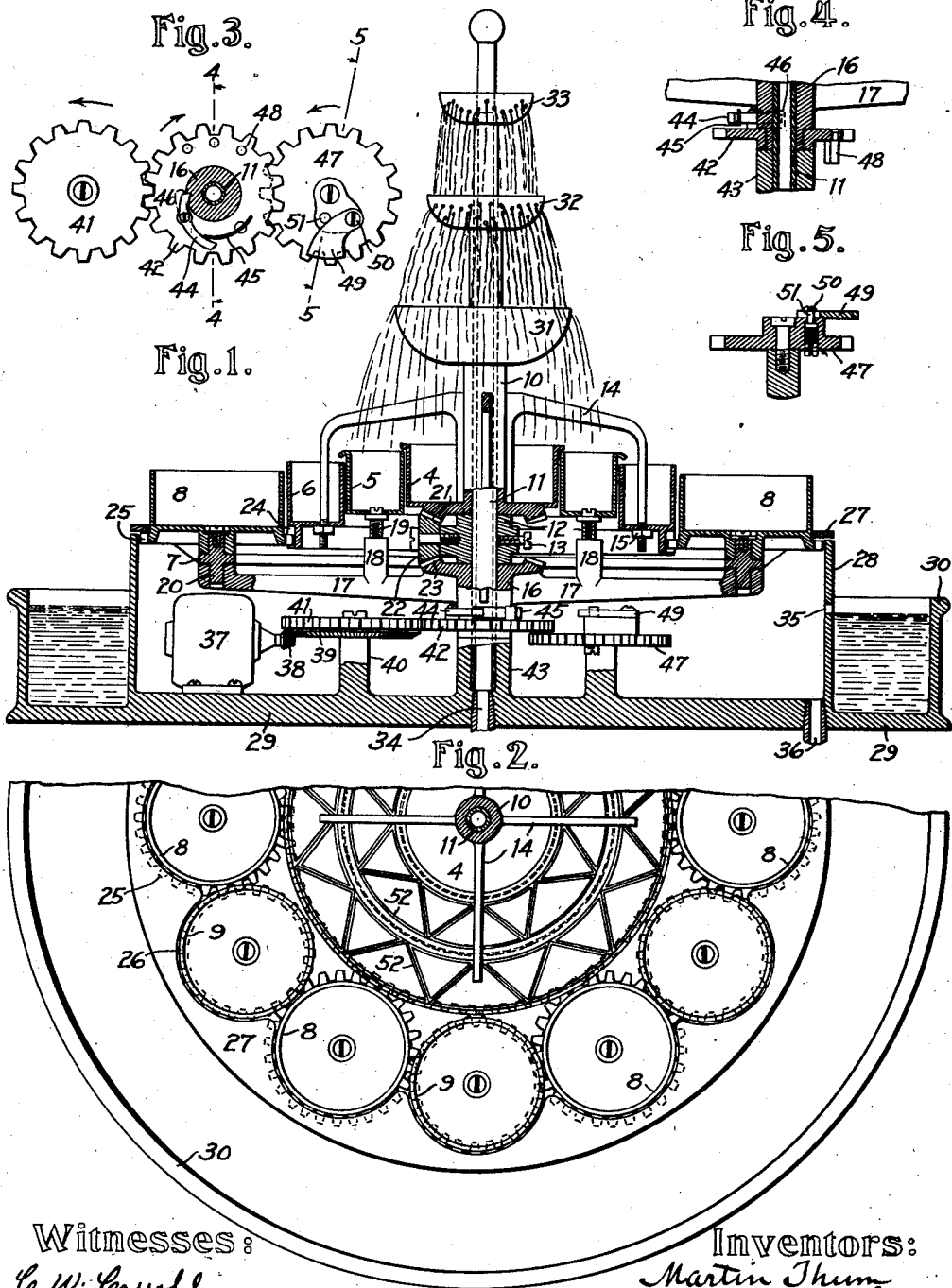


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 DISPLAY DEVICE.
 APPLICATION FILED APR. 22, 1911.

1,009,452.

Patented Nov. 21, 1911.



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Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed April 22, 1911. Serial No. 622,764.

To all whom it may concern:

Be it known that we, MARTIN THUM and THOMAS WRIGHT, citizens of the United States, and residents of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Display Devices, of which the following is a specification.

This invention relates to advertising, ornamental or spectacular devices of various kinds, such as fountains, plant-stands, display-stands for store-windows, and the like.

