

Oct. 26, 1943.

P. G. DUCARPE
MOVABLE DISPLAY DEVICE

2,332,845

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2 Sheets-Sheet 1

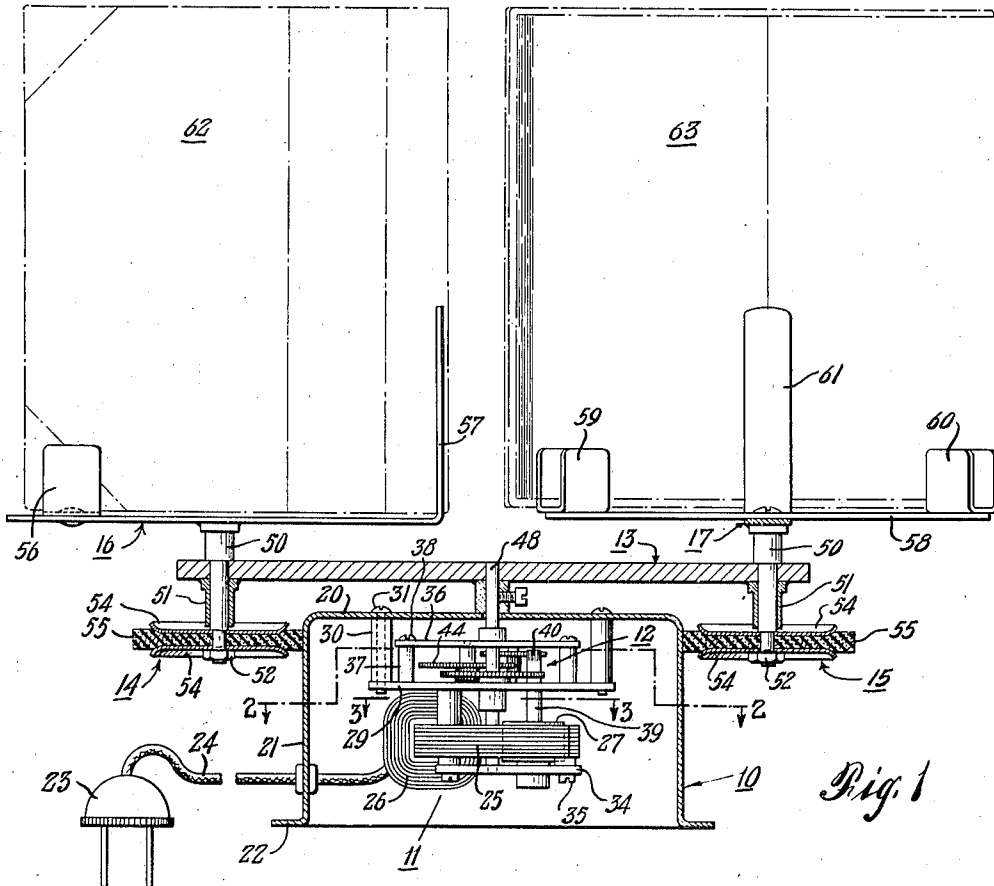


Fig. 1

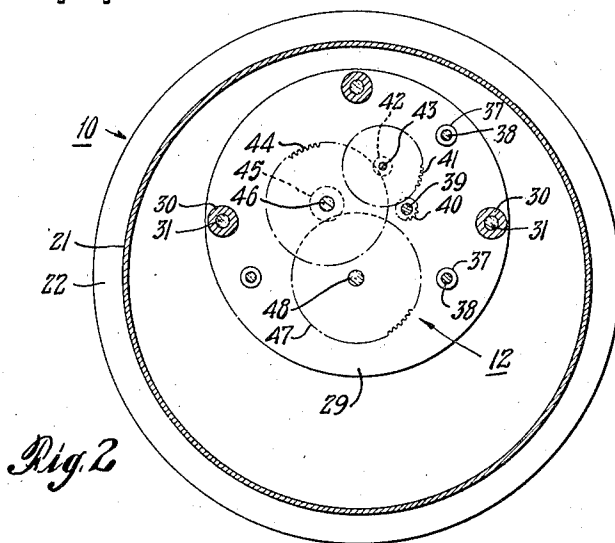


Fig. 2

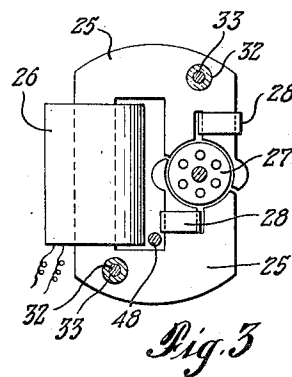


Fig. 3

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2 Sheets-Sheet 2

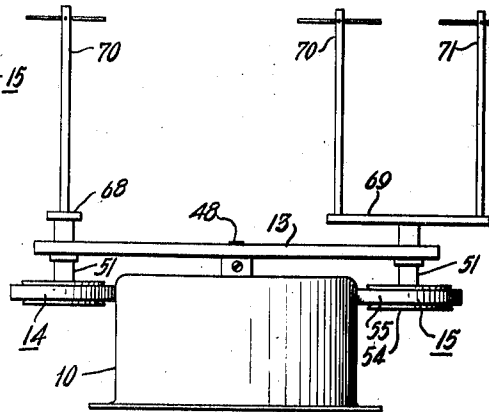
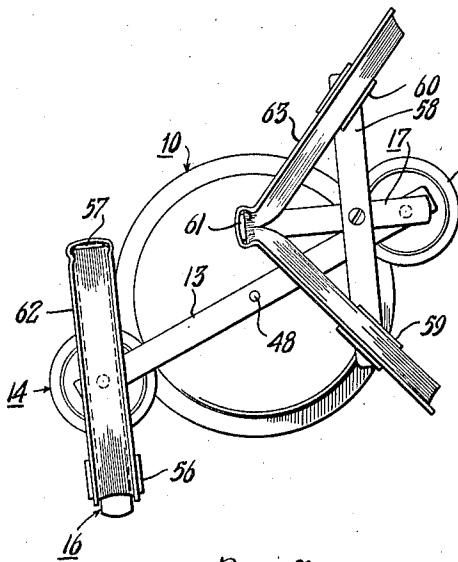
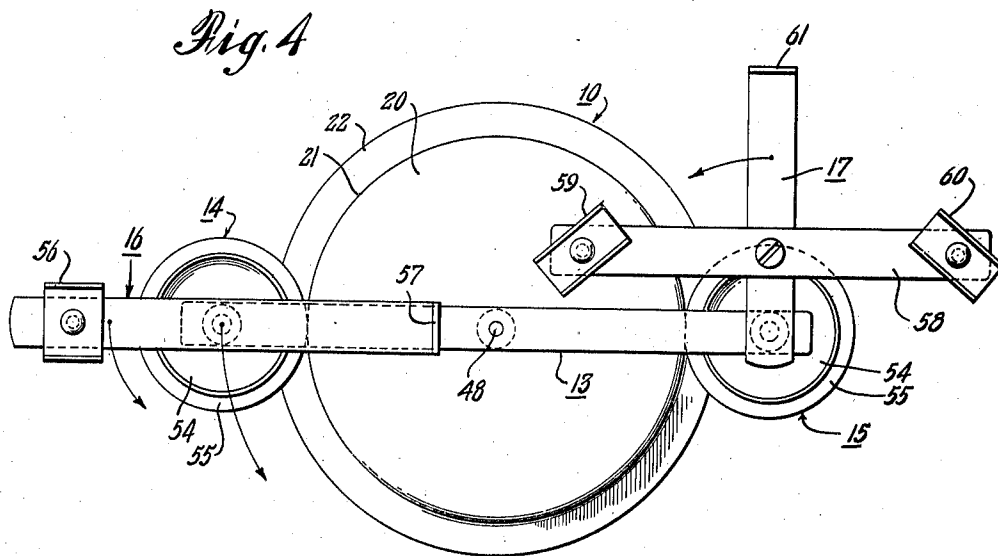


Fig. 5

Fig. 6

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MOVABLE DISPLAY DEVICE

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4 Claims. (Cl. 40—33)

The invention relates, in general, to display devices for advertising and the like and more particularly to display devices for rotating the article to be displayed.

According to a preferred embodiment, the display device comprises a dish-shaped base or support having suitable driving mechanism therein. Journalled on the top of this support and driven by said mechanism is a turntable or cross member having journalled on its ends resilient wheels engaging the circular side surface of the base. The shafts upon which these wheels are mounted carry suitable supporting trays or holders so that, as the cross member slowly rotates, the resilient wheels roll on the base and slowly rotate the trays or display holders.

The two holders may be of the same or different construction. In one form, one holder may be provided with clips for holding a book in closed condition while the other holder may have clips for holding a book in open condition. If desired, the driving mechanism may comprise an inexpensive motor of the synchronous clock type, driving suitable reduction gearing driving the turntable.

