

A. H. DOUGLAS.
MOTION ADVERTISING DEVICE.
APPLICATION FILED MAY 17, 1909.

950,166.

Patented Feb. 22, 1910.

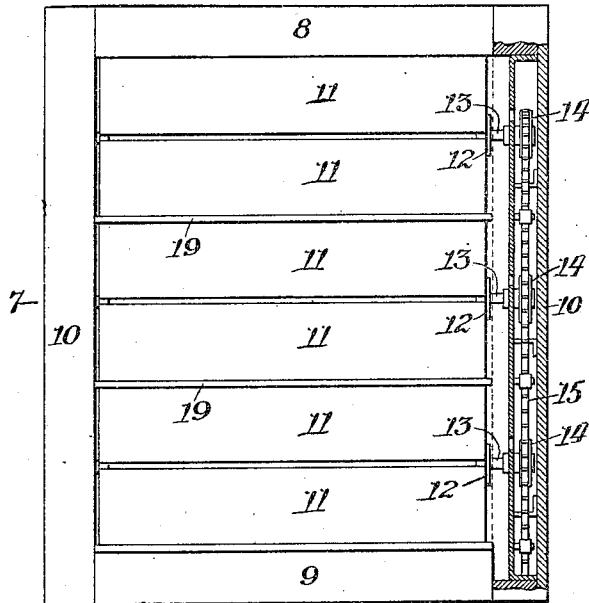


Fig. 1.

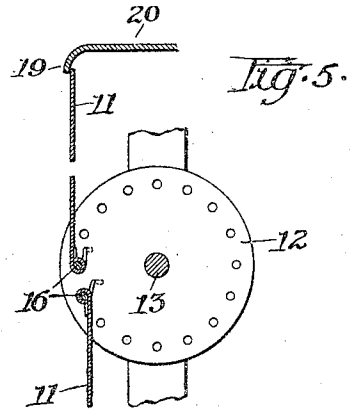


Fig. 5.

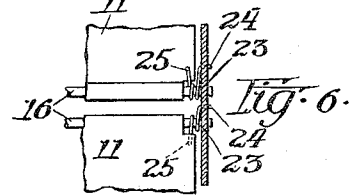


Fig. 6.

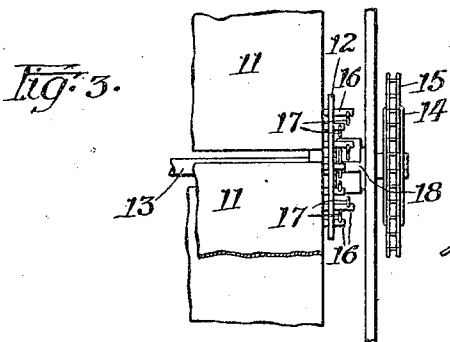


Fig. 3.

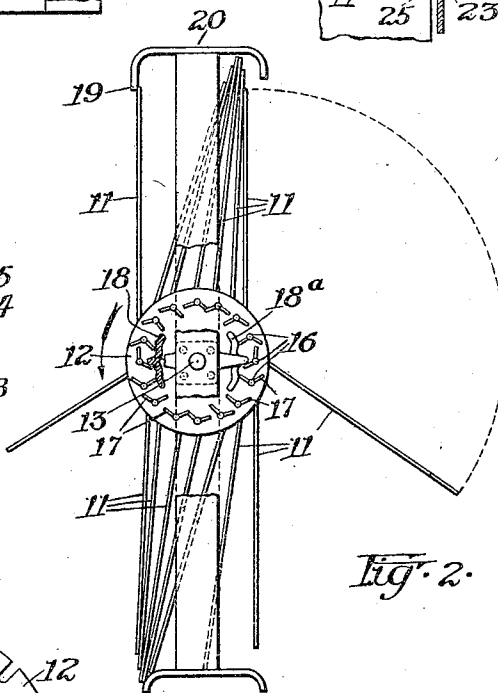


Fig. 2.

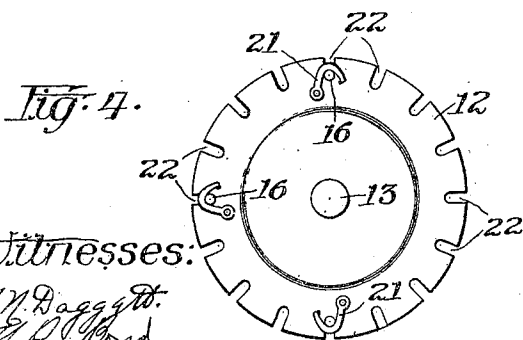


Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR H. DOUGLAS, OF CHICAGO, ILLINOIS.

