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[72] Inventor **Max Ernst**
Lohengrinstrasse 14, Nuernberg, Germany

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[54] **TOY TURNTABLE WITH CHANGEABLE CIRCUMFERENTIAL SEGMENTAL MEMBERS**
10 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **104/35**, 46/17, 104/45
[51] **Int. Cl.** **B60s 13/02**
[50] **Field of Search** 46/23, 16, 17; 104/35, 45

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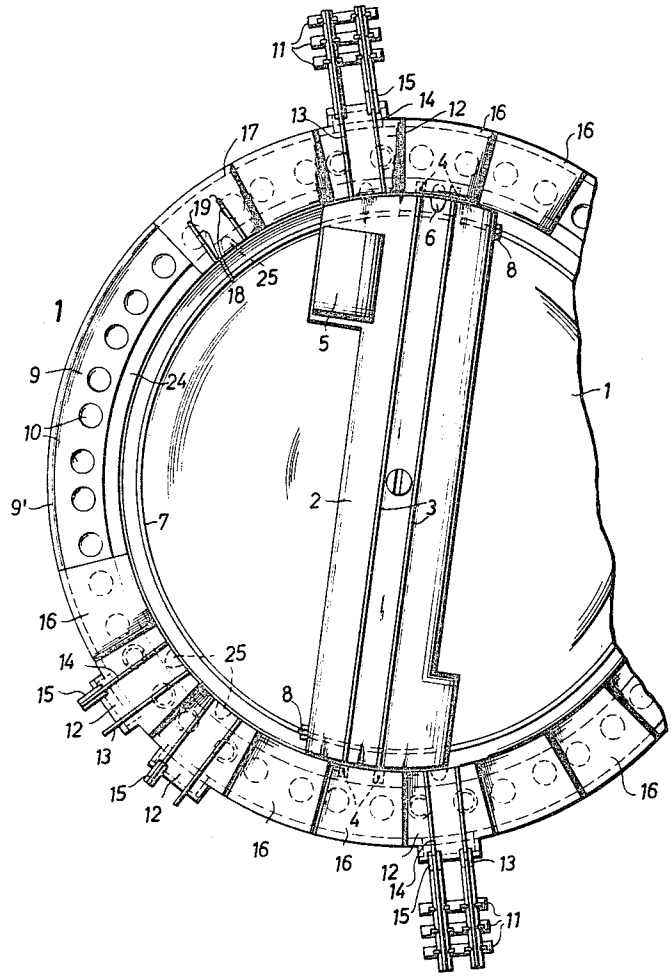
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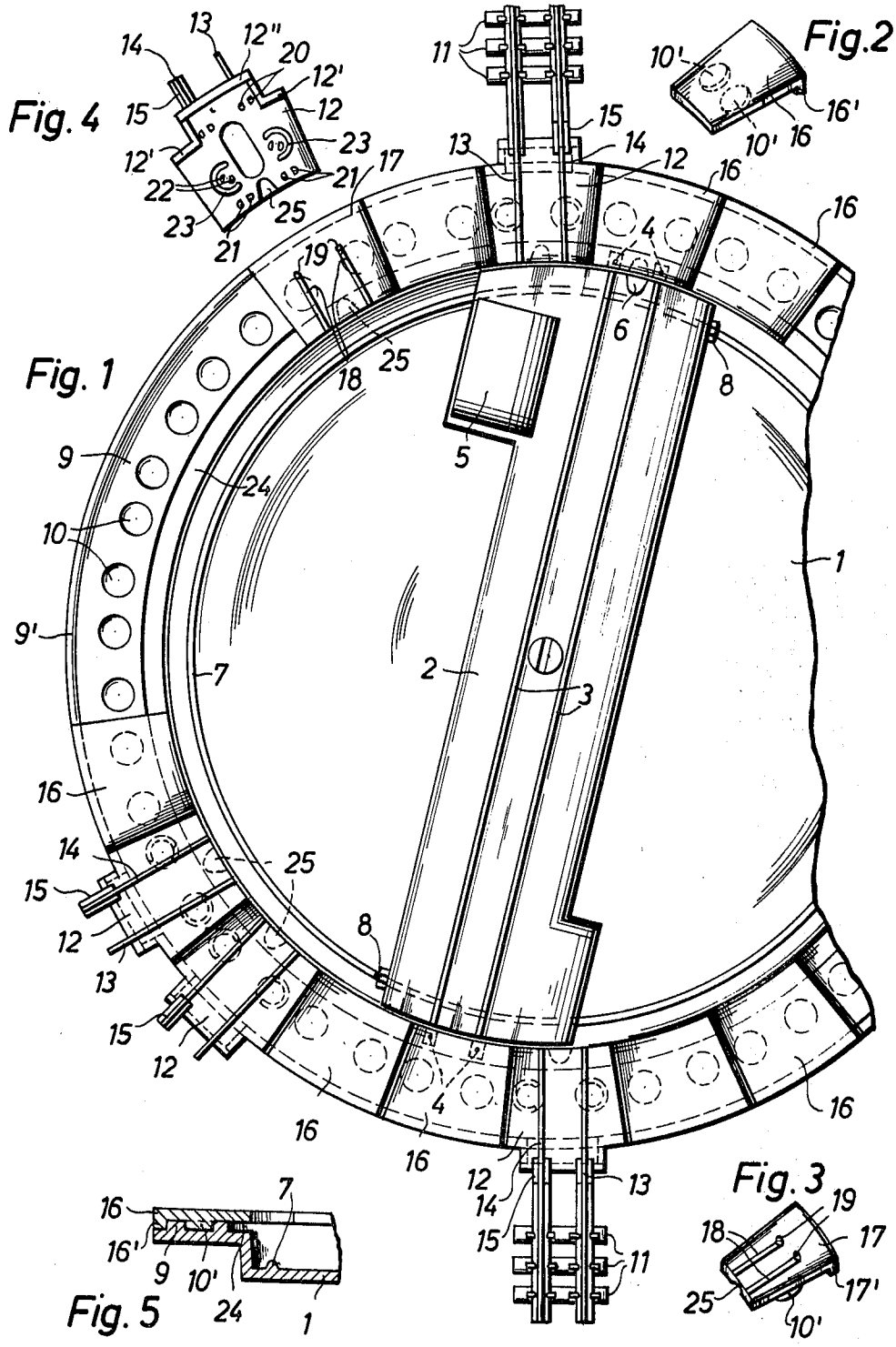
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Primary Examiner—F. Barry Shay
Attorney—Walter Becker

