

Jan. 15, 1935.

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1,987,994

ROTATABLE SUPPORT FOR CHRISTMAS TREES

Filed Sept. 20, 1933

4 Sheets-Sheet 1

Fig. 1.

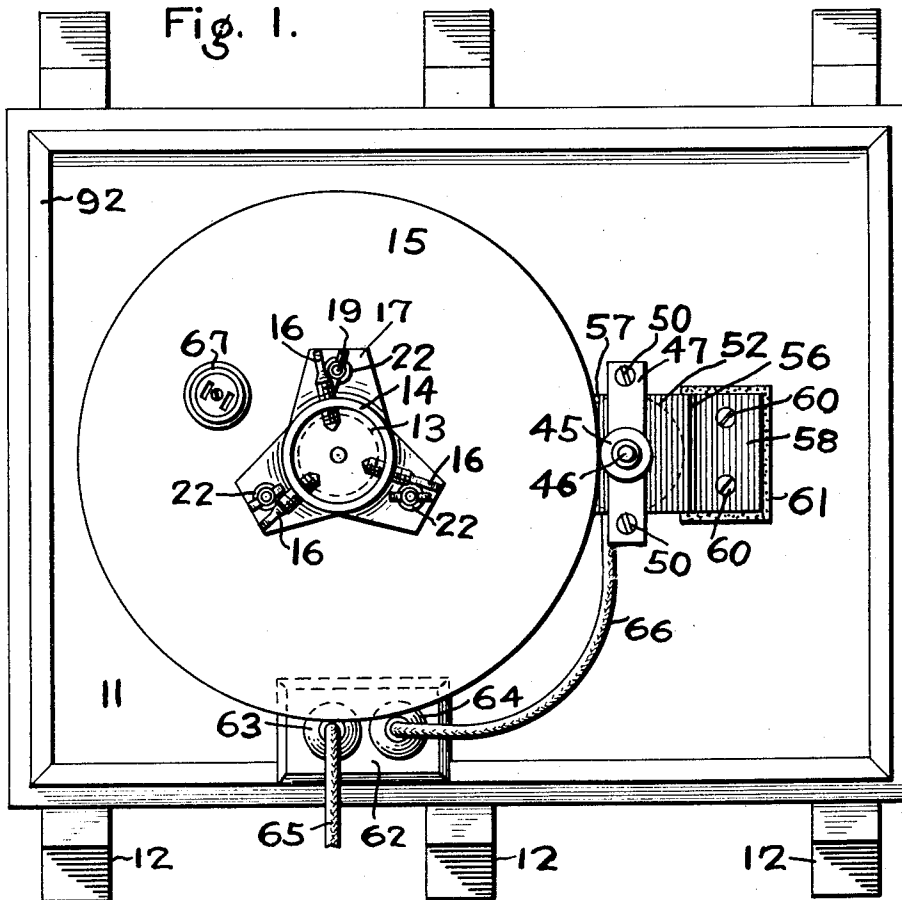
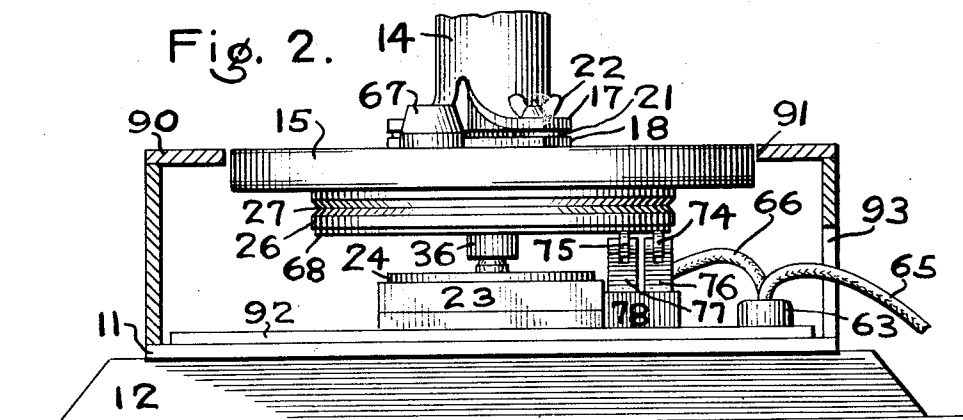


Fig. 2.