The object of the invention is to produce a device of the kind in question in which the attention is attracted by peculiar movements imparted to various portions of the device, whereby ornamental or commercial articles may be displayed thereon with greater effectiveness. To this end we employ a series of concentric annular supports which are rotated simultaneously in opposite directions, and are otherwise operated as will be hereinafter described.

The invention consists further in various additional features of construction and operation which will be set forth in connection with the following description of the preferred embodiment of the invention.

In the accompanying drawings: Figure 1 is a vertical median section of a display-device embodying the present invention; Fig. 2 is a partial plan-view of the same; Fig. 3 is a plan-view of the mechanism for actuating the rotating carrying-frames; Fig. 4 is a vertical section on the line 4—4 in Fig. 3; and Fig. 5 is a vertical section on the line 5—5 in Fig. 3.

The illustrated embodiment of the invention comprises a series of concentric, annular, horizontal supports 4, 5, 6 and 7, which are adapted to receive articles of merchandise, plants, or any other objects which are to be displayed. The supports 4, 5 and 6 are in the form of trays in which articles may be placed directly, or which may be subdivided by receptacles of any suitable form placed therein. The outermost support 7 is in the form of a ring, and upon this support a series of circular receptacles 8 and 9 are journaled upon vertical studs on the support, so that these receptacles may rotate, as hereinafter described, in addition to their motion of revolution with the support.

The supports 4 and 6 are carried by an upper carrier-frame having a central sleeve

10 which is loosely journaled upon a vertical pipe 11 constituting the axis of the device. The lower end of the sleeve is supported by a collar 12 fixed to the pipe by a set-screw 13. The upper carrier-frame comprises also radial arms 14 which extend outwardly above the supports, and have depending ends upon which the support 6 is mounted, as shown in Fig. 1. The lower ends of the arms are threaded to receive nuts 15, and by adjusting these nuts the height of the support 6 may be regulated.

The supports 5 and 7 are carried by a lower carrier-frame having a hub 16 which is also journaled upon the pipe 11. The lower end of this hub rests upon a column 43 in which the pipe 11 is mounted, as shown in Figs. 1 and 4. The lower carrier-frame has radial arms 17. Beneath the support 5 the arms are provided with upward projections 18 in which screws 19 are threaded, and the support 5 rests upon the heads of the screws and is adjustable in height by rotating the screws. The support 7 is mounted upon the ends of the arms 17, having depending bosses 20 which engage openings in the arms.

In the operation of the display-device the upper and lower carrier-frames, with the supports carried thereby, are rotated simultaneously in opposite directions. To secure this result these frames are geared together as shown in Fig. 1. The support 4 is provided at the bottom with a bevel-gear 21 which meshes with a pinion 22 journaled upon the collar 12. On top of the lower carrier-frame is a second bevel-gear 23 also meshing with the pinion 22. By the action of the pinion 22 the two frames are caused to rotate simultaneously in opposite directions when either of the frames is actuated by any suitable means.

To produce the rotative movements of the receptacles 8 and 9 the support 6 is provided at the bottom with an annular gear 24, and this gear engages gears 25 at the bottoms of the receptacles 8. The intermediate receptacles 9 are also provided with gears 26, which engage the gears 25 but are of less diameter so as not to engage the gear 24. Accordingly, as the supports 6 and 7 rotate in opposite directions, the gears 24 and 25 rotate all of the receptacles 8, while all of the intermediate receptacles 9 rotate in the opposite direction. By the combined re-

volving and rotating movements thus imparted to the receptacles the effectiveness of the apparatus as a display-device is greatly enhanced, and where exhibits of various colors are placed in the several receptacles and upon the various supports, a great variety of color combinations and effects are produced by the several relative movements of the parts.

To close the spaces between the outer portions of the receptacles 8 and 9 an annular cover-plate 27 is employed, this plate being shaped to fit the interstices between the receptacles and being supported by suitable connections with the support 7, as shown in Fig. 1, so as to rotate with the support. A stationary annular wall or casing 28 is provided outside of the rotary members, and the apparatus as a whole is mounted upon a flat base 29. At the outer edge of the base is a second wall 30 forming an annular space which may be employed as a basin when the display-device is used as a fountain.

The pipe 11 is adapted to conduct water to feed a fountain constituting a part of the apparatus. A series of basins 31, 32 and 33 are carried by the pipe, the basins 32 and 33 being fed with water from the pipe and provided with perforations through which jets of water fall into the basin 31 and upon the supports beneath. The water overflowing from the supports, or the receptacles thereon, falls within the casing and is drained away through an outlet 36, while the annular basin may also be provided with an overflow outlet 35 into the interior of the casing.

