

M. J. WESSELS.
DISPLAY APPARATUS.

APPLICATION FILED APR. 18, 1910. RENEWED OCT. 16, 1911.

1,017,832.

Patented Feb. 20, 1912.

3 SHEETS—SHEET 1.

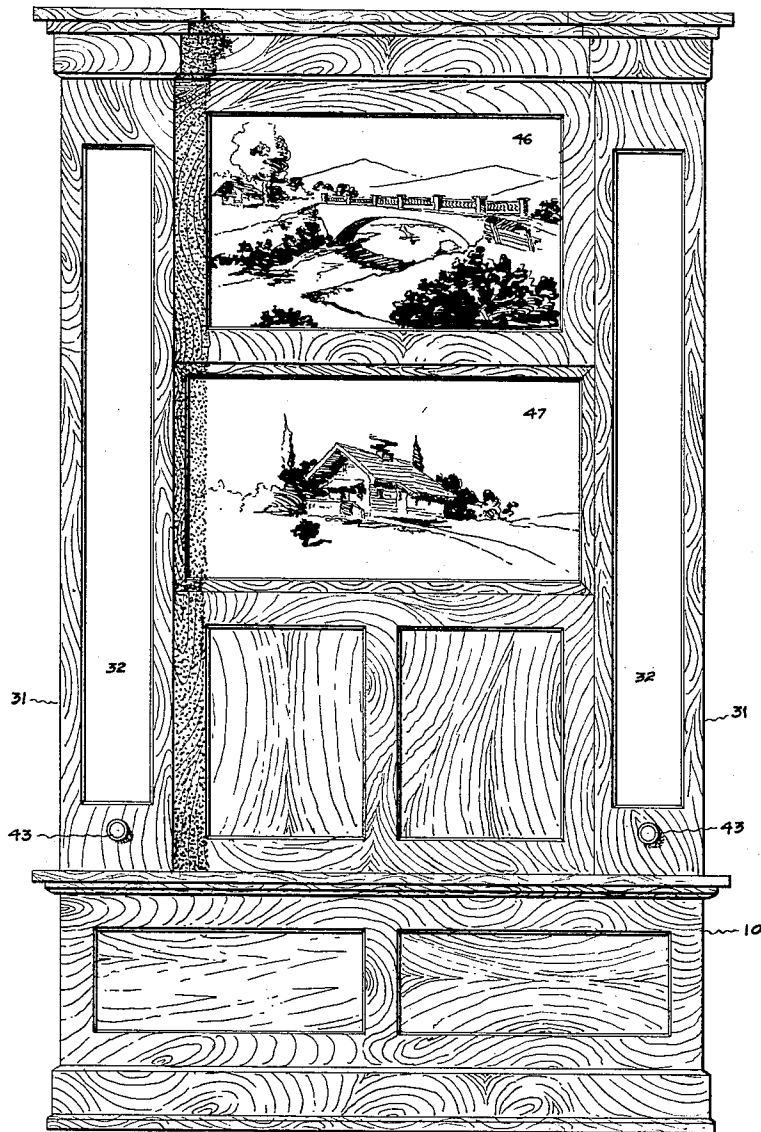


FIG. 1.

WITNESSES:

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Estella Biddle

Martin J. Wessels INVENTOR

BY

L. L. Westfall his ATTORNEY

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WITNESSES:
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3 SHEETS—SHEET 3.

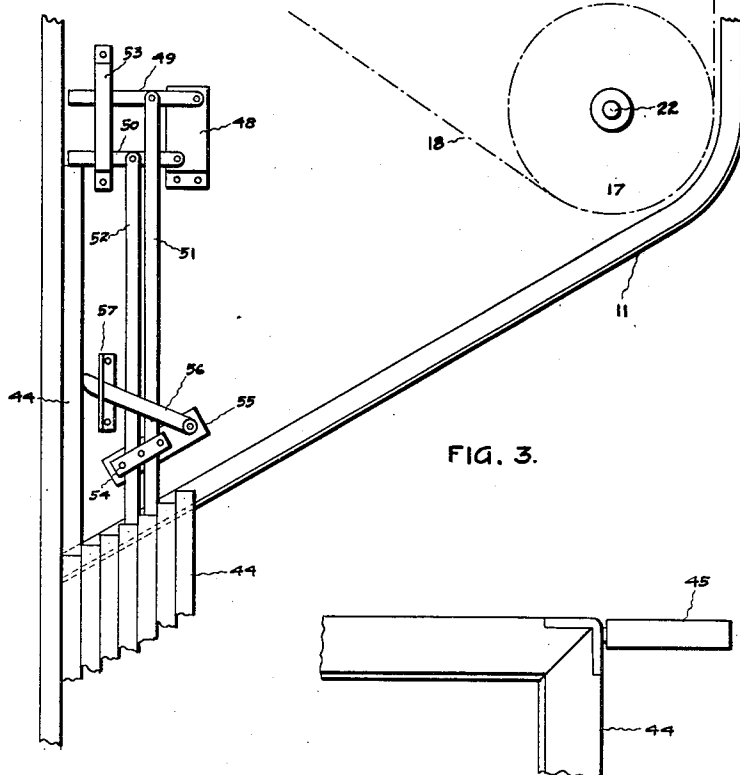


FIG. 3.