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4 Sheets-Sheet 2

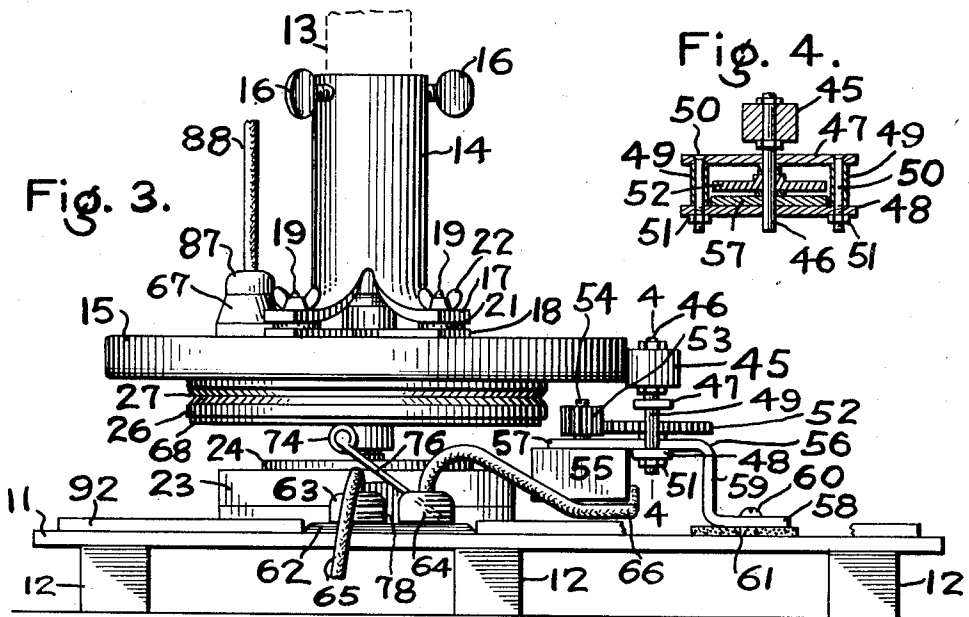
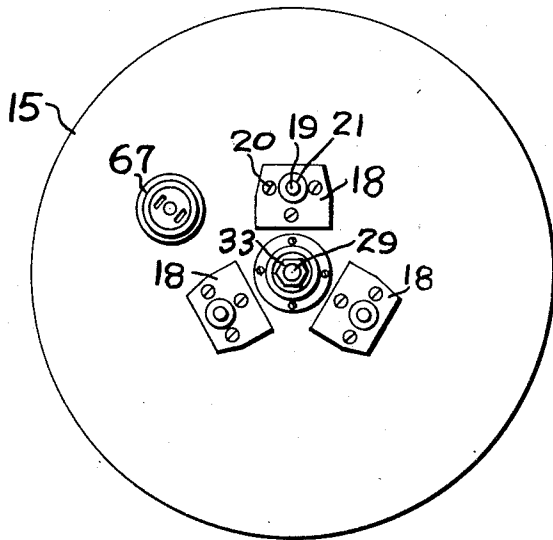


Fig. 5.



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4 Sheets-Sheet 3

Fig. 6.

