March 30, 1954 J. E. WOOD 2,673,778

DISPLAY MACHINE

Filed Nov. 15, 1948 3 Sheets-Sheet 1

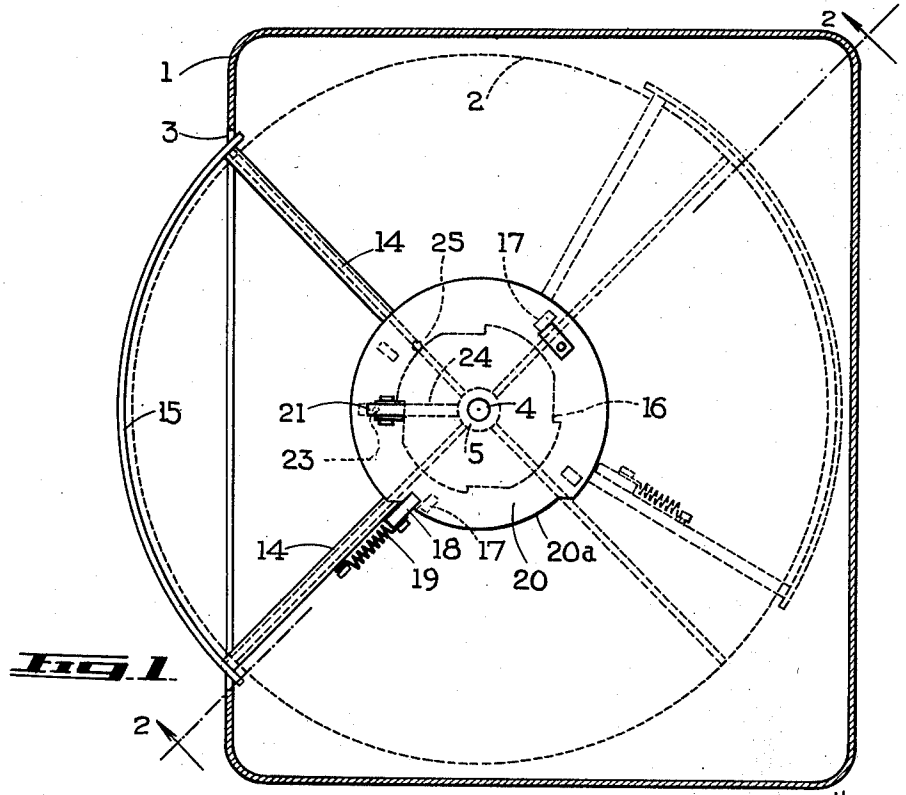


Fig. 1

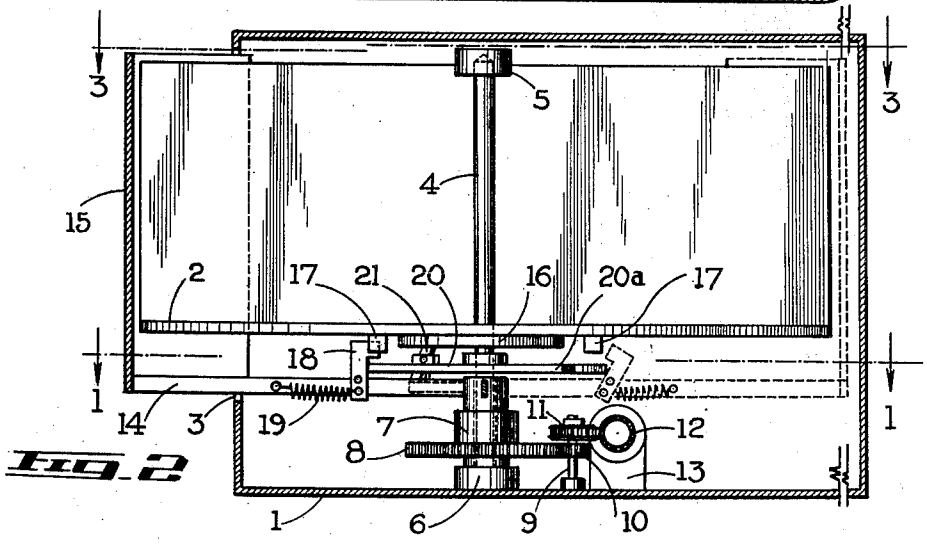


Fig. 2