ABSTRACT: A variable turntable structure for toy and model railroad installations, in which a turntable is rotatably journaled in a supporting body having an annular flange-shaped marginal area surrounding said turntable and subdivided into an even number of subsections adapted to be detachably engaged by segmental track members for establishing track connection between a diametrical track section on the turntable and track means on the outside of said flange-shaped marginal area while additionally, blind segmental sections not accomplishing any track connection are also detachably connected to said annular area. Electrical contact means and latching means are provided between the segmental track members and diametrical track sections.





INVENTOR.
Max Ernst
BY

TOY TURNTABLE WITH CHANGEABLE CIRCUMFERENTIAL SEGMENTAL MEMBERS

The present invention relates to a turntable for toy and model railroad installations. In railroad depots and repair shops, it is customary for purposes of saving space to employ turntables by means of which the vehicles to be stored or to be repaired can relatively quickly be placed in a shed or hangar arranged in most instances along a circle.

The commercial toy imitation of such turntable is difficult inasmuch as it can be accomplished only incompletely. The reason for this consists in that it is at the discretion of the owner of the installation whether he equips the turntable with a smaller or greater number of hangars while the number of such hangars as a rule is limited to the employed locomotives. Similar remarks apply to the connections with the remaining track installation. Also in this instance the turntable should be connectable practically to any imaginable track network and should be such that it can be installed therein.

With such an installation, the number of the track connection cannot be fixed in advance with the result that under certain circumstances there are either not enough or too many track connections whereby the installation in the first place does not meet the wishes of the toy owner whereas in the other instance the installation will have a nonappealing appearance when adjacent the turntable there is provided a number of sections with nonused track connections.

It is, therefore, an object of the present invention to provide a turntable for toy and model railroad installations which will overcome the above mentioned drawbacks.

It is another object of this invention to provide the turntable over its entire circumference in each position of a plurality of sections either with a track connection or with blind segments.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawings, in which:

FIG. 1 diagrammatically illustrates a top view of a turntable according to the invention while portions thereof have been omitted for the sake of clarity;

FIG. 2 is a perspective view of a blind segment adapted to be placed upon the marginal area of a bearing body;

FIG. 3 shows a perspective view of a blind segment similar to that of FIG. 2 with tracks and confining studs;

FIG. 4 is a bottom view of a track connecting segment adapted to be placed upon the marginal portion of the bearing body; and

FIG. 5 is a longitudinal section through the marginal portion of the bearing body with a blind segment mounted thereon.