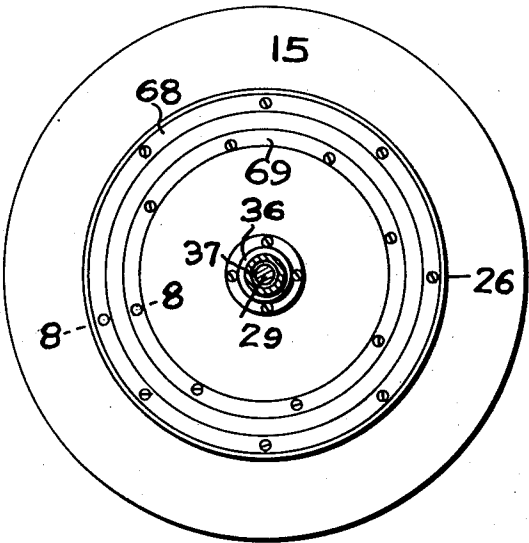


Fig. 7.

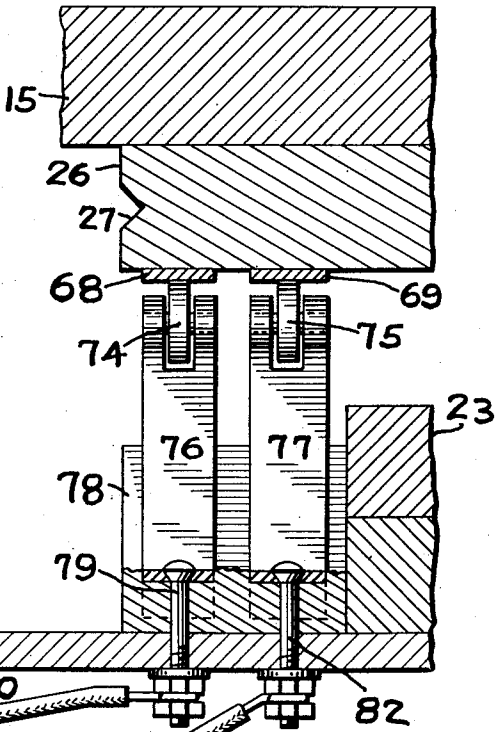
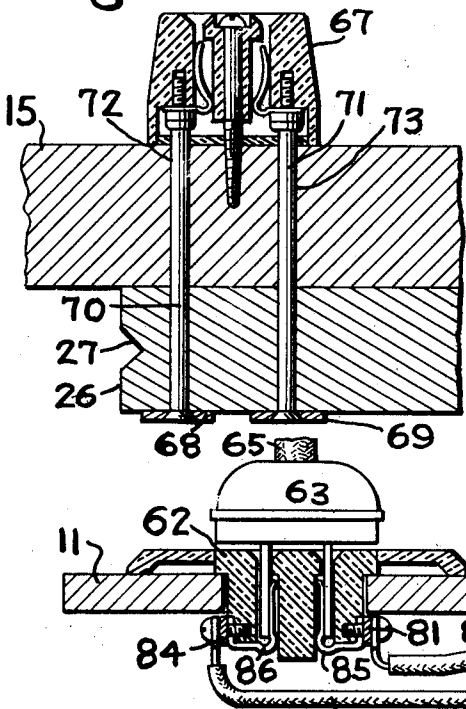


Fig. 8.