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DISPLAY MACHINE

Filed Nov. 15, 1948 3 Sheets-Sheet 2

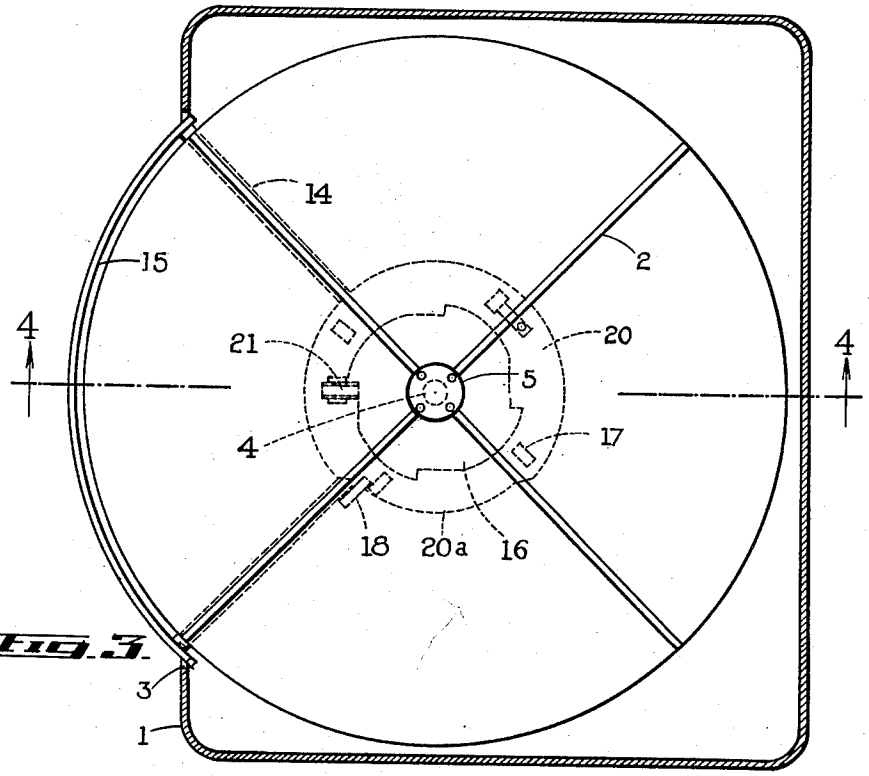


Fig. 3.

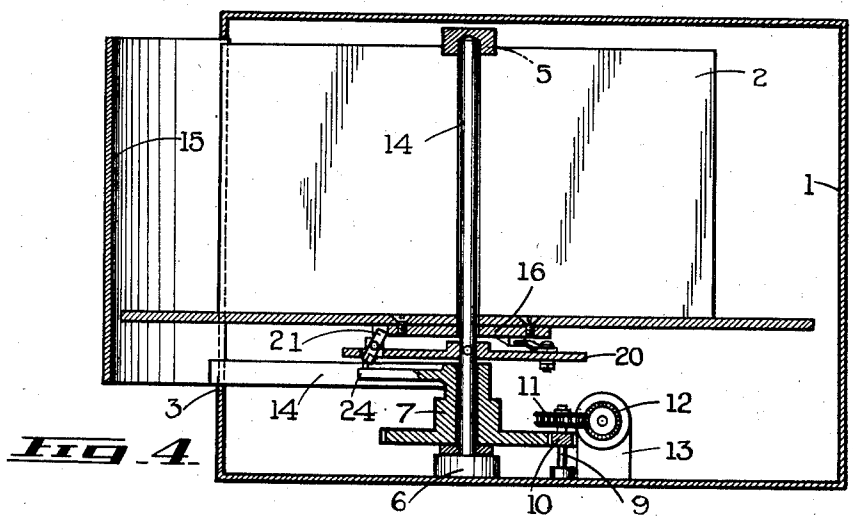


Fig. 4.

