Oct. 30, 1962 M. HIRSHHORN 3,060,604

ADVERTISING DEVICES

Filed May 16, 1960

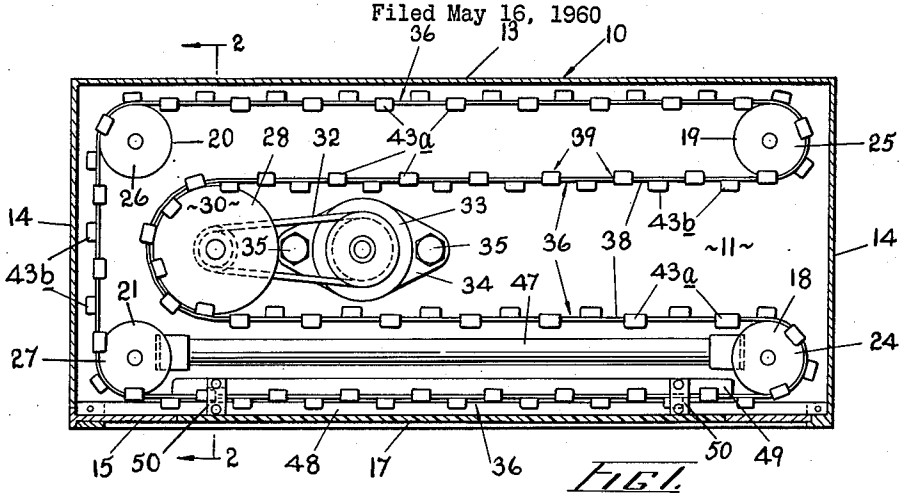


FIG. 1.

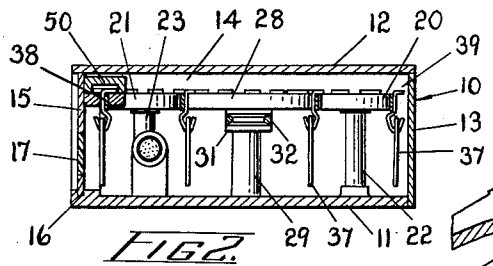


FIG. 2.

FIG. 3.

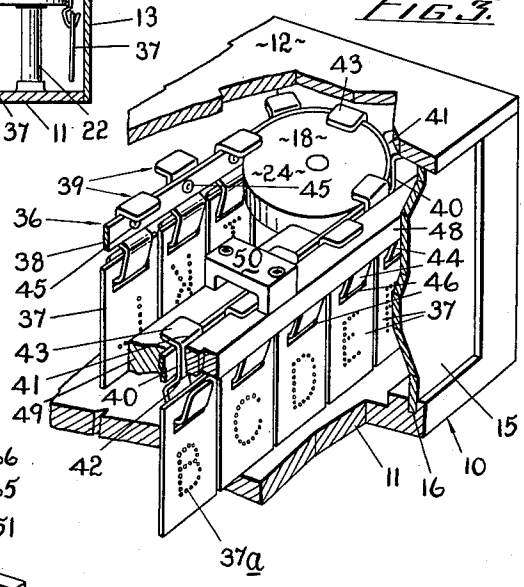
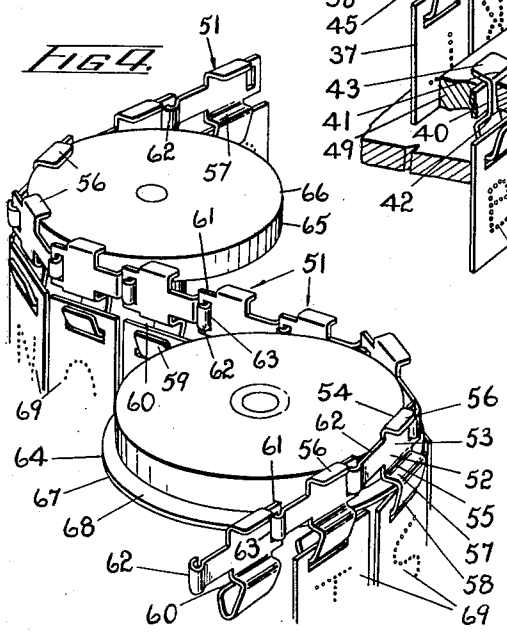


FIG. 4.



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ADVERTISING DEVICES

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This invention relates to advertising devices. More specifically the invention concerns advertising devices of the type in which advertising indicia are passed in horizontal succession behind a window in the casing of the device so that a spectator may view the indicia through the window. The indicia may conveniently be in the form of cards having series of perforations therein defining letters and a light may be provided within the casing to shine through the perforations so that a spectator may read an advertising message formed by the letters of the succession of cards as they pass behind the window.