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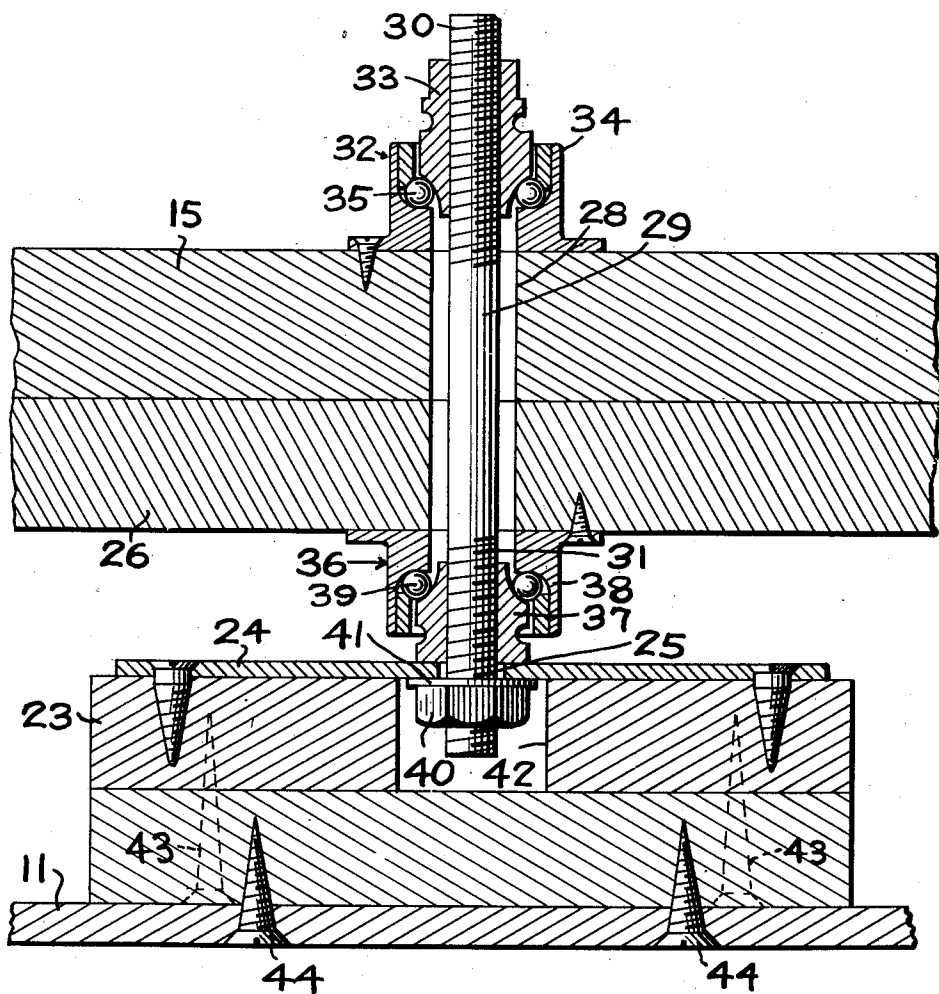
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4 Sheets-Sheet 4

Fig. 9.



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UNITED STATES PATENT OFFICE

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ROTATABLE SUPPORT FOR CHRISTMAS TREES

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Application September 20, 1933, Serial No. 690,192

5 Claims. (Cl. 248—38)

This invention relates to holders for Christmas trees and the like and more particularly to a rotatable support for Christmas trees.

An object of the invention is to provide an improved apparatus having a rotatable turntable for supporting a Christmas tree or the like.

Another object of the invention is to provide an improved electrically operated driving mechanism for the Christmas tree supporting turntable of my improved apparatus.

Another object of the invention is to provide an improved rotatable support for Christmas trees of the character mentioned, which is simple in construction, and reliable and exact in function under all conditions of service.

The invention also comprises certain new and useful improvements in the construction, arrangement and combination of the several parts of which it is composed, as will be hereinafter more fully described and claimed.

In the accompanying drawings:—

Figure 1 is a plan of a rotatable Christmas tree holder constructed according to my invention, the removable cover being removed in order to show the underlying structure;

Fig. 2 is an elevation looking at the left hand end of the apparatus shown in Fig. 1, the removable cover being shown in section;

Fig. 3 is a front elevation of the apparatus, with the cover removed;

Fig. 4 is a detail section of a portion of the driving mechanism, taken on the line 4—4 of Fig. 3;

Fig. 5 is a plan of the turntable, the stand for holding the Christmas tree thereon being removed;

Fig. 6 is a bottom plan of the turntable shown in Fig. 5, the supporting spindle for the turntable being shown in section;

Fig. 7 is an enlarged section of a portion of the apparatus showing the electrical connections between the base and the turntable;

Fig. 8 is an enlarged section taken on the line 8—8 of Fig. 6 showing the manner of connecting the contact strips on the underside of the turntable with the socket or receptacle on top of the turntable; and

Fig. 9 is an enlarged vertical central section through the turntable and the base, showing the manner of rotatably mounting the turntable on the base.

