Feb. 26, 1963 A. N. McINTIRE 3,078,606

ADVERTISING CLOCK WITH ROTARY SIGNS

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Fig.1

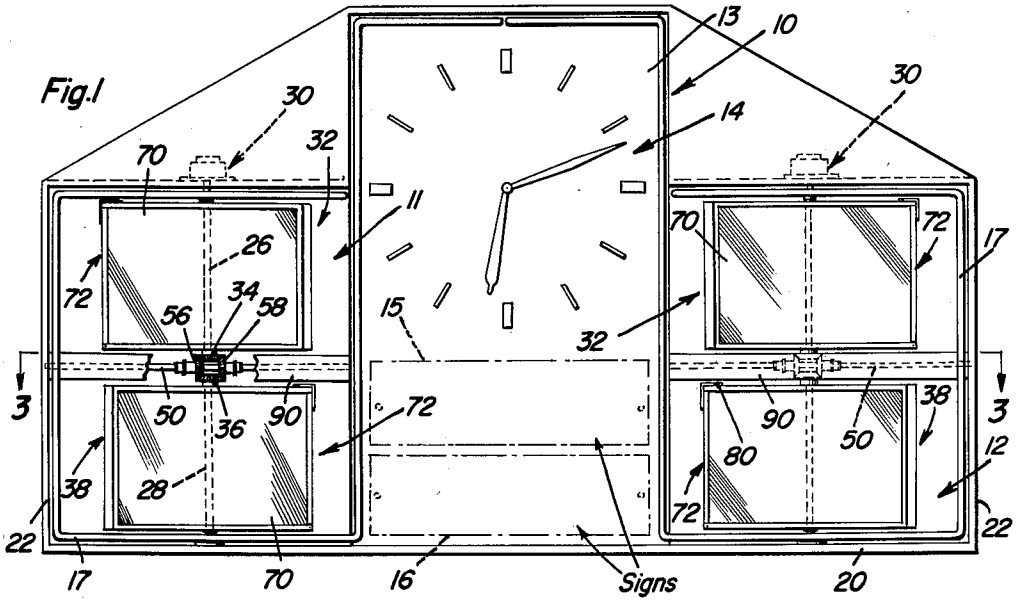


Fig.2

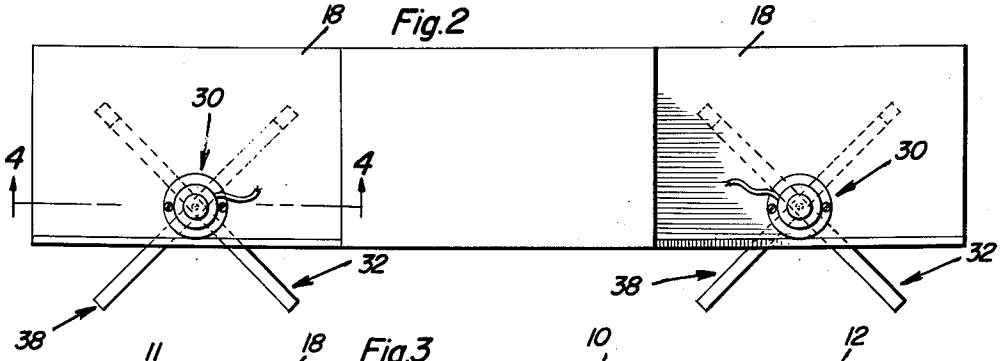
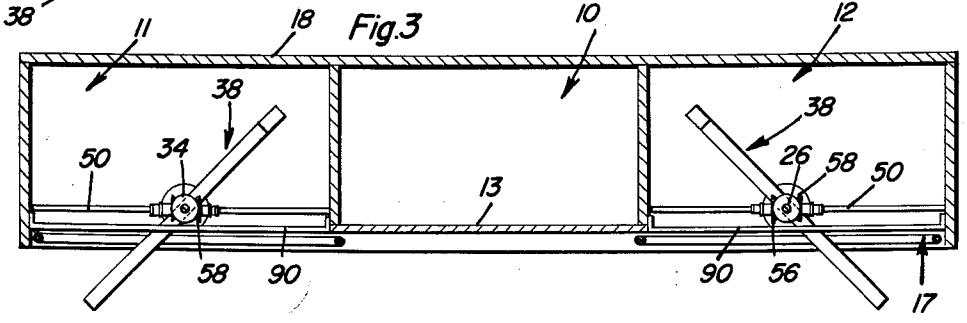


