

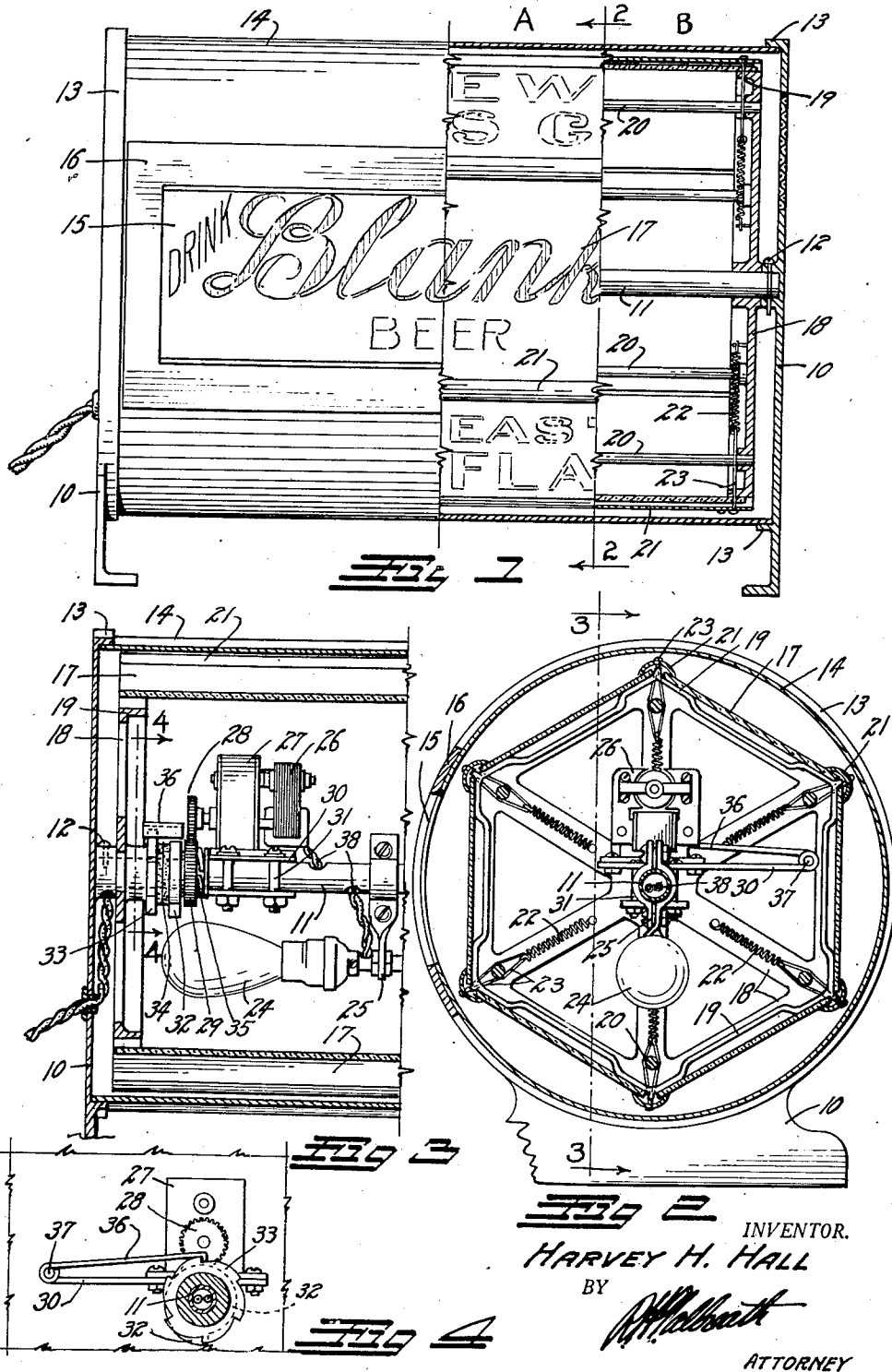
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ADVERTISING DISPLAY DEVICE

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ADVERTISING DISPLAY DEVICE

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5 Claims. (Cl. 40-33)

This invention relates to an advertising device and has for its principal object the provision of a simple, inexpensive, and compact unit for well successively displaying plurality of illuminated advertising signs or cards.

