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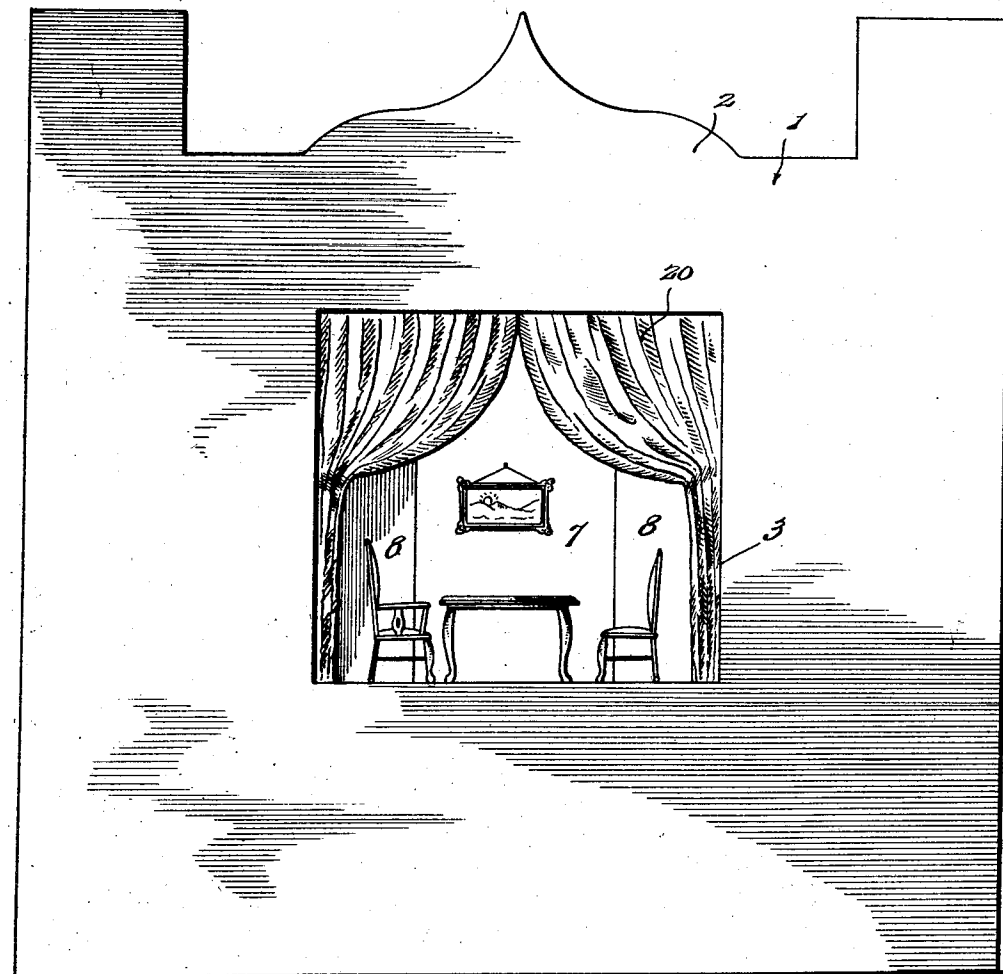
B. S. DE VRIES

DISPLAY APPARATUS

Filed Oct. 7, 1926

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Fig. 1.



