

Oct. 6, 1931.

R. W. STEELE

1,826,533

DISPLAY DEVICE

Filed Nov. 4, 1929

2 Sheets-Sheet 1

Fig. 1

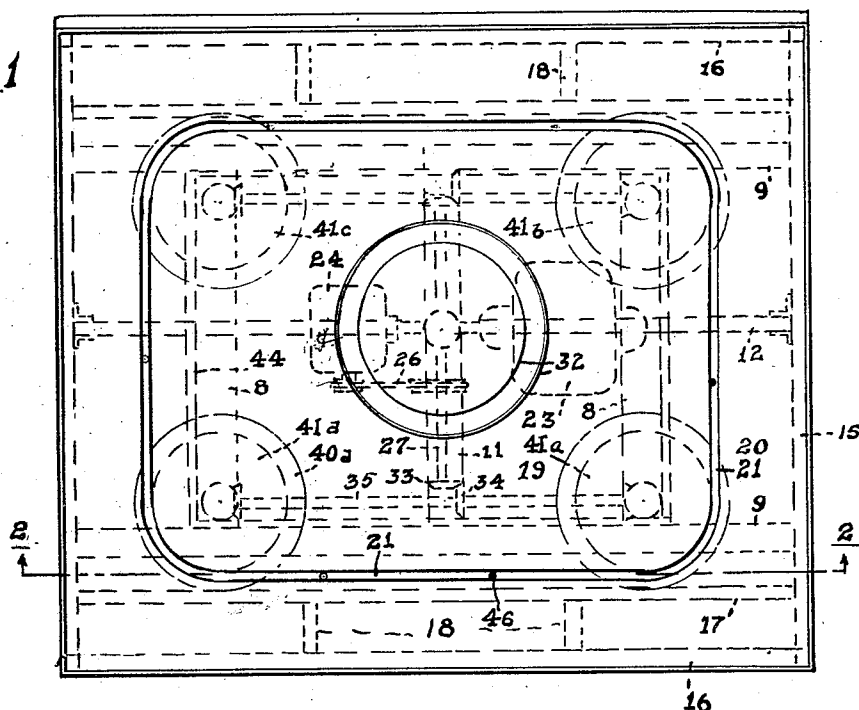
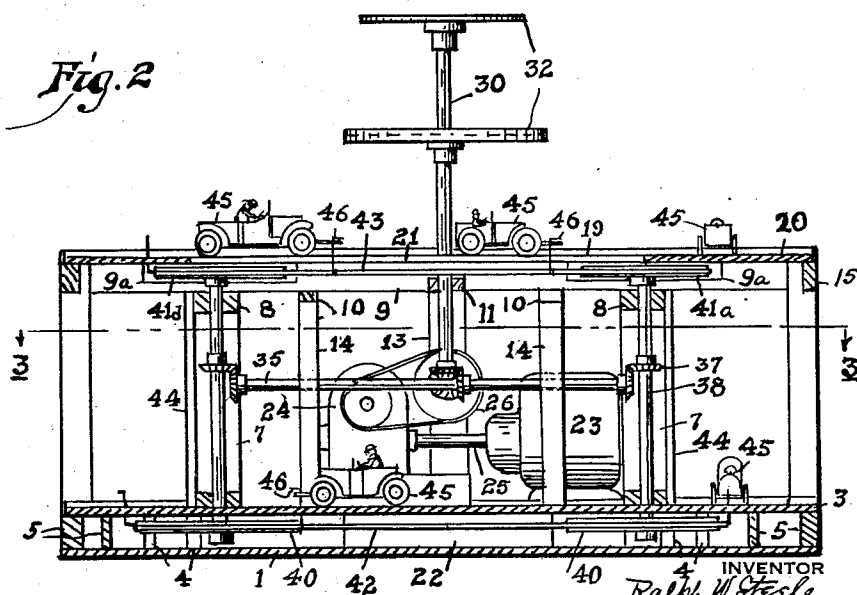