Fig.3



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Fig.4

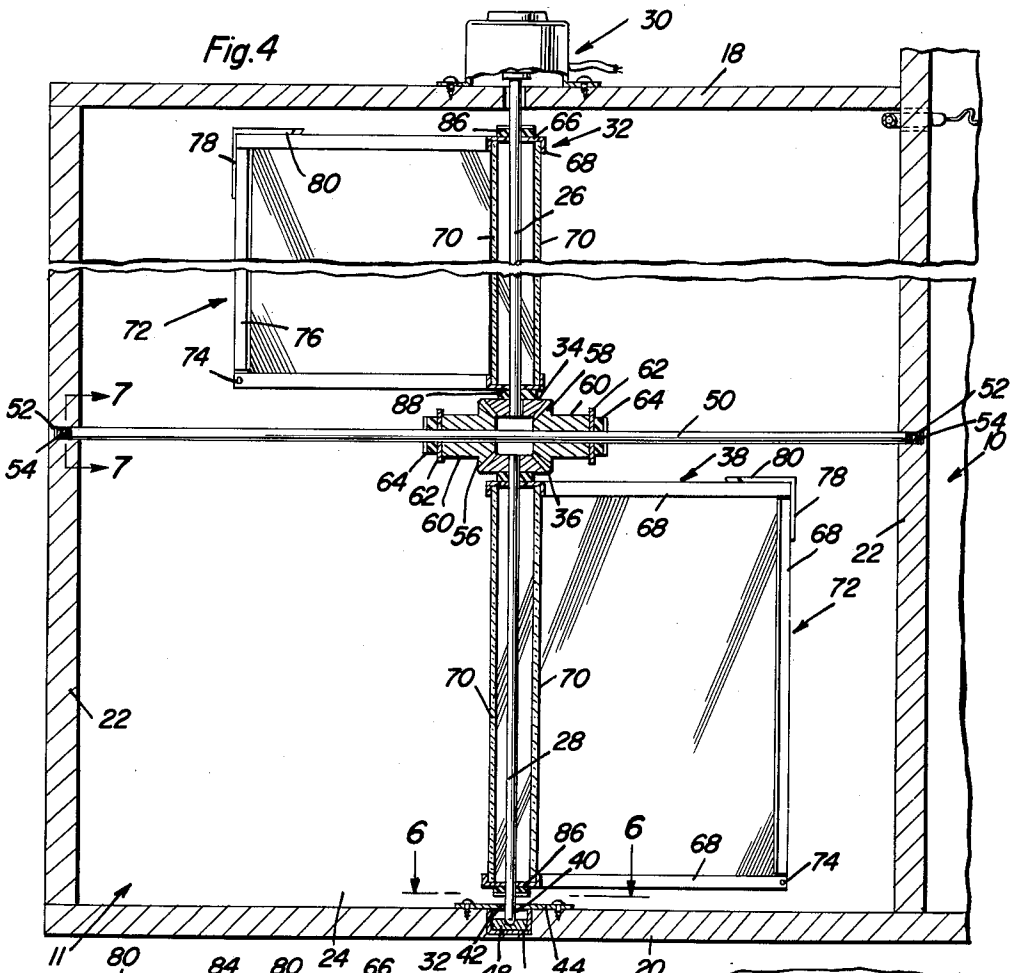


Fig.5

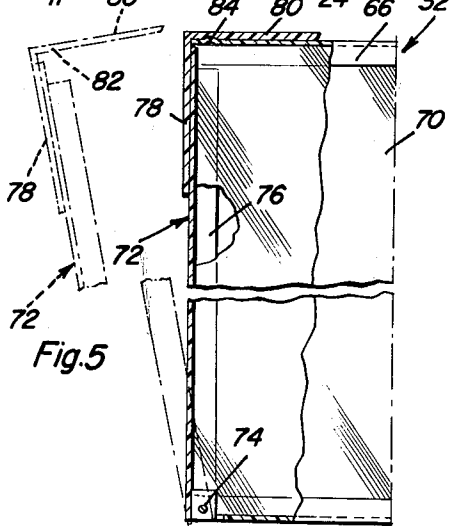


Fig.6

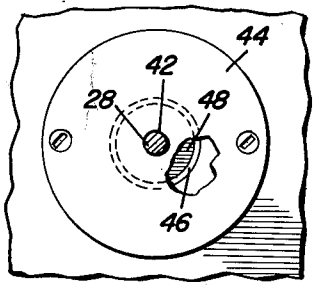
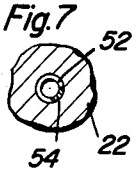