More specifically, the present invention concerns a turntable and track connections for toy and model railroad installations, which track connections can be connected to the turntable, while the movable turntable portion is, in a manner known per se, rotatably mounted in a dish-shaped bearing body. The bearing body has a flange-shaped substantially plane marginal portion adapted to be provided with track connections. The turntable installation according to the invention is characterized in that the bearing body is so dimensioned that the marginal area over its circumference is adapted to be provided with an even number of track connecting parts which are of the same size and are of the shape of a circular segment, while the bottom side of the track connecting segments and the top side of said marginal area are so designed that by a mere unplugging the segments can easily be detached or with press fit can be placed upon said marginal area. The said installation in addition to being provided with track connecting segments also has blind segments which at those areas that are not to receive track connecting segments are easily detachably connected to the marginal portion of the bearing body.

According to a further development of the invention, the flange-shaped marginal portion of the bearing body has its top side provided preferably with cylindrical depressions and has the bottom side of the mountable segments equipped with pins corresponding to said depressions, means being provided for connecting the segments preferably in a nonrotatable manner to the marginal area of the bearing body.

The present invention makes it possible to provide the turntable over its entire circumference at any point of approximately 48 different segmental sections either with a track section and expediently on the opposite side with a blind section with stop track or oppositely located points with simple blind sections. By means of the segments adapted selectively to be placed upon the marginal portion of the bearing body it will thus be possible to connect the turntable not only in any desired manner to the railroad tracks available, but also to connect any desired number of hangars with the feeding tracks to the turntable without in any way affecting the appearance of the installation.

Referring now to the drawings in detail, the structure shown therein comprises the dish-shaped bearing body **1** having rotatably mounted therein the turntable part **2** which can be turned in either direction. The devices for turning the turntable are not shown in the drawings, but may be of any standard type as, for instance, a worm gear and a worm wheel. The movable turntable part **2** is provided with the tracks **3** having their ends equipped with somewhat protruding resilient contact lamellae **4**. The movable turntable part **2** is furthermore provided with a cabin **5** for the operator. Preferably, a small incandescent lamp is arranged in said cabin.

The turntable part **2** is furthermore in a manner known per se, equipped with a latch **6** having associated therewith an electromagnet (not shown) adapted when energized to withdraw the latch **6** from a corresponding notch **25** in a flange-shaped annular member **9** surrounding said turntable part **2** to permit a turning movement of said turntable part **2**. When the turntable part **2** has reached its desired position, the latch **6** which is spring urged is permitted by deenergization of the electromagnet to engage the respective notch or recess **25**. In the vicinity of the marginal area of the bottom of the bearing body **1** there is provided a circular rail **7** on which the turntable **2** moves by means of rollers **8**.

As mentioned above, the bearing body **1** has a flange-shaped marginal portion **9**, the top surface of which is substantially plane while, cylindrical depressions **10** are circumferentially distributed over the entire circumference of said marginal portion **9**. According to the specific showing of FIG. **1**, two of said depressions **10** serve for connecting a segment adapted to be placed thereon, said connection being effected by means of corresponding studs or pins **10'**. If the installation is designed, for instance, for a gauge of 9 millimeters, up to 48 of such segments may be provided. According to the specific example shown, 24 segments are placeable on said marginal portion **9** by means of 48 depressions **10**.

According to the embodiment shown in FIG. **1**, precisely in diametrically opposite portions with regard to the center of the bearing body **1**, there is provided one track connecting segment **12** which has short track sections **13** and **14**. The track section **14** has in customary manner received a connecting member **15** for connecting an ordinary rail. It is, of course, also possible to provide additional rail connections on the left or right-hand part (partially not shown) of the bearing body. These additional rail connections connect the turntable with the track network. The total of 11 free areas at the left and at the right of the two track connections **11** of the bearing body **1** may in a desired manner be provided with additional track connections. According to FIG. **1** only two such track connections **12** are provided at the left lower portion to which, for instance, two tracks can be connected which lead to a double hangar. The nonused segment areas are provided either with blind segments **16**, or segments **17** are provided on which there are arranged two short track sections **18** with limiting studs **19** located at the end of said track sections **18**.

The bearing body **1** as well as the turntable **2** and the various segments **12, 16, 17** may be made of synthetic material of the same color. If desired, the track sections **18** and the studs **19** of the segments **17** may be made of synthetic material and may be molded thereon. Merely the tracks **3** of the turntable

and the track sections 13, 14 of the track connecting segments have to be made of metallic conductive material. Advantageously, the parts are so designed that they resemble as far as possible actual installations of railroads.