It is desirable that the carrier for passing the indicia behind the window shall be so arranged that the indicia may be varied at will to provide different advertising messages. To achieve this end various constructions have been proposed in which an endless carrier arranged to pass behind the window has means therein for releasably supporting a multiplicity of indicia. One such prior proposal uses a link chain having special fittings thereon at intervals to support the indicia. A chain of this type is comparatively expensive and, due to its high weight per unit length, is difficult to support horizontally over a long run.

It is an object of the present invention to provide, in an advertising device of the above mentioned type, a combination of pulleys and an indicia carrier arranged so that the latter may be light and inexpensive to manufacture.

The invention will now be described by way of example with reference to the accompanying drawings, in which like reference numerals indicate similar parts throughout the several views, and in which:

FIGURE 1 is a horizontal section through an advertising device incorporating one embodiment of the invention;

FIGURE 2 is a vertical section on the line 2—2 of FIGURE 1;

FIGURE 3 is a detail perspective view, on a larger scale, of part of the device of FIGURES 1 and 2; and

FIGURE 4 is a detail perspective view of a second embodiment of the invention.

Referring now to FIGURES 1 to 3, the advertising device there shown comprises a casing 10 having a base 11, a top 12, a back wall 13 and side walls 14. The front wall of the casing consists essentially of a slide 15 received in a groove 16 in a thickened forward portion of the base 11; the slide 15 is provided with a transparent window 17. Rotatably mounted near the four corners of the base are horizontal pulleys 18, 19, 20 and 21 which are rotatable about vertical axes and are supported by vertical pillars, two of which are indicated at 22 and 23 in FIGURE 2. The upper surfaces of the pulleys 18, 19, 20 and 21 constitute horizontal supporting surfaces 24, 25, 26 and 27 respectively. A further horizontal pulley 28 is mounted on the base 11 adjacent to the pulleys 20 and 21; all five pulleys 18, 19, 20, 21 and 28 have smooth cylindrical peripheral surfaces. The pulley 28 is rotatable about a vertical axis and is supported by a vertical column 29; the upper surface of the pulley 28 constitutes a horizontal supporting surface 30. Secured to the underside of the pulley 28 is a grooved pulley 31 around which is entrained a V-belt 32. The belt 32 is

driven by an electric motor 33 secured to the base 11 by means of a flange 34 and bolts 35.

Entrained around the pulleys 18, 19, 20, 21 and 28 is an endless carrier, indicated generally at 36, which releasably supports indicia 37. The carrier 36 consists of an endless band 38 (see FIGURE 3) of flexible material, which may conveniently be of rubber reinforced with cotton threads, and a plurality of similar unitary supporting and locating members, some of which are indicated generally at 39. Each member 39 has a vertical plate-like portion 40 defined by upper and lower edges 41 and 42, a horizontal flange 43 extending from the upper edge 41 and a retroverted hook portion 44 extending from the lower edge 42. The members 39 are secured to the band 38 by means of rivets 45 passing through the band and through the intermediate portions 40. It will be seen that the horizontal flanges 43 of adjacent members 39 extend in opposite transverse directions relative to the general extension of the carrier 36.

From FIGURE 1 it is apparent that the carrier 36 is entrained around the pulleys 18, 19, 20, 21 and 28 in a re-entrant pattern to form a letter U when viewed in plan. It follows that one side of the carrier contacts the pulleys 18, 19, 20 and 21 while the other side of the carrier contacts the pulley 28. The flanges 43 of the members 39 engage the supporting surfaces 24, 25, 26, 27 and 30 of the pulleys; thus the alternate flanges projecting from one side of the carrier, such as those indicated at 43*a* in FIGURE 1, will engage the supporting surfaces 24, 25, 26 and 27 of the pulleys 18, 19, 20 and 21, while the alternate flanges projecting from the other side of the carrier, such as those indicated at 43*b* in FIGURE 1, will engage the supporting surface 30 of the pulley 28. It will be appreciated that the engagement of the flanges 43 with the supporting surfaces of the pulleys prevents the carrier from slipping downwardly off the pulleys and, since the supporting surfaces are all at the same level, the carrier is supported horizontally, i.e. so that a point on the carrier follows a horizontal path as the carrier is moved around the pulleys.

The retroverted hook portion 44 of each member 39 carries one of the indicia 37 each of which is provided with a slot 46 to receive a hook portion 44. The indicia are rectangular cards most of which are perforated to define a letter, as for example the letter B indicated at 37*a* in FIGURE 3. The letters formed on adjacent indicia spell out a word and the words are separated by one or more imperforate cards supported from the hooks 44 of the members 39.

The advertising message to be imparted to a spectator is read by him through the window 17 as the indicia move in succession behind the window. A tubular electric light bulb 47 is supported on the base 11 behind the window 17 and the indicia pass between the bulb 47 and the window 17 so that light from the bulb shines through the perforations in the indicia. In order to retain the carrier horizontal as it passes behind the window 17, a pair of spaced bars 48, 49 is secured at the front of the casing at the top thereof. The flanges 43 of the members 39 engage the upper surfaces of the bars 48 and 49 so that the band 38 and the plate-like portions 40 of the members 39 are received between the bars. The bar 48 is secured to the casing and the bar 49 is supported from the bar 48 by bridge pieces 50 of inverted U-section.