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DISPLAY MACHINE

Filed Nov. 15, 1948 3 Sheets-Sheet 3

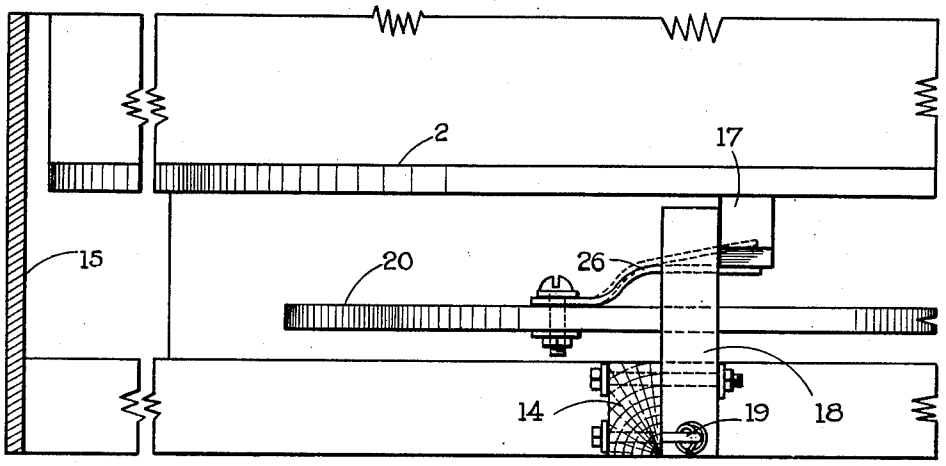


Fig. 5.

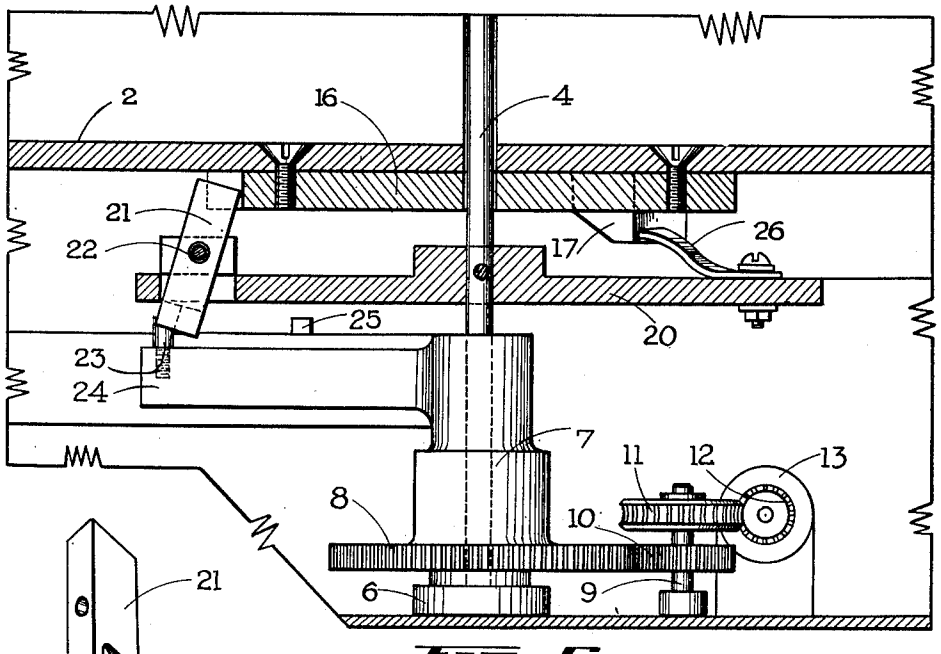


Fig. 6.