Referring to the drawings and especially to Figs. 1, 2 and 3, the improved apparatus may comprise a supporting base 11, in the form of a rectangular board formed from plywood or the

like. The underside of the base 11 has fastened thereto a plurality of cross bars 12 adapted to rest on the floor or other suitable support.

The tree, the body of which is indicated at 13, is supported directly in a holder 14 which is mounted on a turntable 15 disposed a suitable distance above the base.

The Christmas tree holder 14 is described and claimed in another application for Letters Patent filed by me even date herewith, Serial Number 690,193.

As shown, the holder 14 comprises a main tubular body portion for receiving the trunk of the tree 13, the tree being secured therein by means of a plurality of winged screws 16 (see Figs. 1 15 and 3).

The tree holder 14 is formed with a plurality of feet 17 which flare outwardly from the main body portion and are detachably secured to the turntable 15.

For the purpose of fastening the holder 14 to the turntable 15, the top of the turntable is provided with a plurality of metal plates 18 (see Fig. 5) having upstanding threaded stems 19, there being one plate 18 for each of the feet 17. The plates 18 are secured to the turntable by means of screws 20. Interposed between the plates 18 and the feet 17 are washers 21 (see Fig. 3). Winged nuts 22 are mounted on the stems 19 and when these nuts are turned down tightly, the holder 14 is rigidly secured to the turntable 15. The construction is such that the holder 14 can be easily removed from the turntable 15 or mounted thereon when so desired.

For the purpose of rotatably mounting the turntable 15 on the base 11, the base has fixed thereto, as shown in Figs. 2, 3, 7 and 9, a block 23, made in two parts for a purpose to be hereinafter more fully described.

Fastened on top of the block 23 is a plate or disc 24 (see Fig. 9) having an opening 25 in its center.

The turntable 15 consists of a circular block of wood, although any other material can be used if so desired.

On the underside of the turntable 15 there is another circular piece of wood 26, somewhat smaller in diameter than the diameter of the main body of the turntable. These two blocks of wood constitute the main body of the turntable and provide a strong and rigid member for supporting the Christmas tree.

If so desired, an annular groove 27 can be formed in the portion 26 of the turntable, to provide means for receiving a belt or the like (not

shown) which may be applied thereto to either drive the turntable 15 from a suitable source of power, or to be driven by the turntable, when the turntable is rotated by mechanism such as that forming a portion of the present invention and hereinafter described.

The portions 15 and 26 of the turntable are formed with a vertical central bore 28, as shown in Fig. 9.

Passing through the bore 28 is a vertical spindle 29, threaded at its upper end as indicated at 30, and threaded at its lower end as indicated at 31.

A suitable ball bearing 32 is mounted on the upper portion of the turntable 15, said bearing including a cone nut 33 threaded on to the threads 30 of the spindle 29, a hub 34 mounted on top of the turntable 15, and balls 35.

Another ball bearing 36 is mounted on the under side of the block 26, said bearing including a cone nut 37 threaded on to the threads 31 of the spindle 29, a hub 38 fastened to the block 36, and balls 39.

The lower end of the spindle 29 passes downwardly through the opening 25 in the plate or disc 24. When the parts are being assembled on the turntable and the turntable is being assembled on the base 11, a nut 40 and washer 41 are applied to the lower end of the spindle 29, the nut being turned up tight so as to draw the lower face of the cone nut 37 against the upper surface of the plate or disc 24.

As shown in Fig. 9, an opening 42 is formed in the upper portion of the two-part block 23, in which the lower end of the spindle 29, as well as the nut 40 and the washer 41 are disposed.

In order to facilitate the assembly of the above parts, the two parts of the block 23 are not united until after the nut 40 has been applied to the spindle 29. After which the two parts of the block 23 can be secured together by means of screws 43, indicated by dotted lines in Fig. 9. The whole can then be secured to the base 11 by screws 44.