MOTION ADVERTISING DEVICE.

950,166.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ARTHUR H. DOUGLAS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Motion Advertising Devices, of which the following is a specification.

The present invention relates to a sign having a plurality of panels pivoted to a suitable carrier and adapted to be successively moved to displaying position, and so arranged that each of the panels will co-act with the next adjacent panel on the same carrier in displaying complementary advertising or other matter.

The invention relates more particularly to the means provided for positively swinging the panels to successively display their front and rear sides—both sides of the panel having advertising matter imprinted or mounted thereon. By providing positive operating means, the panels can be mounted either on a vertical or horizontal axis, or at any other angle, and will not depend upon gravity to effect the turning movement. Furthermore, by providing positive actuating means, the panels will not be materially affected by the action of the wind, which might interfere with the operation of the panels if gravity alone were relied on to swing them down when released.

Further objects will appear from a detailed description of the invention, which consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of the sign, one side of the casing being sectioned away to show the operating mechanism; Fig. 2 an enlarged sectional view of an entire set of panels on the same carrier, with the casing therefor; Fig. 3 a detail, showing the cam stop for actuating the detent fingers on the ends of the panel shafts; Fig. 4 a detail, showing the method of removing the panels from the carrier; Fig. 5 a modification, showing, in edge elevation, a pair of panels and spring devices for effecting their reversal; and Fig. 6 a detail of the same, showing a rear view of the panels.

Referring to Fig. 1, the sign as a whole comprises a rectangular frame 7, having a top wall 8, a floor 9, and side walls 10. The frame is adapted to serve as a housing for

a plurality of independently operable sections, each section comprising a set of panels 11, and each panel being hinged, at one edge, between companion end disks or hubs 12, which are fixedly mounted on a shaft 13 having, on its end, a sprocket wheel 14 adapted to be operated by means of a sprocket chain 15, or in any other suitable manner. Each of the panels is preferably mounted upon an axle in the form of a rod 16, the ends of which project through the disks or hubs, which serve to journal the same. Each of the rods is provided, on one or both of its projecting ends, with a pair of angularly disposed detent fingers 17, as best shown in Figs. 2 and 3. Each pair of detent fingers extends laterally from the rod, and the fingers diverge at a considerable angle with respect to one another and are adapted to co-operate with a cam finger 18, which inwardly projects from the adjacent side wall of the supporting frame and lies in the path of travel of the inwardly projecting detent fingers of the several panels. The cam finger 18 is formed to afford an outwardly sloping surface terminating in an apex, and this sloping surface furnishes a contact surface for the angularly disposed detent fingers, whereby a premature swinging of the panel is prevented and the panel is held until the detent finger rides up against the apex of the cam finger, which causes a sudden swinging of the panel at the proper time.

As shown in Fig. 2, the panels move downwardly in the direction of the arrow, being successively released from a flange or stop 19, which constitutes the front edge of the roof 20 of the section which may or may not constitute the roof of the sign as a whole, depending upon the position of the section of the sign. As also shown in Fig. 2, the panels may be again reversed on the opposite side of the sign, for which purpose a reversing cam stop finger 18^a is provided, which is located in position to engage the previously contacted detent finger and swing the panels successively up from the bottom into their initial position. It is desirable, although not essential, to provide a pair of detent fingers for each of the axle rods, in order to permit a reversal in the direction of movement of the panels, in which case the previously uncontacted detent fingers will be brought into position to be successively engaged by the cam finger. This reversal movement may be desirable where it is in-

tended to secure peculiar or distinctive effects, such as a re-display of the same panel, in which case the flange 19 may be eliminated to permit swinging back of the panels.

5 As shown in Fig. 3, the detent fingers on the successive axle rods are arranged in staggered relation, and this is desirable where the rods are located so close together that the detent fingers might interfere with one another if arranged in the same plane.

10 In order to facilitate removal of the panels, it may be desirable to secure the panels in place in the manner shown in Fig. 4, in which a plurality of pivoted hook latches 21 are employed, which hook over the ends of the axle rods, which, instead of being entered through holes in the disks or hubs, are laid into recesses 22 incut from the edge of the disk or hub.