Fig. 7.

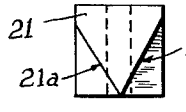


Fig. 8.

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UNITED STATES PATENT OFFICE

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DISPLAY MACHINE

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Application November 15, 1948, Serial No. 60,109

2 Claims. (Cl. 312—125)

1

My present invention relates to improvements in a display machine and especially to one employing a motor-driven turntable.

An object of the invention is to provide a turntable revolvable on a vertical axis with improved and simplified mechanism for the motivation thereof.

A further object of the invention is to provide a turntable display machine in which the revolvable turntable is subject to intermittent movement and provided with a screen or shutter to shield the same during such movements.

A further object of the invention is to provide a cabinet-enclosed turntable display machine having a shuttered window through which a series of exhibits on an intermittently-turning, compartmented platform may be successively viewed; each movement of the platform being through a predetermined angle of rotation, whilst the shuttered window temporarily is closed and between which intermittent movements the platform is exposed and positively held motionless.

A further object of the invention is the provision of such a display machine incorporating improved and simplified structure for supporting and rotating said turntable and shutter respectively.

A still further object of the invention is the provision of a display machine of the nature and for the purpose set forth that is characterized by structural efficiency, durability and economy, is attractive and attention arresting in appearance and affords a merchandizer a novel and effective medium for the presentation of his wares.

To the accomplishment of these and related objects as shall become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts as shall be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the claims hereunto appended.

The invention will be best understood and can be more clearly described when reference is had to the drawings forming a part of this disclosure wherein like characters indicate like parts throughout the several views.

In the drawings:

Figure 1 is a horizontal section and plan view of a favoured embodiment of the machine, with the position of the revolvable turntable shown only in dotted outline;

Figure 2 is a vertical section therethrough as seen along the diagonal section line 2—2, looking in the direction indicated by the arrows;

Figure 3 is another horizontal section and plan

2

view, similar to Figure 1 but at an upper level to include the turntable, as on line 3—3 of Figure 2;

Figure 4 is a vertical transverse section as taken on the median section line 4—4 of Figure 3;

Figure 5 is an enlarged detail of the check stop to prevent recoil of turntable;

Figure 6 is an enlarged sectional elevational detail of the turntable locking dog and associated mechanism; and

Figure 7 is a perspective of the said dog,

Figure 8 is a lower end view thereof.

In carrying out this invention, I have shown a display machine in which a turntable 2, divided into a number of sector-like compartments, is housed in a cabinet 1 having a window opening 3 therein through which one of the turntable compartments is exposed.

Centrally in the machine is a vertical shaft 4 on or about which the revolvable turntable 2 may turn. The shaft is here shown as a fixed post from the pointed top of which the turntable is suspended by a bearing 5. About the lower end of this post 4 and provided with a suitable bushing 6 is a revolvable hub 7 with an integral gear 8. On an adjacent vertical shaft 9 is a meshing pinion 10 and a worm gear 11 engaging a worm 12 on a motor 13.

Carried by radial arms 14, fixed to the hub 7, is an arcuate shutter 15, extending through an arc just greater than one of the turntable sector-like compartments and able to close the cabinet window 3 and screen the compartment in registry therewith. This shutter is revolving continually.

On the underside of the turntable is a gear 16 having four teeth to correspond in number with the four sector-like compartments and also a similar number of circumferentially spaced lugs 17 beyond the perimeter of said gear. On one of the shutter arms 14 a vertical, turntable driving catch 18 is pivoted, its upper end being urged inwards, for interception by one of the lugs 17, by a coil spring 19 stretched from the lower end of the catch to an outer point on the radial arm.