To actuate the display-device an electric motor 37 is employed, as illustrated in Fig. 1, the motor-shaft having a pinion 38 engaging a gear 39 journaled on a column 40 rising from the base-plate 29. Fixed to the gear 39 is a gear 41, and this gear meshes with a gear 42, which is journaled loosely upon the hub 16 of the lower carrier-frame, as shown in Fig. 4, and is supported by the upper end of the column 43. The gear 42 carries a pivoted pawl 44 engaged by a spring 45. The spring tends to hold the operative extremity of the pawl constantly in engagement with a recess 46 on the hub 16, so that as the gear 42 is rotated by the electric motor the hub 16 is rotated and with it the movable parts hereinbefore described.

In addition to the means just described for actuating the parts of the device we provide automatic means by which the actuation may be intermittently interrupted for brief periods at regular intervals. To this end a gear 47 is journaled beneath, and at one side of, the gear 42. Projecting downward from the latter gear are three pins 48, and at each rotation of the gear 42 these pins engage three teeth of the gear 47, thus imparting a partial rotation to the latter gear. A trip-device

49 is pivoted at 50 upon an upward projection from the gear 47, and a spring-pressed pin 51, engaging the inner edge of the trip-device, holds the latter normally in the position of Fig. 3. In this position the outer extremity of the trip-device may engage the tail of the pawl 44 when the successive partial rotations of the gear 47 have brought the trip-device into a suitable position for operation. Accordingly, the pawl at such time is tripped from engagement with the recess on the hub 16, so that during the next rotation of the gear 42 the carrier-frames and the supports come to rest and remain stationary. Upon the next succeeding engagement of the pins 48 with the gear 47, however, the gear is rotated sufficiently to remove the trip-device from operative position, so that the pawl again engages the hub 16 and the rotation of the carrier-frames is again resumed.

If it be desired to omit the intermittent interruptions of the movement just described the pin 51 may be depressed and the trip-device 49 swung inwardly into inoperative position, and the mechanism will then operate continuously to rotate the carrier-frames.

The concentric supports may be employed in various ways to support and display articles. In Fig. 2 the supports 5 and 6 are shown as provided with removable receptacles 52, which may be employed as pots for plants, or as receptacles for merchandise. When perishable articles are to be displayed the fountain is not employed, and the basins 31, 32 and 33 may be omitted, or may be used merely as supports for merchandise. In such case the annular basin may be employed as an aquarium, or may be omitted from the device.

Since the intermittently-operated actuating mechanism arrests the movements of the parts in predetermined positions, the displays in the various receptacles may be so arranged that when the parts come to rest a definite ornamental pattern is produced by the different colors of the articles as arranged upon the supports, and by the alternate appearance of this definite pattern, and of the blending and movement of the various colors, a very effective window display or advertisement may be produced.

Our invention is not limited to the embodiment thereof hereinbefore described and illustrated in the accompanying drawings, but may be embodied in various forms within the nature of the invention as it is defined in the following claims.

We claim:—

1. A display-device having, in combination, a set of concentric, annular, horizontal supports spaced apart, a carrying-frame beneath said supports, upon which they are mounted, an intermediate, annular, horizon-

tal support concentric with, and interposed between, those of the first set, a carrying-frame above said intermediate support, upon which it is suspended, and means for
5 rotating the two carrying-frames simultaneously in opposite directions.

2. A display-device having, in combination, a horizontal, annular support mounted to rotate about a vertical axis, a series
10 of receptacles carried upon said support and journaled to rotate about vertical axes thereon, gears connecting the adjacent receptacles to cause them to rotate in opposite directions, and an annular gear concentric
15 with said support and engaging one or more of the first-mentioned gears to actuate the receptacles as the support is rotated.

3. A display-device having, in combination, two horizontal, annular supports mounted to rotate about a common vertical axis,
20 means for rotating the supports simultaneously

ously in opposite directions, an annular gear on one support, and a series of rotatably-mounted receptacles carried by the other support and provided with gears engaging
25 said annular gear whereby the receptacles have both revolving and rotative movements as the supports rotate in opposite directions.

4. A display-device having, in combination, a plurality of concentric, annular, horizontal supports mounted to rotate about a
30 vertical axis, a series of receptacles carried upon one of said supports and journaled to rotate about vertical axes thereon, and means for rotating the adjacent supports in
35 opposite directions and for simultaneously rotating the receptacles about their axes.

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