The invention also consists in certain new and original features of construction and combination of parts hereinafter set forth and claimed.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part thereof, in which

Fig. 1 is an elevation of the display device with parts in section;

Figs. 2 and 3 are plan sections taken on the lines 2—2 and 3—3, respectively, of Fig. 1;

Fig. 4 is a plan view of the display device with the articles of merchandise omitted;

Fig. 5 is a view similar to Fig. 4, but showing the merchandise in place; and

Fig. 6 is a modified form illustrating different types of merchandise holding members.

In the following description and in the claims, various details will be identified by specific names for convenience, but they are intended to be as generic in their application as the art will permit.

Like reference characters denote like parts in the several figures of the drawings.

In the drawings accompanying and forming part of this specification, certain specific dis-

closure of the invention is made for purposes of explanation, but it will be understood that the details may be modified in various respects without departure from the broad aspect of the invention.

Referring now to the drawings, the display device comprises, in general, a dish-shaped base 10 housing a motor 11 driving a reduction gear 12, which in turn drives turntable or cross bar 13. Journalled on the ends of the cross bar 13 are resilient wheels 14 and 15 which carry the platforms or holders 16 and 17. As shown in Figs. 1 and 3, these platforms may respectively support a book 32 in closed position and a book 33 in open position.

The base 10 may be made of sheet metal suitably pressed or stamped and comprises a top plate 20, an annular side wall 21 and a peripheral base flange 22 adapted to rest upon a shelf or floor in a display window.

The motor 11, in the form shown, is of the synchronous type commonly used for running electric clocks. It runs on alternating current and is self-starting. However, it will be understood that, if desired, other types of motor may be used, including direct current motors or even spring motors.

The motor, as shown, comprises a laminated field piece 25 (Fig. 3) having a winding 26 to which an electric cord 24 is connected. The cord 24 has a plug 23 for plugging into any ordinary electric light socket. The motor has an armature 27 made of copper and iron suitably arranged for self-starting, synchronous characteristics, as will be well-known to those who manufacture clock motors. In accordance with the practice in such motors, the ends of the core 25 are split and provided with shading coils 28.

The motor 11 and reduction gear 12 are supported by a circular main plate 29 suspended from the top plate 20 by three sleeve and screw assemblies, the sleeves being indicated by 30 and the screws by 31. The screws are threaded into the main plate 29. The motor 11 is suspended from main plate 29 by two post and screw assemblies, the posts being indicated by 32 and being permanently fixed in any desired manner to the main plate 29, the screws 33 passing through holes in the core 25 and threaded into the posts 32. There are two of these assemblies as indicated particularly in Fig. 3.

Suspended from the core 25 is a lower bearing plate 34 having suitable screws 35 passing through the bearing plate 34 into the core 25 as indicated particularly in Fig. 1. The top bearing

plate 36 is connected to the main plate 29 by a series of posts 37 fixedly secured to plate 39 and screws 38 threaded into posts 37.

The armature or rotor 27 is mounted upon shaft 39, journaled in lower bearing plate 34 and upper bearing plate 36. Shaft 39 carries a pinion 40 (Fig. 2) which drives a larger gear 41 fixed to shaft 43. Fixed to gear 41 is a smaller gear 42 which drives larger gear 44 mounted upon shaft 46. Fixed to larger gear 44 is a smaller gear 45 driving larger gear 47 mounted upon the main turntable shaft 48. Turntable 13 is secured to shaft 48 by a set screw passing through a hub rigidly secured to the turntable 13.

The several gears and shafts just described comprise a standard reduction gearing which reduces the comparatively high speed of rotor shaft 39 to comparatively slow speed of turntable shaft 48. The clock motor and reduction gearing may be such as to impart a speed to shaft 48 of about one revolution per minute. It will be understood, of course, that, if desired, the mechanism may be arranged to impart any suitable or desirable speed to the turntable, depending upon what type of merchandise is being displayed and what effect it is desired to achieve.

The turntable shaft 48 is journaled in lower plate 34 and upper plate 36 in the intermediate shafts 43 and 46 are journaled in plates 29 and 36. The plates 36, 29 and 34 may be made of brass so as not to affect the magnetic circuit of the motor core 25.

The turntable 13 has fixed thereto depending hubs 51 in which are journaled stud shafts 50 to which the wheels 14 and 15 are secured. These wheels may be conveniently made up of a disc 55 of rubber or other soft resilient material clamped between dish-shaped discs 54 by nuts 52 threaded on the reduced ends of the shafts 50. The whole arrangement is such that the soft rubber discs 55 yieldably engage the circular wall 21 providing, in effect, a frictional planetary gearing system, the circular wall 21 constituting a sun gear and the wheels 14 and 15 constituting planet gears.