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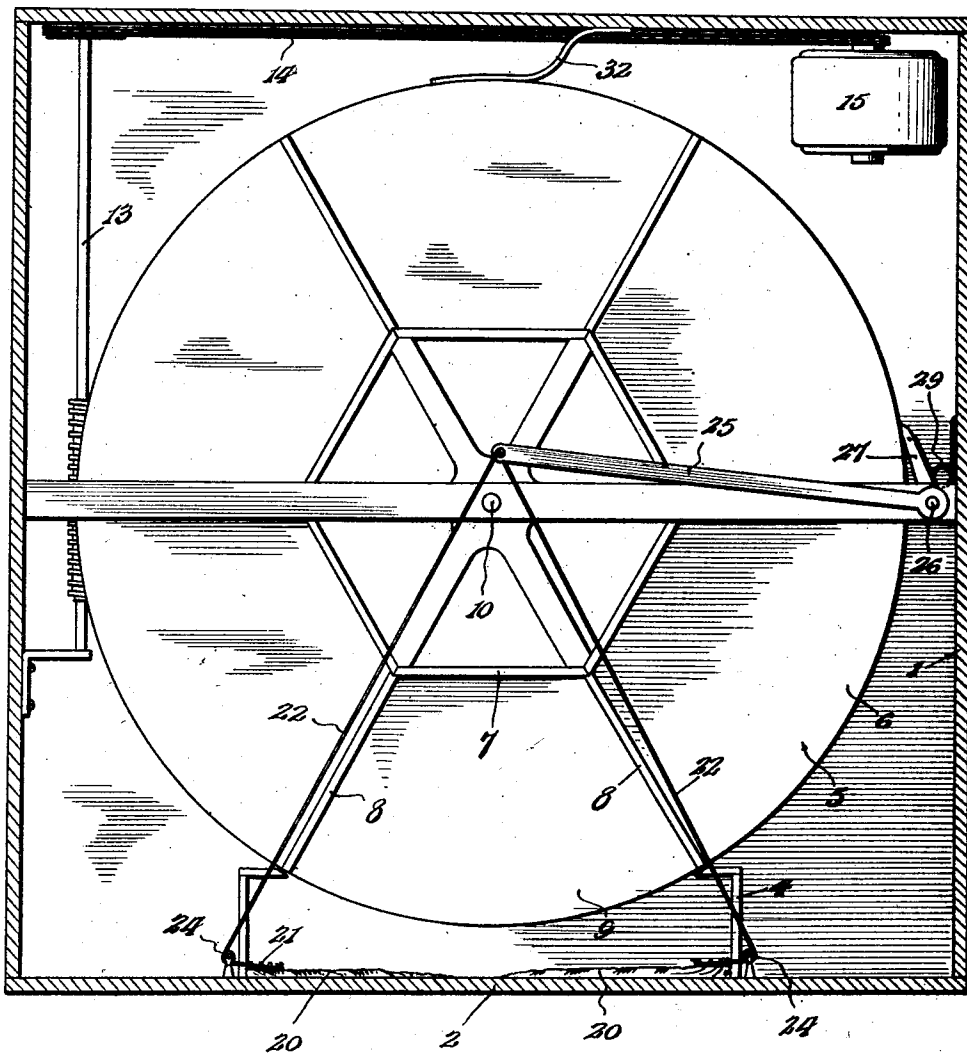
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Fig. 2.



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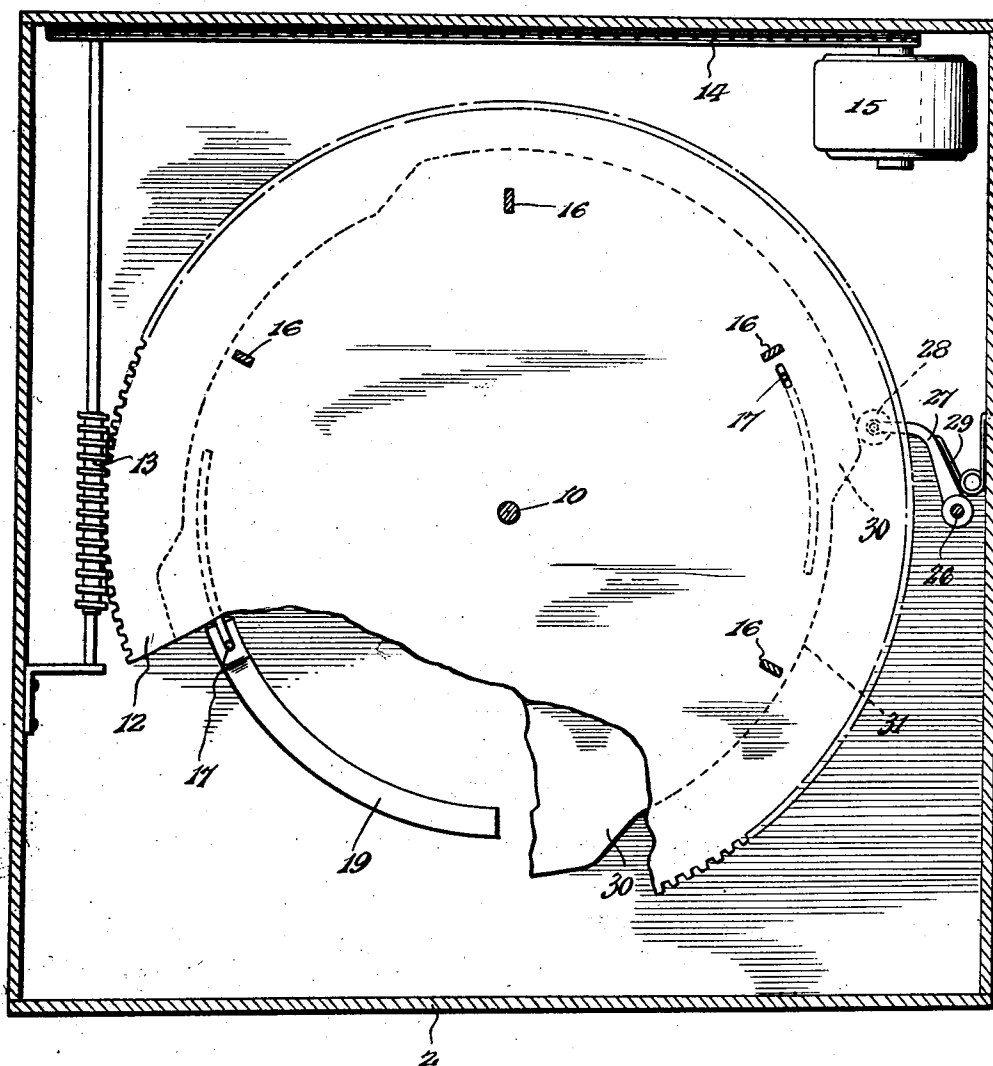
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Fig. 3.



