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 represents an overhead track with the near side of the same removed to disclose my improved hanger which is shown in partial vertical section in operative position in said track. Fig. 2 is a transverse vertical section on the line 2—2 of Fig. 1, showing both members of the track assembled. Fig. 3 is a modified form wherein a single spherical roller is used in the hanger, and Fig. 4 is a transverse section of the body of the hanger removed from the track.

Like characters of reference indicate like parts throughout the several views.

The track which supports my improved hanger, and the door or other article which is suspended from the hanger will be substantially a tube, cylindrical in cross section, having a longitudinal under side slot. The preferred form of my overhead track will be made out of sheet metal of sufficient thickness and strength made in longitudinal strips having a substantially half-cylindrical bend 5 formed the full length thereof with one longitudinal edge turned outwardly to form a radial flange 6. Each complete track will comprise two of the

above formed plates or strips placed with their flanges 6 in contact with each other as shown in Fig. 2 whereby the two bends form almost a complete cylinder, the continuity of which will be broken at the bottom by a space between the two bends which will form the groove or channel through which the stem or body of the hanger will extend. The flanges 6 will be suitably perforated to receive rivets or bolts 7, whereby the two plates forming the track will be fastened together. To prevent the spreading of the members of the track at their top joint, I provide an inverted U-shaped bar 8 which straddles the two flanges 6, at intervals of the length of the track, and which will be retained by the passage therethrough, through suitable perforations in the bar 8 of the rivets 7. The lower ends of the two members of the U-shaped bar 8 will be continued in curves following the curved walls of the track, as shown in Fig. 2, for the purpose of strengthening the track and preventing the spreading of its two half-round members.

My hanger will comprise a body-portion which consists of a T-shaped metal plate. Near each end of the horizontal member of this plate a circular hole will be formed, and a half-round annular channel will be formed in the wall of each hole.

16 is a large spherical roller having a circumferential groove or channel, half-round in cross section. The spherical roller 16 is inserted in the hole in the hanger-body with its circumferential groove opposite the annular groove of its hole. The grooves 15 and 17 will form a race for ball bearings 18 which will be inserted therein. These balls 18, by being half in the hanger body and the other half in the spherical roller 16 will serve as locks to hold the spherical roller in said hanger body. The protruding portions of the spherical rollers 16 will have bearing contact against the inner wall of the overhead track, above described, said bearings being adjacent the under side groove in said track, and the stem or lower portion of the hanger body

will pass through the under side slot of the track. The stem will have holes 19 for the attachment of the hanger to the door or other article to be suspended thereby.

5 In order to enable the ball bearings 18 to be assembled in my improved hanger I cut away a portion of the hanger-body of a width equal to the diameter of one of the balls. The slot 20 thus formed will preferably
10 extend from one hole 14 to the other, as shown in Fig. 1 and will permit of the ready insertion of the balls through said slot. After the balls are assembled the slot will be closed by means of two blocks or
15 plugs 21, each of which will have a continuation of the race 15 formed in their outer ends. The plugs 21 will be enough shorter than the length of the slot 20 to permit of the placing of said plugs in position in the hanger-body and when so placed their
20 proper separation will be secured by locking plates 23 which consist of short sheet metal strips inserted through the slot between the ends of the two plugs 21 and there
25 retained by bending the ends of strips 23 back against the body of the hanger into U-shape.

In the modification shown in Figs. 3 and 4 a single ball roller is used and it is mounted
30 at the top of the stem. The manner of forming the hole 14 to receive the spherical roller 15, and the manner of channeling both of said members is the same as has been described for the corresponding parts. In
35 this modification the groove for the insertion of the ball bearings is made longitudinally of the vertical stem, and same is closed by the plug 30 which is locked against removal by means of the metal strip 23, bent
40 U-shape as described for the device shown in Fig. 1. This modified construction will be cheaper to manufacture than the first device having two spherical rollers, and for
45 use in connection with curved tracks will be found better adapted for following such curves.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be
50 limited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of
55 the advantages of this invention.

Having thus fully described my said invention, what I claim as new and wish to secure by Letters Patent of the United States, is—

60 1. The combination, with a track, of a hanger suspended therefrom, said hanger comprising a body portion having a round hole with an annular channel in its wall forming a ball-race and a slot extending laterally
65 from the hole, a spherical roller in

said hole having a circumferential channel, said roller being placed with its channel opposite the channel of the hole in which it is seated, and ball bearings introduced
70 through the slot into the race formed by the two channels and a lock including a plug adapted to be seated and held in the said slot to prevent the escape of the ball bearings through the slot.

2. The combination, with a track comprising
75 two longitudinal plates each having a lower longitudinal bend whereby the two plates together form a partial tube and said plates having upper flanges placed in contact with each other, means for retaining the
80 flanges in contact with each other, the lower edges of the two plates being separated to form a longitudinal groove, and a hanger having a body portion extending through
85 said groove, and a ball roller mounted in the upper end of said body making bearing contact with the inner wall of said track.

3. The combination, with a track, of a hanger suspended therefrom, said hanger
90 comprising a body portion having a round hole and an annular channel in the wall of said hole forming the outer part of a ball race, a spherical roller in said hole having
95 a circumferential channel, said roller being placed with its channel opposite the channel of the hole in which the roller is mounted, ball bearings in the race formed by the two channels, the said hanger body having
100 a slot the width of one of the ball bearings communicating with the hole for the spherical roller, and means including a plug for closing the slot to prevent the displacement of the ball bearings.

4. The combination, with a track, of a hanger suspended therefrom, said hanger
105 comprising a body portion having a round hole with an annular channel in the wall of said hole forming the outer path of a ball race, a spherical roller in said hole having a circumferential channel, said roller being
110 placed with its channel opposite that of said hole, ball bearings in the race formed by the two channels, a slot the width of one of the ball bearings communicating with said hole by means of which slot said balls are inserted
115 in said race, a plug to close the slot after the balls are inserted, and means including a locking device for retaining the plug in said slot.

5. The combination, with a track, of a
120 hanger suspended therefrom, said hanger comprising a T-shaped body portion having round holes in each end of the cross-bar of said T-shaped body, the walls of said holes having an annular channel forming the
125 outer part of a ball race, spherical rollers in said holes having circumferential channels, said rollers being placed with their channels opposite the channel of their respective holes, ball bearings in the races formed by
130

said channels, the said hanger body having a slot entering each of said holes for the insertion of said ball bearings, plugs to close said slots after the balls are assembled and
5 means for locking the plugs in said slots.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana,

this, 22nd day of May, A. D. one thousand nine hundred and nine.

OSCAR F. MANN. [L. s.]

Witnesses:

F. W. WOERNER,

L. B. WOERNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."