Each of the rotating platforms 16 and 17 carry suitable holding devices for holding the merchandise to be displayed. One end of platform 16 carries a U-shaped clip 56 suitably secured thereto and the other end of platform 16, which may be in the form of a bar, is bent to form an upstanding support 57. Platform 17 may also be in the form of a bar and may have its one end bent upwardly to form an upstanding support 61. Secured crosswise on platform 17 is a cross bar 58 which carries U-shaped clips 59 and 60.

For displaying books in a book store, for example, a closed book may be mounted on platform 16. Such a book is indicated by 62 in Figs. 1 and 5. The support 52 may be inserted in the space between the binding of the book and the cover surrounding the binding and the U-shaped clip 56 may snugly receive the other edge of the book, thus holding the book substantially rigidly on the platform 16. Another volume of the same book may be supported in open position on the other platform 17, the supporting member 61 being inserted between the binding of the book and the cover loosely surrounding the binding, while one cover and approximately half the pages in the book may be held in one U-clip 59 while the other cover and the other half of the pages are held in the other clip 60.

Thus, by the use of the present invention, a book which it is desired to advertise may be exhibited in an attractive and forceful manner.

The closed volume may exhibit the title and indicate the character of the binding of the book, while the open volume will indicate the type of print and also any especially interesting or attractive picture or title page at which point the book will be opened.

As the turntable 13 slowly rotates, the planet wheels 14 and 15 will roll upon the sun wheel 21, rotating the platforms 16 and 17 and the books 62 and 63 as indicated in Fig. 4, thus calling attention to the articles displayed and exhibiting them in an attractive manner.

It is obvious that this principle above described may be used for displaying other types of merchandise in which event the platforms 16 and 17 will be suitably modified. Fig. 6 indicates platforms 68 and 69 having suitable racks or holders 70 and 71 from which may be hung any desirable articles of merchandise, such as hats, neckties, handkerchiefs, socks, stockings, etc. It is obvious that the display device may be of any size, sufficiently large, for example, to display clothing, such as suits or overcoats.

If desired, the holding devices 70 and 71 may be omitted and the platforms 68 and 69 may be in the form of simple trays on which the merchandise may be placed. The use of trays lends itself very nicely for the display of smaller articles, such as jewelry, cosmetics, drugs, etc.

Thus, there has been described a simple display device, inexpensive to manufacture and very inexpensive to run in view of the negligible consumption of electricity by clock motors. There is nothing to get out of order, the merchant simply plugs in the electric cord and the device is ready to run. He places his merchandise on the revolving platforms and no further attention is needed. The planetary rotation of the several holders or trays has the advantage of displaying the articles equally on all sides as they move before the prospective customer.

If desired, a number of different types of holding devices may be used interchangeably so that from time to time the merchant may change the type of display. It is obvious also that, if desired, the display device may have three or more holders or trays instead of the two shown for purposes of illustration.

While certain novel features of the invention have been disclosed and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. In a display device, a base comprising an inverted disk-shaped member having a circular side wall and a substantially flat top wall providing an interior hollow space, an electric motor and reduction gearing driven by said motor secured to the underside of said plate within said hollow space, a spindle connected to said reduction gearing passing through said top wall, a support secured to said spindle, rotary planet shafts journaled at the ends of said support, said planet shafts carrying planet wheels with resilient peripheries frictionally engaging said side wall, a book carrier carried by one of said planet shafts for holding the book in open position, a book carrier carried by the other planet shaft for holding a book in closed position.

2. In a display device, a base comprising an inverted dish-shaped member having a circular side wall and a top wall providing an interior hollow space, an electric motor and reduction

gearing driven by said motor secured within said hollow space, a spindle connected to said reduction gearing passing through said top wall, a support secured to said spindle, rotary planet shafts journaled at the ends of said support, said planet shafts carrying resilient planet wheels frictionally engaging the side wall, and merchandise carriers carried by said planet shafts.

3. In a moving display device, a base, a vertical spindle journaled on said base, means for imparting a slow rotary movement to said spindle, a support secured to said spindle for rotation therewith, planet gears journaled on said rotary support and engaging a circular path on said base, a bar secured to one of said planet gears and having an upstanding member to engage between the binding and binding cover of a closed book and a U-clip to engage the covers

of said closed book away from said binding, a second bar secured to said other planet gear having an upstanding member to engage between the binding and binding cover of an open book, a cross piece secured to said second bar having spaced U-clips to engage the open covers and leaves of said open book.

4. In a display device, a base having a circular side wall, a support disposed above said side wall, a prime mover within said base for imparting a rotary movement to said support, planetary friction wheels journaled on said support and depending therefrom to engage the outer surface of said circular side wall, and holders secured to said friction wheels and disposed above said support and adapted to display articles of merchandise.

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