Fig.7



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ADVERTISING CLOCK WITH ROTARY SIGNS

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7 Claims. (Cl. 40—33)

The present invention relates to certain new and useful improvements in changeable exhibiting signs and has to do, generally speaking, with a novel cabinet characterized by a centrally disposed compartment containing a clock and provided to the left and right thereof with additional side compartments provided with reel-like rotors embodying advertising signs.

It is to be explained at the outset that the subject matter of the instant application pertains to certain improvements on a co-pending application Serial No. 818,769, filed June 8, 1959, now Patent No. 2,998,664. This prior changeable exhibiting device or advertising clock, as it is called, has to do with a cabinet having upper and lower walls, side walls and a back wall and defining several open-front compartments. The clock is mounted in the central compartment and this compartment is so constructed that a lower front portion thereof is provided with stationary signs. There is a reel-like rotor in each side compartment comprising a vertical shaft located near and spanning the open-front of the compartment. Advertising signs or panels are rigidly mounted on the shaft and are arranged at right angles to each other and located in adjacent relationship with the panels occupying different planes spaced vertically on the shaft. Resilient shock absorbing means is interposed between the panels and on the shaft to space the panels. The panels are generally rectangular in elevation and are of a length greater than the depth of the compartment in which they are mounted. It follows that appreciable end portions project and pass through the open-front of the compartment in response to rotation of the shaft due to the particular disposition of the panels on the shaft and also because of the fact that the shaft is arranged to extend across the median or central portion of the open-front of the compartment. Special bearing means is provided on the lower or bottom wall of the cabinet for a corresponding lower end of the shaft and a motor is connected to the upper end of the shaft and mounted atop the top wall of the compartment and is drivingly connected to said upper end in a manner to rotate the shaft and consequently the advertising signs which are mounted thereon.

Years of trained experience in reference to signs in the category under advisement has shown that signs of a similar type on the market are subject to failures sooner or later because of complications, motor troubles and the fact that they are exposed to the weather and, as is usually the case, are not properly cared for and repaired from time to time. Because of these and other difficulties encountered inventors in this line of enleavor have been challenged with the thought of producing a simple, practical and economical sign and cabinet construction which will appeal to manufacturers, retailers, users and others engaged in this field of endeavor. It follows that it is an object in the instant matter to structurally, functionally and otherwise improve upon prior art constructions and, in particular, the invention revealed in the aforementioned co-pending application for patent. Looking toward this end, several improvements have been devised. For example, one improvement has to do with the construction of the sign itself. In the present adaptation a rectangular frame constructed of moldable commercial plastic material is preferably used. The frame members are channel-shaped in cross-section and a generally rectangular frame is provided with transparent windows or panels fitted therein to protect insertable and removable signs and cards. The frame has one end member hinged

or pivotally mounted and the free end thereof provided with a simple springy latch which is accessibly arranged. With this construction the insertable and removable signs are properly displayed and fully protected and may be changed from time to time in a reliable and satisfactory manner.

A highly significant change and improvement pertains to the reel-like rotors. Instead of using a single motor-driven shaft, as in the co-pending application, the instant construction is unique. That is to say, upper and lower shafts are provided and are axially aligned. Each shaft is provided with a sign. More specifically, the frame portion of the sign has a median part thereof fixed or otherwise suitably mounted on its particular shaft. The adjacent inner ends of the shafts are provided with spaced parallel bevel gears. Motion is imparted to the upper shaft and its gear by way of the electric motor atop the top of a cabinet. Motion is imparted to the lower gear by way of left and right bevel gears which are freely mounted on a supporting rod which extends between the bevel gears at the inner ends of the upper and lower shafts. With this arrangement, a group of four gears is had with the gears meshing and with this construction the upper shaft and its sign turns in one direction, say clockwise, and the lower one in an opposite or counterclockwise direction. With t is improved adaptation and with the end portions of the signs projecting through the open front of the compartment a highly novel and an attractive result is assured.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a view in front elevation with portions broken away showing the improved over-all invention constructed in accordance with the principles of this invention.