20 Figs. 5 and 6 show a modification, in which, in place of detent fingers and stop fingers, each of the axle rods is encircled by a coil spring 23, near its end, one end 24 of which spring is entered through or otherwise fastened to the disk or hub, and the other end 25 of which bears against the face of the panel and is adapted to be held under tension, when the panel is in unreleased position, which is the condition of the panel at the upper left hand corner of Fig. 5.

30 With the spring arrangement shown, as soon as the panel is moved to releasing position, the spring will act to throw the panel over and make the reversal.

35 In use, the two complementary portions of an advertisement or other display which it is desired to simultaneously present will be applied to the front face of one panel and the rear face of the next preceding

40 panel, with the result that the entire advertisement will be properly displayed when one of the sections is reversed to bring its rear side into register with the front side of the complementary panel. Where the panels are mounted on a horizontal axis, gravity may be relied on in some cases to effect a reversal, but this will frequently be an unsatisfactory method of reversing the panels, for the reason that the panels will

50 not reverse quickly or may stick, by reason of dust or dirt, or the reversal may be interfered with by a blast of wind, for which reason it is desirable, even when the panels are mounted on a horizontal axis, that positive means should be provided for effecting the reversal. Obviously, if the panels were mounted on a vertical axis, gravity would entirely fail to reverse the panels, for all of which reasons the reversing devices of the present invention are of great importance in affording a proper action for the sign. Furthermore, by employing the detent finger devices shown in Figs. 2 and 3, a reverse movement can be imparted to the

65 panels, which will materially increase the

capacity of the sign in producing novel and attractive effects. Furthermore, the detent mechanism permits a display to be made on either side of the sign casing, which would be impossible if gravity were relied upon to effect a reversal of the panels. In mounting panels, it will be desirable to bring their hinged inner edges into close proximity with one another, so that there will be no appreciable break in the continuity of the display surface, thereby giving the effect of one plane of surface having a continuous advertisement.

In operation, the panels will be successively released as soon as they are moved to a position to clear the lower edge of the flange or stop 19, if such flange be employed, at which time the upper panel will be in substantial alinement with the previously released lower panel, as shown in Fig. 2. It will be understood that the terms "upper" and "lower" are used for convenience in describing the construction in which the panels are carried around by a shaft on a horizontal axis, although, obviously, the devices would operate in the same manner if the shaft were otherwise positioned. The panels will all be operated in unison from the same source of power by the movements of the sprocket chain 15 or other operating device.

The formation of the cam fingers is such that they will not only serve to reverse the panels as the detent fingers ride on the cam fingers, but will also serve to positively drive the panels to a completely reversed position when the panels are raised on the unused side of the sign, as shown to the right of Fig. 2, during which operation the detent fingers will maintain an acting contact with the cam surface during the entire period of reversal.

What I regard as new and desire to secure by Letters Patent is:

1. In a sign, the combination of a plurality of sections, each section comprising a carrier having a plurality of panels pivoted at their edges to the carrier, means for revolving the carriers of the different sections, means for successively reversing the panels at a predetermined time to exhibit their reverse faces and expose the faces of the next succeeding panels and to bring all of the exposed panels of the different sections in line with one another to provide a substantially continuous plain surface for the reception of advertising matter, said means being in the form of an angularly disposed detent finger connected with each of the panels, and a cam finger 18 furnishing cam surfaces merging to the center in an outwardly projecting apex, said cam finger affording a contact surface for the angularly disposed detent finger for preventing a premature swinging of the panel and said finger caus-

ing the panel to swing when the detent finger engages the apex thereof, substantially as described.

2. In a sign, the combination of a plurality of sections, each section comprising a carrier having a plurality of panels pivoted at their edges to the carrier, means for revolving the carriers of the different sections, means for successively reversing the panels at a predetermined time to exhibit their reverse faces and expose the faces of the next succeeding panels and to bring all of the exposed panels of the different sections in line with one another to provide a substantially continuous plain surface for the reception of advertising matter, said means being in the form of an angularly disposed detent finger connected with each of the panels, a

cam finger 18 furnishing cam surfaces merging to the center in an outwardly projecting apex, said cam finger affording a contact surface for the angularly disposed detent finger for preventing a premature swinging of the panel and said finger causing the panel to swing when the detent finger engages the apex thereof, and each section of the sign being further provided with an overhanging releasing flange or stop positioned to successively release the panels of the section simultaneously with the contact of the detent finger against the apex of the cam finger 18, substantially as described.

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Witnesses:

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