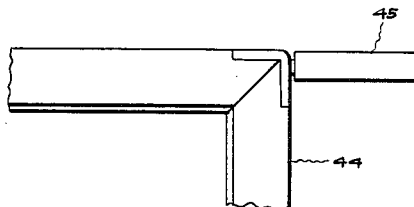


FIG. 4.

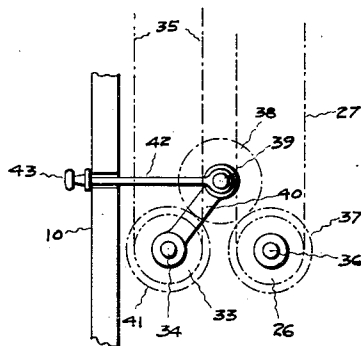


FIG. 5.

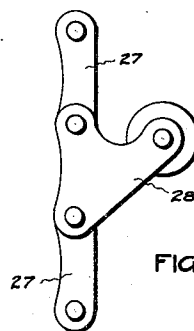


FIG. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

MARTIN J. WESSELS, OF SPOKANE, WASHINGTON, ASSIGNOR OF ONE-HALF TO LEVI G. MONROE, OF SPOKANE, WASHINGTON.

DISPLAY APPARATUS.

1,017,832.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed April 18, 1910, Serial No. 556,058. Renewed October 16, 1911. Serial No. 655,023.

To all whom it may concern:

Be it known that I, MARTIN J. WESSELS, a citizen of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Display Apparatus, of which the following is a specification.

This invention relates to means for exhibiting in a successive order, cards showing advertising matter, photographs, pictorial illustrations and designs and characters of all kinds printed, painted or impressed by any known means on said cards.

It is especially intended to exhibit such pictures upon transparencies to be viewed by artificial light furnished from within the cabinet, and when the word cards is used it shall be considered as applicable to transparencies.

The object of the invention is to positively and automatically present the cards opposite a face-plate in a cabinet in the order of their succession without any interference with one another and so the cards will always stand square and plumb with the cabinet and to effect these objects in a more perfect and by a simpler mechanism than has heretofore been done.

The invention is illustrated by the mechanism shown in the accompanying drawings, in which,

Figure 1, is a front view of the cabinet in which the cards are placed and displayed, Fig. 2, is a side view of the apparatus complete with the side wall of the cabinet removed, Fig. 3, is an enlarged side view of a portion of the card-shifting and regulating mechanism, Fig. 4, is an enlarged view of one corner of the frame of the cards together with a roller attached thereto, Fig. 5, is an enlarged view of the gearing at the lower end of the cabinet, whereby parts of the rotating mechanism are thrown in and out of gear, and Fig. 6, is an enlarged view of a specially provided hook attached to a chain gear and used for elevating the cards.

In the drawings, 10 indicates a suitable inclosing casing in the upper end of which I mount at each side thereof a three-way track 11, which connects at its forward end

with substantial vertical guides 12, 13, and 14. Secured to the sides of the casing 10 and in close proximity to the three-way tracks 11 are sprocket wheels 15, 16 and 17, 55 carrying chain gears 18 to which are secured hooks 19, the said sprocket wheels being adapted to rotate. Secured to the sides of the casing 10 adjacent to the sprocket wheels 17 and adapted to rotate are sprocket 60 wheels 20.

Secured to the shafts 21 and 22 carrying sprocket wheels 20 and 17 respectively, are wheels 23 and 24 brought into rotating engagement with each other. Secured also to 65 the sides of the casing 10 near the front and bottom thereof and adapted to rotate are sprocket wheels 25 and 26 connected by chain gears 27. To the chain gear 27 is attached the specially devised hook 28. A 70 chain gear 29 connects with the sprocket wheel 20 and a sprocket wheel on the shaft 30 carrying also sprocket wheel 25. Projecting forwardly at the sides of the casing 10 are columns 31 provided with oblong face- 75 plates 32, near the tops and bottoms of which are transversely arranged rollers 33 adapted to rotate upon shafts 34, the said rollers 33 being connected by bands 35 adapted to rotate over the same. The shaft 80 36 carrying the sprocket wheels 26 also carries wheels 37 adapted to being brought into rotating engagement with the wheels 38 upon the pins 39 connected by the arms 40 to the shafts 34 carrying the rollers 33 near 85 the bottoms of the columns 31, the said wheels 38 being brought into rotating engagement with wheels 41 carried by the shafts 34. Rods 42 connected with the pins 39 carrying the wheels 38 reach through the 90 casing 10 and are provided with buttons 43 on the ends thereof.