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Fig. 4.

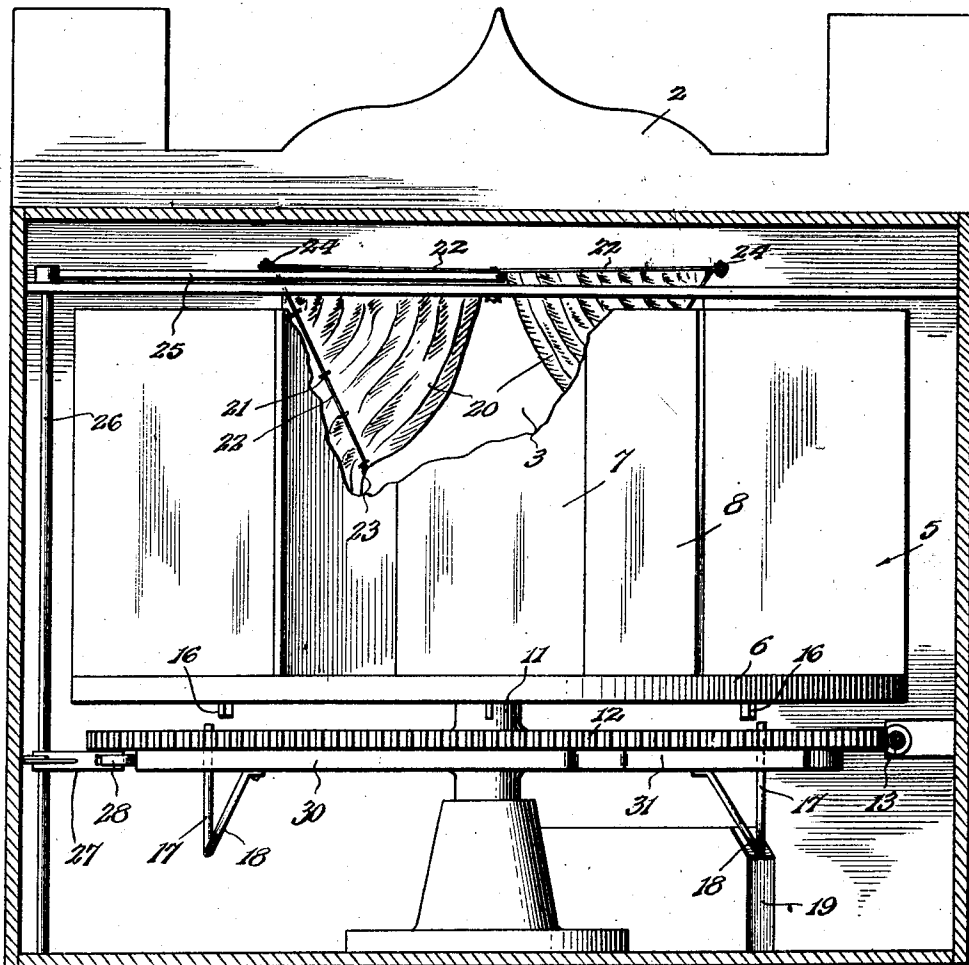
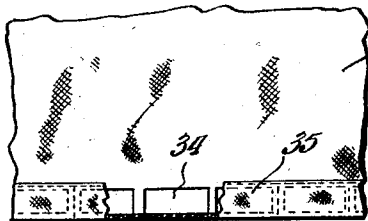


Fig. 5.