FIG. 2 is a top plan view of the same.

FIG. 3 is a section on the plane of the horizontal line 3—3 of FIG. 1, looking in the direction of the arrows.

FIG. 4 is an exaggerated view with parts in section and elevation detailing the reel or rotor construction, the section being on the plane of the line 4—4 of FIG. 2.

FIG. 5 is a fragmentary view of one end of one of the sign frames showing the openable and closable end member for the insertable and removable signs.

FIGS. 6 and 7 are sections on the lines 6—6 and 7—7, respectively, of FIG. 4.

By way of introduction to the description of the details it may be pointed out that the invention at bar displays as many as nine or ten ads. Two of the ads are are stationed under a clock, the other eight ads revolve, four on each side of the clock, that is, in their respective left and right compartments; two frames, some 6¼" x 11", two cards to the frame, one card on each side of the frame and another card on the other side making four frames or eight moving ads. The two ad frames on each side of the clock set across one another (if so desired) showing two cards at a time, one on each side of the clock. With the construction revealed, the advertising is moving at all times when the motors are on and the reason for this is that continuous moving of ads is obviously what the general public calls for. In other words, it is submitted that they want more action for attention. So, it may be pointed out that "stop and go" advertising is not believed to be in current demand.

As in the co-pending application, a cabinet, which may be of suitable material, is made up of a central vertically elongated compartment (FIGS. 1 to 3) which may be denoted by the numeral 10. The rotor or reel containing compartment to the left is denoted at 11 and the one

to the right at 12. All of these compartments are rectangular. The central compartment has a panel 13 set therein and provided with an attention-attracting clock 14 of suitable construction. As seen in FIG. 1, the numerals 15 and 16 designate suitably attached advertising signs (not detailed).

Around the margins of all three compartments a source of illumination is provided and this is generally designated by the numeral 17. Fluorescent tubes or neon lights may be provided for this purpose. These features are shown in the previous copending application and are not to be dwelled upon here. The principal improvements are found in either one of the end or left or right compartments 11 or 12. Under the circumstances it is believed that the description may be confined accordingly. Therefore and with reference to FIG. 4, each compartment comprises a horizontal top wall 18, parallel bottom wall 20 therebeneath, end walls 22 and a back wall 24. The entire vertical front is wholly and unobstructedly open.

The aforementioned reel-like rotor here comprises an upper vertically disposed shaft 26 and a companion lower shaft 28, these shafts being collinear. The upper end of the upper shaft extends through an opening provided therefor on the top wall where it is connected to a suitable power transmitting electric motor 30. The sign which is mounted in the upper part of the compartment on the shaft 26 is denoted by the numeral 32. The lower end of the shaft is provided with a bevel gear 34 opposed to a bevel gear 36 on the upper end of the lower shaft 20. The lower sign 38 is mounted on the shaft 28. The lower end portion 40 of the shaft 28 extends through a bearing hole provided therefor as at 42 in a cover plate 44 suitably fastened to the top of the bottom wall 20 in line with a recess cut in said wall. The recess or cavity here serves to accommodate on oil cup 46 provided therein with an end thrust bearing 48 in which the end 40 of the shaft is rotatable.

Attention is now directed to a horizontal rod 50 having end portions telescopically fitted into sockets 52 provided therefor in the walls 22, each socket having a coil spring 54 fitted therein. The median or central portion of the rod passes between the gears 34 and 36 where it is provided with freely rotatable or idling bevel gears 56 and 58. These gears obviously cooperate and mesh with the two gears 34 and 36 and the four gears provide the over-all desired gearing which permits the motor to drive the shaft 26, and the shaft 26 to drive the shaft 28 by way of the interposed gears 56 and 58 and the gear 36. With this arrangement it is obvious that the upper and lower shafts 26 and 28 are simultaneously rotated but turn in opposite directions; that is, one turns clockwise and the other one counterclockwise. The sleeve or hub portions 60 are mounted on the rod and are held against displacement by suitably attached cooperating washers 62 and 64 the last named washer of which may be and preferably is made of rubber.