To control the catch 18 on the continually revolving shutter arm so that it temporarily engages and is then released from the turntable lug 17 when it has turned the table through 90 degrees, a cam member 20 is fixed on the non-rotatable post 4 between the top of the motor driven hub 7 and the underside of the turntable and its gear 16. For an arc of substantially 90° as indicated at 20a the periphery of the cam is of reduced diameter so the spring-urged catch 18 that bears continually against its perimeter, hinges inwards to intercept a depending turn-

table lug 17 and carry it through the lesser diameter arc and when thrown out again at the end thereof drops engagement with the turntable by swinging clear of the lug 17 thereof.

Thus set in motion, the turntable would continue to rotate past its appointed limit and so to arrest it with the next succeeding compartment in perfect registry with the cabinet window 3, an upstanding locking dog 21 pivoted in the cam plate 20 is caused to engage the appropriate tooth of the gear 16 mounted on the underside of the turntable. The lower end of this dog 21 has two cam surfaces 21*a* and 21*b* inclining to opposite sides from the front thereof. Just as the catch 18 reaches the incut arc 20*a* of the cam 20 and is about to engage the turntable lug 17, the dog 21 frictionally held on its pivot pin 22 against accidental movement, is disengaged from the gear 16, being swung outwardly by an upstanding pin 23 on a short radial arm 24 from the hub 7 striking its transversely inclined face 21*a* on the dog's lower end and similarly, simultaneously with the freeing of the catch 18 from the lug 17 at the end of the cam incut arc, a second pin 25 on a following radial arm 14 and at a slightly shorter distance from the hub 7 than the pin 23, engages the other inclined or cam face 21*b* of the dog 21 and swings the dog 21 back against the gear 16 to engage its next following tooth.

Additional to turning and stopping the turntable, it has been found desirable to prevent any recoil thereof that would displace the selected compartment from perfect registry with the cabinet window and so a check stop 26 in the form of an upwardly offset leaf spring is secured to the upper side of the cam plate 20, in the line of the passing lugs, capable of allowing the lugs to depress it as they pass over but rising behind them to prevent any reverse rotation of the turntable that would carry it out of the desired registry with the cabinet's viewing window.

This simple, smooth running, quietly operating mechanism continually rotating the arcuate shutter that sweeps across the cabinet window at evenly spaced intervals and by which the turntable is alternately locked against movement and then rotated through an arc of the desired angle and again locked against rotation, shielding the turntable compartment last exposed to view as it moves away from window position, provides a greatly improved, carefree, motor-operated, turntable type display machine that is adapted to many uses.

From the foregoing description taken in connection with the accompanying drawings, it will be manifest that a display machine is provided that will fulfill all the necessary requirements of such a device, but as many changes could be made in the above description and many apparently widely different embodiments of the invention may be constructed within the scope of the appended claims, without departing from the spirit or scope thereof, it is intended that all matters contained in the said accompanying specification and drawings shall be interpreted as illustrative and not in a limitative or restrictive sense.

Having thus described the invention, what I claim as new is:

1. A turntable display machine comprising a cabinet having a window opening therein, a fixed post in the center of said cabinet, a turntable platform rotatable thereon, a motor driven hub on said post below said platform, a cam member secured on said post intermediate said hub and platform, a turntable-circling shutter carried by said hub for intermittently closing the window opening in said cabinet, a spring-urged catch connected with said shutter engaging said cam and operable thereby into and out of engagement with said turntable platform, a platform locking device and operating means therefor timed to cause engagement of said locking device with said platform on the release of said catch from engaging said platform.

2. A turntable display machine comprising a cabinet having a window opening therein, a fixed post in the center of said cabinet, a turntable platform rotatable thereon, a motor driven hub on said post below said platform, a cam member secured on said post intermediate said hub and platform, a turntable-circling shutter carried by said hub for intermittently closing the window opening in said cabinet, a spring-urged catch rotatable with said shutter engaging said cam and operable thereby into and out of engagement with said turntable platform, a releasable rotation-stopping lock and a recoil check for said turntable platform.

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