Fig. 2



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Fig. 3

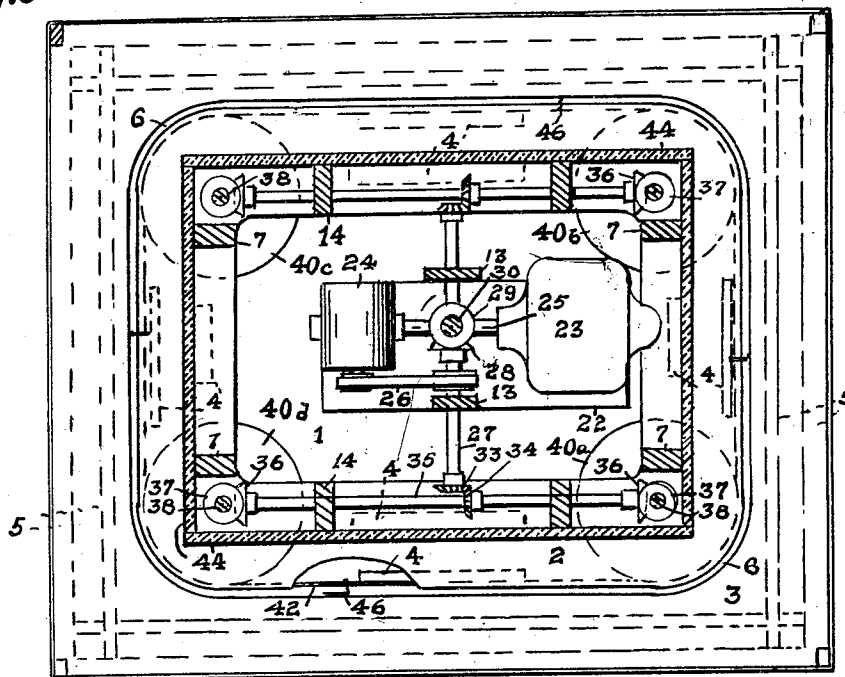
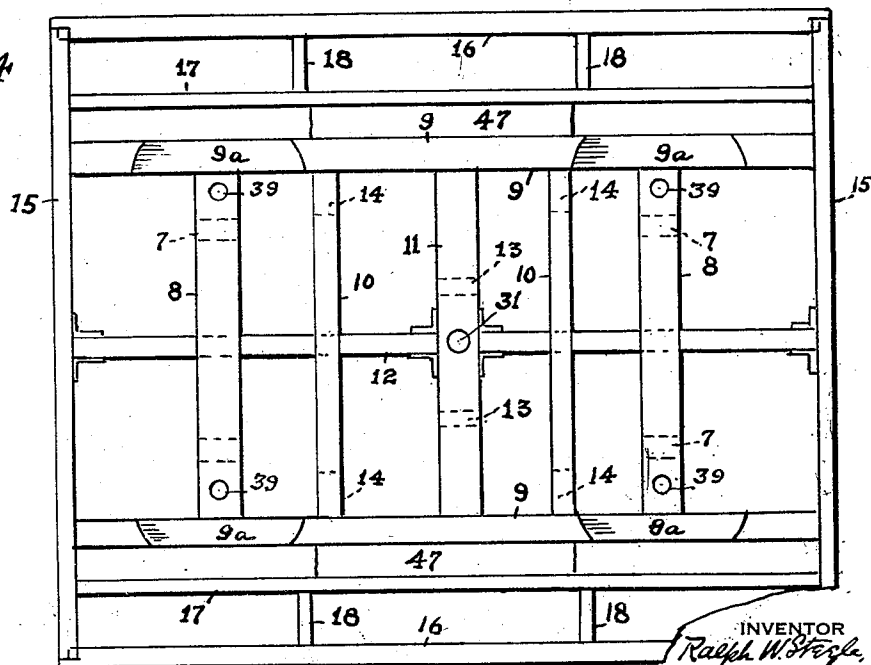


Fig. 4



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UNITED STATES PATENT OFFICE

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DISPLAY DEVICE

Application filed November 4, 1929. Serial No. 404,557.

The object which I have in view is the provision of a new and improved display device for showrooms, store windows and the like.

In general my improved display device comprises two endless tracks or pathways disposed on different levels and over which articles or objects, such for instance as toy vehicles, are caused to travel in opposite directions.

Again, the characteristic feature of my device is the provision of a tray or trays preferably situated above the pathways and caused to revolve.

I have devised a new and improved structure for the purposes described.

Other novel features of construction and also of arrangement of parts will appear from the following description.