As shown in Figs. 1, 3 and 4, the driving mechanism for rotating the turntable 15 may comprise a roller 45 mounted on a shaft 46 journaled in a frame comprising a pair of spaced rectangular plates 47 and 48.

The plates 47 and 48 are held spaced apart by means of tubular members 49.

The plates 47 and 48 are secured together by bolts 50, passed through the tubular members 49, nuts 51 being applied to the lower ends of the bolts so as to firmly clamp the parts together.

Mounted on the shaft 46 and disposed between the plates 47 and 48, is a gear 52 which is in meshing relationship with a pinion 53 on the shaft 54 of an electric motor 55.

The driving mechanism, including the motor 55, the gears and the roller 45, is supported on a suitable frame 56, which is, in the present instance, shown as comprising a Z-shaped member.

As shown in Fig. 3, the supporting frame 56 consists of an upper horizontal portion 57, a lower horizontal portion 58 and a substantially vertical portion 59 joined to the upper portion 57 and to the lower portion 58.

The portion 58 of the frame 56 is fastened to the base 11 by means of screws 60, and interposed between the portion 58 and the base 11 is a pad 61, which may be formed from rubber or any other suitable material.

The portion 57 of the frame 56 is fastened to the plate 48 heretofore referred to by welding, soldering, or in any other suitable manner.

For the purpose of supplying electric current to the motor 55 and for illuminating lamps on the Christmas tree (not shown), a double-socket receptacle 62 is used. The receptacle 62 can be of the common type which can be purchased in many stores or commercial establishments, said receptacle having provision for receiving two removable plugs 63 and 64 connected to conductors or electric light wires.

The conductor 65 connected to plug 63 may lead from a suitable source of electric current (not shown).

Conductor 66 leading from plug 64 is connected to the electric motor 55. In this way no switch will be required to control the operation of the motor 55.

In the several views of the drawings, plug 64 is shown in place on the receptacle 62, and with plug 63 also in place on said receptacle, electric current will be supplied to the motor 55 and consequently said motor will operate to drive the pinion 53 and gear 52 and roller 45.

Roller 45 is maintained in frictional engagement with the peripheral edge of the turntable 15 by the weight of the driving mechanism on the portion 57 of the frame 56. The roller 45 is adapted to rotate the turntable 15 at a considerable reduction in speed than the speed of said roller.

When either of the plugs 63 or 64 are withdrawn or detached from the receptacle 62, no electric current will be supplied to the electric motor 55 and consequently the turntable 15 will not be rotated.

In order to supply electric current for lighting lamps which may be placed on the Christmas tree, a socket or single plug receptacle 67 is mounted on top of the turntable 15 at a point adjacent to the tree holder 14.

As shown in Fig. 8, mounted on the underside of the lower portion 26 of the turntable 15 is a pair of annular contact plates 68 and 69. The plates 68 and 69 are concentrically disposed, the plate 68 being adjacent the periphery of the portion 26 of the turntable.

The plates 68 and 69 are electrically connected to the socket or single plug receptacle 67, plate 68 being connected to one terminal of said receptacle by means of a rod 70 and plate 69 is connected to the other terminal of said receptacle by means of a rod 71. The rods 70 and 71 are passed through openings 72 and 73, respectively, in the turntable 15.

As shown in Figs. 2, 3 and 7, operatively associated with the contact plates 68 and 69, is a pair of rollers 74 and 75, respectively, which are carried by brass strips 76 and 77, respectively, mounted on a block 78 fastened to the base 11 underneath the turntable 15.

The brass strip 76 has secured thereto a bolt 79 which extends downwardly through the block 78 and base 11 and has fastened thereto one end of a conductor 80. The other end of the conductor 80 is secured to a conductor element 81 of the receptacle 62.

The brass strip 77 has secured thereto a bolt 82 which extends downwardly through the block 78 and base 11 and has fastened thereto one end of a conductor 83. The other end of conductor 83 is secured to a conductor element 84 of the receptacle 62.