Each sign is the same in construction and a description of one will suffice for both. To this end, the sign is characterized by a frame and each frame member is channel-shaped in cross-section and embodies a web portion 66 and flanges 68. The sign cards (not detailed) are protected and held in position by suitably inserted and retained glass windows or panels 70. One end of the frame is openable and closable by way of a pivoted frame member which may be called a cover which is denoted by the numeral 72 and is pivoted in place at 74 and has marginal retaining flanges 76. The free end portion is provided with a spring latch having a fixed shank 78 and a spring finger 80 which finger is provided with a keeper recess 82 to cooperate with a detent 84 as brought out in FIG. 5.

The numerals 86 and 88 designate suitable spacing and retaining washers properly mounted on the shafts 26 and 28 to assist in retaining the signs or sign frames in proper position.

By utilizing a gate-like closure or cover at the open end of each sign the display cards (not shown) may be installed and removed expeditiously.

In actual practice and if desired, suitable plastic or equivalent shields 90 (FIG. 1) are provided to hide the support rod 50 and the gearing means.

It will be obvious that with the construction shown and described the ads or cards are protectively housed within the interior of the hollow casings, that is, the casings defined by marginal frame and the opposed transparent windows.

The signs in one compartment may be caused to turn in proper sequence with each other and also the signs in the opposite compartment. Consequently, with this almost continuous movement of signs through the open fronts of the compartments a highly practical and desirable construction is had.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A changeable exhibitor comprising a cabinet with at least one compartment having horizontal top and bottom walls, vertical back and side walls and a wholly and unobstructedly open vertical front, a first vertical shaft mounted for rotation in an upper area of the compartment secured to the central portion of a sign, a second vertical shaft mounted for rotation in the lower area of the compartment, coaxial with the first shaft and secured to the central portion of a sign, said signs being of a length greater than the depth of the compartment so that an end portion of each sign may project and swing through and beyond the open front as the two signs are simultaneously rotated, means for powering and rotating the shafts and their respectively attached signs, and additional means connecting inner adjacent ends of the shafts whereby one turns clockwise and the other one turns counterclockwise.

2. The structure defined in claim 1, and wherein said first named means comprises an electric motor mounted atop the top wall and connected with the first shaft.

3. The structure defined in claim 1, and wherein said additional means comprises gearing mechanically connecting the shaft-ends together.

4. A changeable exhibitor comprising a cabinet with at least one compartment having horizontal top and bottom walls, vertical back and side walls and a wholly and unobstructedly open vertical front, a first vertical shaft mounted for rotation in an upper area of the compartment secured to the central portion of a sign, a second vertical shaft mounted for rotation in the lower area of the compartment, coaxial with the first shaft and secured to the central portion of a sign, said signs being of a length greater than the depth of the compartment so that an end portion of each sign may project and swing through and beyond the open front as the two signs are simultaneously rotated, a motor mounted on the top wall and operatively connected with the first shaft, gearing joined with and simultaneously turning the two shafts in opposite directions, each sign comprising a frame provided with insertable and removable signs protectively covered by transparent window panels.

5. The structure defined in claim 4, and wherein said gearing comprises a group of intermeshing bevel gears arranged to turn one shaft clockwise and the other shaft counterclockwise.

6. A changeable exhibitor comprising a cabinet with at least one compartment having horizontal top and bot-

tom walls, vertical back and side walls and a wholly and unobstructedly open vertical front, a first vertical shaft mounted for rotation in an upper area of the compartment provided with a sign, a second vertical shaft mounted for rotation in the lower area of the compartment, collinear with the first shaft and provided with a sign, said signs being of a length greater than the depth of the compartment so that an end portion of each sign may project and swing through and beyond the open front as the two signs are simultaneously rotated, the inner ends of said shafts being provided with spaced parallel bevel gears, a rod spanning the compartment and having a median portion spanning the space between said gears and provided with free turning longitudinally spaced bevelled gears meshing with the first named gears and serving to turn the same in opposite directions, said longitudinally spaced bevel gears journalled for free rotation on said rod; and an electric motor mounted atop the top wall and connected with an adjacent upper end of the first shaft whereby said motor continuously rotates said first shaft in one direction and continuously rotates each of said signs in one direction.

7. The structure defined in claim 6, and in combination, the interior of the upper side of the bottom wall having a fixed oil cup provided with a thrust bearing and the lower end of the second shaft being journalled in the bearing and held in place by a fixed cover plate for the cup and bearing, said cover plate having a bearing hole therein through which the lower end passes.

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