Another object of the invention is to provide a device of this character in which all operating mechanism will be enclosed within a rotating drum carrying the display ads so as to employ space which would otherwise be wasted, and so as to reduce the overall size of the device.

Other objects are: to eliminate all expensive Geneva gears, actuating ratchet pawl, start and stop switches, and other expensive and intricate operating devices; to provide means whereby the advertising material can be quickly and easily changed; and to provide a rotatable housing which will enable the display window to be directed in any desired direction.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side elevation of the improved advertising device. In this view, the outer housing has been cut away at A to illustrate the interior drum and the interior drum has been illustrated partially in section B to show its interior construction.

Fig. 2 is a cross-section through the device taken on the line 2-2, Fig. 1.

Fig. 3 is a fragmentary longitudinal section taken on the line 3-3, Fig. 2.

Fig. 4 is a detail section taken on the line 4-4, Fig. 3.

The improved device is supported on two relatively flat end frames 10 which are held in proper separated relation by means of a hollow connecting shaft 11 which is fixedly attached to the end frames by means of suitable set screws or attachment pins 12. Each end frame is formed with a circular, inwardly extending flange 13 to receive a cylindrical housing 14 of sheet metal or other suitable material. The housing is not attached to the end frames and can be rotated therebetween. It maintains its present position by frictional engagement with the flange 13. A window opening 15 is formed at one point in the

housing 14, extending longitudinally thereof. The opening 15 is surrounded by a suitable window frame 16.

A plurality of translucent advertising display plates 17 of glass or plastic are successively exposed behind the window opening 15. The plates 17 are supported at their extremities between two drum wheels 18 which are rotatably mounted on the shaft 11 immediately within the end frames 10. The wheels with the supported plates 17 form a hollow rotatable drum. The wheels may have any desired number of sides. As illustrated, they are hexagonal and carry six of the plates 17.

The wheels 18 are similar and each consists of a plurality of spokes supporting a hexagonal rim. The rim is provided with an inwardly extending plate flange 19 for supporting the plates 17. It will be noted that the middle portion of the flanges 19 is depressed, as shown in Fig. 2, so that when the plates are slid into place the flanges will not scrape the paint and decorative material therefrom. The entire series of plates 17 is interiorly illuminated by means of suitable electric lamps 24 which are secured to the stationary shaft 11 by means of a suitable bracket 25.

The two wheels 18 are maintained in rigid, spaced relation by means of a series of connecting rods 20. The plates 17 are held in place on the wheels by means of semi-cylindrical molding strips 21. Each strip overlaps the adjacent edges of two of the plates. The strips are constantly urged against the plates by means of tension springs 22 which act against pull wires 23 extending through the molding strips to constantly pull the latter against the plates.

The drum formed by the plates 17 and the wheels 18 is rotated through the medium of an electric motor 26 which operated through a standard speed reduction gear mechanism 27 to rotate a drive gear 28 at a slow speed. A drive gear 28 is in mesh with a driven gear 29 which is rotatably mounted on the stationary shaft 11. The motor may be mounted in any desired manner. As illustrated, it is mounted on the reduction gear mechanism 27 and the latter is in turn mounted on a motor platform 30 which is clamped to the shaft 11 by means of suitable clamp bolts 31.

An eccentric cam 32 is also mounted on the shaft 11 as an integral part of the driven gear 29 so as to rotate therewith. A ratchet 33 is forced on, or secured to, one of the wheels 18 to rotate about the shaft 11. The number of teeth in the

ratchet coincides to the number of plates 17; in this case there being six teeth in the ratchet. A friction clutch consisting of two friction disks 34 is positioned between the cam 32 and the ratchet 33 so that rotation of the former will be frictionally transmitted to the latter to rotate the drum. The cam 32 may be forced toward the ratchet 33 in any desired manner, such as by means of a spring washer 35 acting against the motor platform 30, to maintain the frictional engagement.

It can be readily seen that the entire series of advertising plates will normally rotate with the cam 32 under the influence of the motor 26. And it can be seen that if rotation of the drum is impeded in any manner, the cam 32 will continue to rotate, allowing the clutch to slip so that the ratchet 33 will remain stationary.