In the accompanying drawings wherein I have illustrated a practical embodiment of the principles of my invention, Fig. 1 is a top plan view of the display device, portions of the mechanism located below the top table being indicated in dotted lines.

Fig. 2 is a vertical section of the same taken along the line 2—2 in Fig. 1.

Fig. 3 is a horizontal section taken along the line 3—3 in Fig. 2.

Fig. 4 is a plan view of the upper frame work, the top table and other portions of the structure being removed for the sake of clearness.

Referring to the drawings, 1 represents a base which may be of wood and upon which are mounted in spaced relation thereto the inner and outer platforms 2 and 3.

The inner platform which is in the form of a hollow square is shown supported from the base 1 by the cleats 4. The outer platform is shown supported on the cleats 5.

The perimetral edge of the inner platform 2 is in the form of a parallelogram with arcuately rounded corners and the inner perimetral edge of the outer platform is of like contour providing between the adjacent edges of the two platforms a continuous slot 6.

The frame work which may be of the following construction rises above the inner platform and base. Thus the posts 7 are stepped on the platform 2 and attached there-

to, said posts being set inwardly from the outer edge of the platform.

The cross beams 8 are secured to the tops of the posts and to the ends of the beams 8 are attached the transversely disposed beams 9 whose top surfaces are at a higher level than the top surfaces of the beams 8. Cross beams 10 also connect the beams 9 and their top surfaces may be in the same plane as the latter. At their centers the beams 9 are also connected by a cross strut 11. A transverse base 12 may also be provided.

Posts 13, rising from the base 1, support the strut 11 at either side of its center and posts 14 rising from the platform 2 support the braces 10.

The outer ends of the beams 9 are secured to the end members 15 of an outer frame work which also comprises the side member 16 and the inner member 17 with cross braces 18 connecting the members 16 and 17.

19 represents an inner table which may be secured to the beams 9 and the cross braces 10. 20 is an outer table which surrounds the inner table 19 and which may be secured to the outer frame work.

The inner table has a perimetral edge in the form of a parallelogram with arcuately rounded corners and the outer table is provided with a similar inner edge so as to form a continuous slot 21 between the adjacent edges of the table.

The upper slot 21 is preferably within the vertical planes of the lower slot 6.

22 represents a support mounted on the central portion of the base 1 and carrying the electric motor 23 and the speed reducer 24 which is connected to the shaft 25 of the motor. The shaft of the reducer 24 is connected by a belt 26 to a pulley on a horizontally disposed shaft 27 which is journaled in bearings carried by the posts 13.

At its center the shaft 27 is provided with a bevel gear 28 meshing with a like gear 29 and the lower end of a vertically disposed shaft 30 which extends up through a bearing 31 in the strut 11 and through the center of the table 19. The shaft 30 may be prevented from vertical movement by any convenient means, as for instance by a collar.

Above the table the shaft 30 has mounted thereon one or more circular trays 32. I have shown two trays, one above the other.

The outer ends of the shaft 27 are provided with bevel gears 33 meshing with like gears 34 on horizontally disposed shafts 35 which may be journaled in bearings on the posts 14. The ends of the shafts 35 are provided with bevel gears 36 meshing with like gears 37 mounted on the four vertically disposed shafts 38. The lower ends of the shafts 38 may be journaled in suitable step bearings on the base 1 by their upper ends protruding through the bearings 39 in the beams 8 stopping short of the table 19.

Below the platforms the cable sheaves, generally indicated by the numeral 40, are mounted on the shafts, while cable sheaves, generally indicated by the numeral 41, are mounted on the upper ends of the said shafts beneath the table 19, the beams 9 being cut away as indicated at 9a to give clearance for the sheaves 41 and the cable which runs about the same.

The sheaves 40 are of proper diameter to conform to the arcuate portions of the slot 6, and likewise the sheaves 41 are of proper diameter to conform to the arcuate portions of the slot 21.

42 represents an endless cable running around the lower sheaves 40, the cable lying below the slot 6, and 43 represents a like cable running around the sheaves 41 beneath the slot 21.

The lower sheaves, which are individually designated as 40a, 40b, 40c and 40d are alternately fast and loose on their shafts. Thus 40a and 40c may be fast on their shafts while 40b and 40d are loose on their shafts.