As will be seen from FIG. 4, the track sections 13 and 14 are by means of pins 20, 21, 22 or the like, connected to the segments 12 of synthetic material. The circular extensions 23 at the bottom side of segments 12 serve for connecting said extensions in the cylindrical depressions 10 in the marginal portion 9 of the bearing body 1. Similarly, also the annular segments 16, 17 are provided with studs 10' by means of which they are connectable in the depressions 10.

It is also of importance that the upper inner edge of the marginal portion 9 has a recess 24 which is covered by the segments 16, 17; 12. Within this recess, the contact lamellae 4 of the tracks 3 of the turntable move. The angled-off studs 21 are located above the annular recess 24 and, more specifically, are contact means within the area of movement of the resilient contact lamellae 4 which have a somewhat crowned top side. These lamellae 4 therefore resiliently engage the studs 21 conductively connected to rails 13 and 14. In this way, an electrically conductive connection is established between the tracks 3 on the turntable 2 on one hand and the track sections 13, 14 on the track connecting segments 12 on the other hand. It is furthermore important that at the bottom side of the track connecting segments 12 as well as the bottom side of the segments 17 there is provided a recess 25 into which, as mentioned above, the retractable tongue 6 on turntable 2 may drop or latch. The segments 16, 17 have their bottom side provided with circular extensions 16' and 17' which engage the recess 9' at the outer marginal portion of the bearing body. Also, the track connecting segments 12 have such extensions 12'. The further outwardly located circular segmental extension 12'' serves as support on the ground carrying the track installation.

Advantageously, such segment 17 is located at the oppositely located side of each track segment 12 so that also these segments can be made use of for arresting the turntable when the latching tongue 6 occupies a position just opposite to a track connecting segment. In this way, not only the oppositely located not used portions of the bearing body are provided with blind segments 16 which do not have such arresting notches so that also in these areas no stopping of the turntable will be possible.

According to a modification, each segment may be provided with only one single centrally located cylindrical section 10' which is insertable with press fit into a corresponding depression 10 in the marginal area of the bearing body 1, 9. An accidental turning is prevented by extensions 12', 16', 17' located at the outer marginal portion of the segments.

It is, of course, to be understood that the present invention is, by no means, limited to the particular construction shown in the drawing, but also comprises modifications within the scope of the invention determined by the claims. Thus, instead of employing a turntable, the present invention may also be used in connection with travelling platforms.

I claim:

1. A turntable structure for toy and model railroad installations, which includes: a supporting body having an annular flange-shaped marginal area; a turntable rotatably supported by said supporting body and provided with a diametrical track section, said marginal area being circumferentially subdivided into an even number of subsections provided with first means; and an equal number of segmental members provided with second means for cooperation with said first means for selectively and detachably connecting, said segmental members to said subsections by simple manual manipulation, said segmental members comprising a first group of segmental members each having track sections radially extending at substantially the same level as said diametrical track section when said first group of said segmental members is mounted on said subsections for selective cooperation with said diametrical track section, said segmental members also including a second group of segmental members forming blind sections for selective connection to those of said subsections not occupied by said first group of segmental members, whereby to fill said annular marginal area with said segmental sections.

2. A turntable structure according to claim 1, in which said first means includes bores, and in which said second means includes pins press fitting into said bores for detachable connection with said subsections.

3. A turntable structure according to claim 1, in which said blind sections have a plane smooth top surface.

4. A turntable structure according to claim 1, in which some of said blind sections carry a short track portion with limiting stud means at the outer ends thereof.

5. A turntable structure according to claim 4, in which the supporting body and the blind sections with a short track portion and stud means thereon consist of synthetic material having said stud means molded as integral means therewith.

6. A turntable structure according to claim 4, in which said turntable has its peripheral portion provided with retractable latching means, and in which only said first group of segmental members and those blind sections carrying a short track portion with limited stud means are provided with recess means for receiving said latching means.

7. A turntable structure according to claim 1, in which the upper inner marginal portion of said flange-shaped marginal area is provided with annular recess means covered from the top by said segmental members of said first and second groups.

8. A turntable structure according to claim 1, in which the outer marginal portion of the annular flange-shaped marginal area is provided with recess means, and in which said segmental members of both groups of segmental members are provided with extensions for engagement with said recess means.

9. A turntable structure according to claim 7, in which said segmental members of said first group have their bottom sides provided with contact means, and the diametrical track section is provided with freely movable resilient lamellae for establishing an electric connection between said diametrical track section and the respective track sections of the first group of said segmental members.

10. A turntable structure according to claim 2, in which contact means are mounted at the bottom side of said first group of segmental members, and in which the diametrical track section is provided with lamellae means for establishing electric contact with said contact means.