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UNITED STATES PATENT OFFICE.

BENJAMIN S. DE VRIES, OF PORTLAND, OREGON.

DISPLAY APPARATUS.

Application filed October 7, 1926. Serial No. 140,147.

This invention relates to improvements in display apparatus and more particularly to an apparatus by the use of which articles of merchandise may be successively displayed to view, the apparatus possessing the element of mystification which is considered essential in advertising devices of this class.

Another object of the invention is to provide an apparatus which may be embodied in a cabinet structure or which may be installed in a display window on a large scale and which will embody a number of display compartments and curtains which, during the revolution of the compartment unit, will be closed, but will be automatically opened at the time each compartment is presented to view, so that, for example, furniture for the various rooms of a dwelling may be arranged within the several compartments and displayed at proper intervals in a highly attractive manner.

Another object of the invention is to so construct the device that it will be entirely automatic in its operation and will require no attention except for the turning of an ordinary electric switch, the construction being such that the compartment units will be rotated in timed relation to the opening and closing of the concealing curtains so that the articles to be displayed will be presented to view to best advantage.

In the accompanying drawings:

Figure 1 is a front elevation of the apparatus embodying the invention.

Figure 2 is a top plan view thereof, the upper portion of the housing structure being shown in section so as to better illustrate the construction of the apparatus.

Figure 3 is a horizontal sectional view through the apparatus.

Figure 4 is a vertical transverse sectional view through the apparatus.

Figure 5 is a detail view of a portion of one of the curtains.

Where the invention is embodied in a cabinet structure such as is illustrated in the drawings, a suitable casing is provided, indicated in general by the numeral 1, and including a front 2, which may be of any fanciful design and which is provided with a proscenium or display opening 3, walls 4 extending rearwardly from the front wall 2 of the cabinet at the opposite sides of the said opening, as shown in Figure 2, and serving to define a stage-like space opposite which the compartments of the compartment

unit are to be successively brought to position. The compartment unit, which is indicated in general by the numeral 5, comprises a circular base 6, a central polygonal body structure 7, and walls 8 which radiate from the body structure and diverge in the direction of the periphery of the said base 6 so as to provide display compartments indicated by the numeral 9 and within which compartments and upon the base there may be arranged any desired articles of merchandise, such, for example, as articles of furniture, the walls of the body structure 7 and the radial walls 8 providing surfaces which may be suitably finished or draped to afford an appropriate background for the articles to be displayed. The base 6 of the compartment unit is fitted upon a shaft 10 and a hub 11 of a gear 12 is fixed upon the said shaft below the base, and arranged beside the periphery of the gear is a worm shaft 13 which is driven by a sprocket chain 14 from an electric motor 15 arranged within the cabinet. The rotation of the gear 12 is continuous inasmuch as the hub 11 is fixed upon the shaft 10, whereas the base 6 of the display unit is freely rotatable upon the said shaft, and a plurality of abutments 16 are arranged in an annular series upon the under side of the said base 6 and are adapted to be engaged by detent fingers 17 which project upwardly through the body of the gear 12 and are provided with angularly formed abutment shoulders 18 adapted to ride, at intervals in the rotation of the gear, over an upright arcuate cam track 19 which is arranged below the gear and upon the base of the casing. At this point it will be evident that, when the shoulder portion of either finger 17 rides upon the elevated portion of the cam 19, the upper end of the detent finger 17 will engage one of the abutments 16 and the compartment unit 5 will be rotated until such time as the shoulder portion 18 of the detent 17 leaves the surface of the cam, whereupon the said compartment unit will remain stationary while the gear 12 will continue to rotate. The gearing is so constructed and proportioned that while the gear 12 rotates continuously, the successive compartments of the compartment unit 5 will be brought to position opposite the display opening 3, so that the articles of merchandise arranged within the several compartments will be displayed to view successively and for a period of time

corresponding to the interval between the escape of one detent from the cam track and the engagement of the other detent with the cam, the angular length of the cam being equal substantially to the breadth dimension of the compartments, so that each compartment will be brought into exact registration with the display opening.