Likewise the upper sheaves, which are individually designated as 41a, 41b, 41c and 41d are alternately fast and loose on their shafts, the arrangement being such that each shaft 38 has a sheave fast on one of its ends and a sheave loose on the other end. Thus the two cables 42 and 43 are caused to move in opposite directions.

44 represents glass mirrors whose lower edges are stepped on the platform 2 and which are backed by the posts 7 and 14. These mirrors extend upwardly to the top frame work and thus enclose and seal the operating mechanism.

45 represents objects to be displayed, such as toy vehicles, which are placed on the top tables 19-20 and on the platform 2-3, and which are provided with wire hooks or other connections 46 which extend down through the slots and are hooked from or otherwise engage the cables. Thus these vehicles are caused to travel with the respective cables, the vehicles on the platforms moving in one direction while the vehicles on the tables move in the opposite direction. To prevent the cable from sagging between the sheaves

I may provide metal or other guides 47. Other objects may be placed on the trays 32. Preferably the arrangement is such that the trays 32 rotate in the direction opposite to the travel of the vehicles on the tables 19 and 20.

It is evident from the foregoing that my invention provides a very interesting and advantageous display means for different articles which may be on sale. This is particularly true in the case of the display of toys and holiday goods.

What I desire to claim is:-

1. In a display device of the character described, the combination of a pair of horizontally disposed continuous pathways disposed at different elevations and about the same vertical axis, cables associated with said pathways for causing objects to travel along the latter, and vertically disposed mirrors inclosing the space between said pathways.

2. In a display device of the character described, the combination of a horizontally disposed platform, a horizontally disposed table superimposed upon and in spaced relation to said platform, said platform and table being provided with continuous cable slots, cables disposed below said slots, means for driving said cables, whereby objects may be connected through said slots to said cables and thereby be caused to travel over said platform and said table, and vertically disposed mirrors bridging the space between the platform and the table and forming a background in front of which the objects travel over the platform.

3. In a display device of the character described, the combination of a support, a plurality of vertically disposed shafts journaled in said support, sheaves carried by the upper and lower end portions of said shafts, a cable mounted on the lower set of sheaves, a second cable mounted on the upper set of sheaves, slotted pathways supported above each of said cables whereby objects may be connected through the slots to said cables and thus be caused to travel along said pathways, and means for driving said shafts.

4. In a display device of the character described, the combination of a support, a plurality of vertically disposed shafts journaled in said support, sheaves carried by the upper and lower end portions of said shafts, a cable mounted on the lower set of sheaves, a second cable mounted on the upper set of sheaves, slotted pathways supported above each of said cables whereby objects may be connected through the slots to said cables and thus be caused to travel along said pathways, and means for driving said shafts, said sheaves being arranged in relation to their shafts whereby the cables travel in opposite directions.

5. In a display device of the character described, the combination of a support, a plurality of vertically disposed shafts journaled

in said support, sheaves carried by the upper and lower end portions of said shafts, a cable mounted on the lower set of sheaves, a second cable mounted on the upper set of sheaves, 5 slotted pathways supported above each of said cables whereby objects may be connected through the slots to said cables and thus be caused to travel along said pathways, the sheaves comprising a set being alternately 10 fast and loose on their shafts and the sheave on one end of the shaft being fast while the sheave on the other end of the shaft is loose, and means to drive said sheaves whereby adjacent shafts are driven in opposite direc- 15 tions.

6. In a display device of the character described, the combination of a support, two sets of sheaves mounted to rotate on vertical axes on said support, the members of each 20 set being disposed in the same horizontal plane and one set being elevated above the other set, alternate sheaves in a set being driven and the remainder being idle and the driven sheaves in one set revolving in the 25 opposite direction to the driven sheaves in the other set, and a cable mounted on each set of sheaves.

7. In a display device of the character described, the combination of a support, two 30 sets of sheaves mounted to rotate on vertical axes on said support, the members of each set being disposed in the same horizontal plane and one set being elevated above the other set, alternate sheaves in a set being 35 driven and the remainder being idle and the driven sheaves in one set revolving in the opposite direction to the driven sheaves in the other set, a cable mounted on each set of sheaves, and a slotted pathway disposed 40 above each cable whereby objects may be connected through the slots to the cable and be caused to travel along the pathway.

Signed at Clarion, Pa., this 31st day of October, 1929.

45 RALPH W. STEELE.

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