Means are provided for holding the drum at intervals. This is accomplished by means of a hooked ratchet pawl 36 which is mounted at one extremity on a hinge pin 37 at the extremity of the motor platform 30. The other extremity of the pawl terminates in a wide hook which overlies both the cam 32 and the ratchet 33. In operation the hook of the pawl 36 engages one of the teeth of the ratchet 33 to hold the drum stationary. The cam 32 continues to rotate, however, so that it will gradually lift the pawl 36 until the latter releases the ratchet tooth, allowing the drum to rotate with the cam 32 for 60° when the pawl 36 will engage the next tooth of the ratchet.

Thus it will be noted that the pawl 36 is lifted once at each complete revolution of the cam 32 allowing the ratchet 33 to rotate with the cam for one-sixth of a revolution. This acts to successively display the various advertisements on the plates 17 in the window 15 and to allow them to remain stationary in the window until the cam 32 has made one revolution.

Current for the motor 26 and the lamps 24 is fed to the device through a suitable conductor, cord 38 which leads into the hollow interior of the shaft 11, as shown in Fig. 3, and from thence to the various devices.

It is desired to call attention to the rotatable housing 14. Should the device be placed on a high shelf, the housing can be rotated toward the bottom so that the angle of sight of the observer will look directly through the window 15. When placed on a level with the eye, the housing is rotating to place the window as shown in Fig. 1; and if placed below the eye level, as in a store window, the housing may be rotated to direct the window upwardly.

It is preferred to provide ventilating screens 39 in the end frames 10 to allow the heat from the motor and lamps to be dissipated.

An electric switch can of course be incorporated in the device at any convenient location for starting or stopping the same.

As illustrated, the cam 32 has only one high point so that a complete revolution thereof is allowed before the pawl 36 is released. It can of course be made with two or more high points to release the pawl at more frequent intervals, if desired.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied,

within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. An advertising device comprising an outer housing; a hollow, stationary shaft passing through said outer housing; a multi-sided drum rotatably mounted on said shaft so that its sides will be successively displayed through a window in said housing; drive means mounted on said shaft within said drum for rotating the latter; friction means for transmitting rotation from said drive means to said drum; and means for restraining rotation of the latter at intervals while said drive means continues to rotate in consequence of said friction means.

2. An advertising device comprising an outer housing; a hollow, stationary shaft passing through said outer housing; a multi-sided drum rotatably mounted on said shaft so that its sides will be successively displayed through a window in said housing; drive means mounted on said shaft within said drum for rotating the latter; friction means for transmitting rotation from said drive means to said drum; means for restraining rotation of the latter at intervals while said drive means continues to rotate in consequence of said friction means; and means driven by said drive means for releasing said restraining means at intervals.

3. An advertising device comprising an outer housing; a hollow, stationary shaft passing through said outer housing; a multi-sided drum rotatably mounted on said shaft so that its sides will be successively displayed through a window in said housing; a drive motor mounted on said shaft within said drum; a friction clutch interposed between said drive motor and said drum to transmit rotation to the latter; and means for restraining rotation of the latter at intervals.

4. An advertising device comprising an outer housing; a hollow, stationary shaft passing through said outer housing; a multi-sided drum rotatably mounted on said shaft so that its sides will be successively displayed through a window in said housing; a drive motor mounted on said shaft within said drum; a friction clutch interposed between said drive motor and said drum to transmit rotation to the latter; a ratchet wheel arranged to rotate with said drum; and a stop pawl engaging said ratchet wheel at intervals to hold the latter from rotation, allowing said clutch to slide.

5. An advertising device comprising an outer housing; a hollow, stationary shaft passing through said outer housing; a multi-sided drum rotatably mounted on said shaft so that its sides will be successively displayed through a window in said housing; a drive motor mounted on said shaft within said drum; a friction clutch interposed between said drive motor and said drum to transmit rotation to the latter; a ratchet wheel arranged to rotate with said drum; a stop pawl engaging said ratchet wheel at intervals to hold the latter from rotation, allowing said clutch to slide; and a cam rotatable by said motor for lifting said pawl out of engagement with said ratchet at each rotation of said cam.

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