As shown in Fig. 7, the conductor elements 81 and 84 of the receptacle 62 are electrically connected to the two terminal contact members of the plug 63 by means of contact members 85 and 86, respectively. In this way as long as plug 63 is

disposed in the receptacle 62 electric current will be supplied to the single plug receptacle 67 on top of turntable 15.

As shown in Fig. 3, the receptacle 67 is adapted to receive a plug 87 having a conductor 88 leading therefrom. The conductor 88 may have any suitable number of electric lamps (not shown) connected thereto and said lamps may be disposed in any desired manner on the Christmas tree.

By providing a tree lighting system in the manner just described, with the plug 87 removed from the receptacle 67, the turntable can be rotated without having the tree lamps illuminated. Furthermore, the tree lamps can be illuminated when the tree is stationary, if the plugs 63 and 87 are secured in their respective receptacles when the plug 64 is detached from its receptacle.

As shown in Fig. 2, the base 11 is adapted to be fitted with a cover 90, also formed of plywood or the same material as is the base. The cover 90 has side walls and a top, the top being preferably disposed substantially flush with the top of the turntable 15, and having an opening 91 therein to accommodate the turntable. Lateral shifting movements of the cover 90 are prevented by a rib 92 arranged around the periphery of the base 11, as shown in Figs. 1, 2 and 3. The side wall of the cover 90 adjacent to the receptacle 62 has an opening 93 therein, of ample dimensions to permit the insertion of the hand for the purpose of applying or removing the plugs 63 and 64.

While one illustrative embodiment of the invention has been described in detail, it is not my intention to limit its scope to that embodiment or otherwise than by the terms of the appended claims.

Having thus described my invention, what I claim is:—

1. A rotatable Christmas tree holder comprising a base, a turntable, means for rotatably supporting the turntable on the base, a roller frictionally engaging the periphery of said turntable, driving mechanism for said roller comprising an electric motor, the shaft of which has a pinion in meshing relationship with a gear on the shaft of said roller, means for supporting said driving mechanism comprising a Z-shaped member having upper and lower horizontal portions connected by a substantially vertical portion, the driving mechanism being fastened to the upper

horizontal portion of said Z-shaped member, and a pair of spaced plates constituting supporting means for the shaft of said roller, said plates being fastened to the upper portion of said Z-shaped member, and means for supplying electric current to said motor.

2. A rotatable Christmas tree holder comprising a base, a turntable rotatably mounted above the base, means for rotating the turntable comprising a roller, an electric motor and driving connections between said motor and roller, and means for maintaining said roller frictionally in engagement with said turntable comprising a Z-shaped frame having upper and lower horizontal arms connected by a substantially vertical arm, the lower arm of said frame being secured to said base, and the upper arm of said frame being free and constituting the sole support for the driving mechanism of said roller.

3. A rotatable Christmas tree holder comprising, a supporting base, a turntable rotatably mounted on the base, a motor resiliently carried by the base, and a driven roller rotated by the motor and held in contact with the turntable by the weight of the motor.

4. A rotatable Christmas tree holder comprising, a supporting base, a turntable rotatably mounted on the base and adapted to receive and mount a Christmas tree, a substantially Z-shaped frame connected by one of its arms on said supporting base, a motor mounted on the free arm of the Z-shaped frame to thus be resiliently supported and to incline toward the turntable due to the weight of the motor upon the resilient Z-shaped frame, and a drive roller rotated by the motor and held in resilient frictional contact with the turntable by the weight of the motor.

5. A rotatable Christmas tree holder comprising, a supporting base, a circular turntable rotatable on said base on a substantially vertical axis and adapted to mount and support a Christmas tree, a resilient motor supporting frame mounted on the supporting base outside of the periphery of the turntable, a motor carried by said resilient supporting frame and through its own weight springing the frame to bring the motor into proximity to the periphery of the turntable, a roller frictionally engaging the periphery of the turntable, and speed reducing mechanism by which said friction roller is rotated from the motor.

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