Extending horizontally outward from the top of the card frames 44 are rollers 45 adapted to engage the three-way tracks 11 95 and to pass between the guides 13 and 14. Upon the front of the casing 10 and near the top thereof is shown a stationary scene 46 directly under which is a transparent face-plate 47 directly back of which are 100 successively displayed the cards carried by the frames 44. To the sides of the casing 10

are secured plates 48 to which are pinned levers 49 and 50, to which in turn are pinned arms 51 and 52. The ends of the levers 49 and 50 being inclosed by the guides 53 and the lower ends of the arms 51 and 52 being adapted to glide vertically between the guides 54 and the plates 55 secured to the sides of the casing 10. Pinned to the plates 55 are the arms 56, the latter adapted to being raised and lowered within the guides 57. Within the casing 10 are provided lamps 58 which may be anchored within the cavity of the casing as at 59.

The operation is as follows: A plurality of display-cards having been first arranged on the downwardly and forwardly inclined portion of the tracks 11, with one of said display-cards resting directly underneath the space between guides 13 and 14 and adjacent to the chain gears 27, the power is applied to the shaft 30 and the rotating mechanism is set in motion. The hooks 28 upon the chain gears 27 catch the frame 44 at the bottom edge thereof, lift the same upward to a position directly back of the transparent face-plate 47 against which the same is held by the arm 56. The next display-card in rotation upon the forwardly and downwardly inclined portion of the tracks 11 takes the place of the first one and is in turn elevated to the position directly back of the transparent face-plate, crowding the first display card upward where it is caught by the hooks 19 upon the chain gears 18 and carried by the rotation of the chain gears 18 across the top portion of the tracks 11, down the back side thereof and deposited to the rear of the display-cards upon the downwardly and forwardly inclined portion of the tracks 11. As the display-cards are forced upwardly between the guides 13 and 14 they come in contact first with the ends of the levers 50 and then of 51. This causes the levers 50 to draw upwardly the arms 52 and the levers 49 to draw upwardly the arms 51, thereby releasing the display-cards held back by the lower ends of the arms 52 and 51 and permitting the same to take their turn in rotating through the guides 13 and 14 and around the tracks 11. The object of holding back the display-cards in this wise is to prevent them jamming each other at the front side of the casing where they are being elevated.

It must be understood that this apparatus is for displaying pictures of large size, the machine now in operation displaying a transparency 22x50 inches.

The bands 35 rotating over the rollers 33, are adapted for carrying display cards also. By pulling outward on the bottom 43 the wheel 38 may be thrown out of rotating engagement with the wheel 26 and the rotation of the bands 35 suspended so that views

upon the same may be inspected at leisure, and by pushing the bottom 43 back to the position shown in the drawings the rotation of the bands 35 will be resumed.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

1. In a display apparatus, the combination with a suitable casing having a face-plate and an artificial light within the casing behind the face plate of a pair of rearward, downward and forwardly downward inclined tracks, vertical guides, a plurality of display transparencies having rollers attached to the upper outward edges of the same, adapted to travel in said tracks and guides, endless carriers provided with hooks to receive the rollers on the frames of said transparencies, the said endless carriers operating from a position near the top of the guides, rearwardly, and downwardly along the tracks, thence diagonally forwardly and upwardly to the starting position, a pair of vertically operating endless carriers reaching to the lower ends of the guides and provided with hooks adapted to engage the lower edges of the frames of the transparencies, the said carriers adapted to move said transparencies upwardly from the forwardly downward inclined tracks to the rear of a face-plate in the casing and in front of said artificial light and thence upwardly through the guides, thence rearwardly and downwardly to the forwardly downward inclined tracks, substantially as described.

2. In a display apparatus, the combination with a suitable casing, having a face-plate and an artificial light within the casing behind the face plate of a pair of rearward, downward and forwardly downward inclined tracks, vertical guides, a plurality of display transparencies having rollers attached to the upper outward edges of the same, adapted to travel in said tracks and guides, endless carriers provided with hooks to receive the rollers on the frames of said transparencies, the said endless carriers operating from a position near the top of the guides, rearwardly and downwardly along the tracks, thence diagonally forwardly and upwardly to the starting position, a pair of vertically operating endless carriers reaching to the lower ends of the guides and provided with hooks adapted to engage the lower edges of the frames of the transparencies, the said carriers adapted to move said transparencies upwardly from the forwardly downward inclined tracks to the rear of a face-plate in the casing and in front of said artificial light, thence upwardly through the guides, thence rearwardly and downwardly to the forwardly downward inclined tracks, together with a

pair of levers pinned to the sides of the casing in a position to be engaged by the frames as they are moved upwardly through the guides, arms pivoted to the levers and
5 reaching downward to the tops of the frames of the transparencies, upon the forwardly and downwardly inclined tracks, guides for the arms, and arms pinned to the sides of the casing adapted to rest against the transparencies while they are at the po- 10
sition to the rear of the face-plate of the casing, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

MARTIN J. WESSELS.

Witnesses:

WILLIAM H. KAYE,
MARY SHOLDERER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