In order that the display opening 3 may be closed while the compartment unit 5 is being rotatably adjusted, and then uncovered so as to disclose the display, curtains 20 are draped at the upper side of the opening 3 and provided upon their rear sides each with a series of eyelets indicated by the numeral 21. Cords or cables 22 are strung through the eyelets and attached at their ends, as at 23, to the curtains 20 near the relatively adjacent margins thereof. These cables are led about pulleys 24 arranged at the upper corners of the opening 3 and at their other ends are connected to a lever which is indicated by the numeral 25 and which is fixed to the upper end of a shaft 26 rotatably mounted at one side of the compartment or display unit 5. An arm 27 is fixed upon the shaft 26 and a roller 28 is mounted at the outer end of the said arm and is held by a spring 29, which coacts with the arm, in engagement with the periphery of a cam 30 which is mounted beneath the gear 12. The arrangement is such that, in the rotation of the shaft 13, the detents 17 will be successively brought into engagement with the cam surface of the cam track 19 so as to rotate the display unit 5 a distance such as to move one compartment away from the display opening and to bring the next adjacent compartment into perfect registration with the opening. During this movement of the display unit, the roller 28 upon the arm 27 will be in contact with the low portion 31 of the cam 30 and the cables 22 will be slackened so that the curtains 20 will be closed or fully suspended and will conceal the unit 5 in its rotative movement. At the moment the detent 17 leaves the cam 19, the roller 28 will ride onto the high point of the cam 30 with the result that a pull will be exerted upon the cables 22, thus spreading the curtains apart, and, at the same time, the rotative movement of the unit 5 will be arrested by a brake spring 32 which is fixed upon the rear wall of the compartment 1 and which bears against the periphery of the base 6, as clearly shown in Figure 2 of the drawings. The unit 5 will then remain stationary until the gear 12 has been rotated to a point where a detent 17 will ride upon the high surface of the cam track 19 and simultaneously the shaft 26 will be rocked to close the curtains, the curtains remaining closed while the compartment unit rotates.

In order that the curtains 20 may be caused to assume a lowered position com-

pletely obscuring or closing the opening 3, weights 34 are disposed within pockets 35 formed in the lower margins of the curtains.

Having thus described the invention, what I claim is:

1. In display apparatus, a rotary display unit having display compartments, means for imparting intermittent rotary motion to the said unit, and obscuring means comprising a pair of curtains fixed at their upper ends and in rear of which the compartments are to be successively brought to stationary position, cables connected to the curtains adjacent the confronting edges thereof at points below the upper ends of the same, an arm to which the cables are connected, and means for swinging the arm in consonance with the rotary motion of the display unit to draw aside the lower portions of the curtains while the display unit is inactive.

2. In display apparatus, a rotary display unit having display compartments, means for imparting intermittent rotary motion to the said unit, and obscuring means actuated automatically in consonance with the movement of the display unit to obscure each successive compartment of the unit during the period of movement thereof into display position and to render the obscuring means inactive during the period of non-movement of the display unit, the said obscuring means comprising a pair of curtains fixed at their upper ends and having actuating cords operatively connected thereto adjacent their confronting edges at points below their upper ends, and weights at the lower margins of the curtains.

3. In display apparatus, a rotary display unit having display compartments, means for imparting intermittent rotary motion to the said unit, and obscuring means comprising a pair of curtains fixed at their upper ends and in rear of which the compartments are to be successively brought to stationary position, cables connected with the said curtains adjacent their confronting edges at points below the upper ends thereof, an arm to which the cables are connected, a rock shaft disposed at the side of the rotary unit and carrying said arm, a cam disposed below the display unit and rotatable therewith, a second arm carried by the rock shaft, and yieldable means for holding the second arm in engagement with the cam whereby the cam will control the rock shaft.

4. In a display apparatus, the combination of a rotary display unit, a continuously rotating gear below the display unit, detents carried by said gear, elements on the bottom of the display unit to be engaged by the detents, a cam track fixed in the path of the detents whereby to cause the detents to engage the elements on the display unit and intermittently impart rotary movement to the unit, a pair of curtains at the front of the

unit, and operative connections between the gear and the curtains whereby the curtains will be opened when the display unit is at rest and closed when the display unit is in
5 motion.

5. In a display apparatus, the combination of a display unit, a gear below the display unit, means for driving the gear, means for intermittently locking the gear to the dis-

play unit to impart rotative movement to the unit, a cam fixed to the gear, a pair of curtains at the front of the display unit, and means actuated by said cam whereby the curtains will be opened when the display unit is at rest and closed when the display unit
10 is in motion. 15

In testimony whereof I affix my signature.
BENJAMIN S. DE VRIES. [L. S.]