The operation of the device will now be described. From a stock of perforated indicia the letters required to make up a desired advertising message are selected and are hung from the hook portions 44 of the unitary supporting and locating members 39. The letters are arranged to make up words and the words are separated by or more imperforate cards hung from the hook portions

44 of appropriate members 39. The indicia may be placed on the hooks by withdrawing the slide 15, thus obtaining access to the hooks on the front run of the carrier. When the hooks on the front run have been filled, the carrier can be moved manually to bring a fresh supply of hooks to the front and the procedure may be continued until the whole of the desired message is assembled on the carrier. The slide 15 may then be moved back into position so that it closes the front of the casing leaving the indicia on the majority of the hooks of the front run visible through the transparent window 17. The electric motor 33 and the bulb 47 are then caused to operate simultaneously so that the indicia supported from the carrier are moved in horizontal succession behind the window 17 while the light shines through the perforations rendering the letters visible to a spectator looking through the window 17. It is apparent that the advertising message will pass in front of the spectator as the carrier is caused to move by frictional engagement with the pulley 28 which, in turn, is driven by the motor 33 through the belt 32 and the pulley 31.

Referring now to FIGURE 4, this shows a different type of carrier which necessitates a somewhat different construction of driving pulley. The carrier consists of a multiplicity of pivotally interconnected, unitary supporting and locating members 51. Each member 51 has a U-shaped part 52 having a vertical plate-like portion 53 defined between upper and lower edges 54 and 55 respectively. An upper horizontal flange 56 extends from the upper edge 54 and a lower horizontal flange 57 extends from the lower edge 55. A generally vertical portion 58 depends from the lower flange 57 and an inclined portion 59 extends upwardly from the lower edge of the vertical portion 58. The free end of the inclined portion 59 and the undersurface of the lower flange 57 together define a slot 60. The vertical portion 57 and the inclined portion 59 of each member 51 together constitute a retroverted hook portion of the reception of one of the indicia indicated at 69.

Each plate-like portion 53 has a pair of lateral, plate-like extensions 61, 62; the extension 61 is provided with a slot 63 and the extension 62 constitutes a retroverted tongue which engages the slot 63 in the extension 61 of an adjacent member 51 thus providing pivotal interconnection between adjacent members 51 of the carrier and permitting the carrier to flex.

The carrier consisting of the links 51 is entrained around pulleys in the same fashion as the carrier 36 in FIGURES 1 to 3 and is driven from a pulley 64 shown in FIGURE 4; one of the supporting pulleys is shown at 65. The upper surface of the pulley 65 provides a peripheral horizontal supporting surface 66 while the pulley 64 has a peripheral horizontal flange 67 which provides a horizontal supporting surface 68. The peripheral surfaces of the pulleys 64 and 65 are smoothly cylindrical. The vertical thickness of the flange 67 is such that it is capable of being received in the slots 60 of the members 51 so that the supporting surface 68 engages the undersurfaces of the lower flanges 57 of the members 51.

The method of operation of the embodiment of FIGURE 4 is similar to the method of operation of the embodiment of FIGURES 1 to 3. The upper horizontal flanges 56 engage the supporting surface 66 of the pulley 65 while the undersurfaces of the lower horizontal flanges 57 engage the supporting surface 68 of the flange 67 of the pulley 64. Engagement of the flanges 56 and 57 with the supporting surfaces 66 and 68 respectively support the carrier so that it does not slip downwardly off the pulleys. The carrier is driven by frictional engagement with the pulley 64 which in turn is driven by an electric motor (not shown) as in FIGURES 1 to 3.

It will be seen that the invention provides in an advertising device of the type described, a combination of pulley and a carrier which is efficient, light, and cheap to manufacture thus having many practical advantages over constructions heretofore proposed.

It will be understood that the forms of the invention herewith shown and described are preferred examples and that various modifications may be carried out without departing from the spirit of the invention or the scope of the appended claims.

What I claim as my invention is:

1. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of a plurality of horizontal pulleys, rotatable about vertical axes and having horizontal supporting surfaces and smooth cylindrical peripheral surfaces, with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path; and wherein the carrier consists essentially of a plurality of unitary supporting and locating members and means interconnecting the members to allow the carrier to flex, each member having a vertical plate-like portion defined by upper and lower edges, a projection extending horizontally from said portion adjacent to said upper edge to engage said horizontal supporting surfaces which thus support the weight of the carrier and the indicia and an upwardly open retroverted hook portion extending downwardly from said lower edge, each hook portion providing the sole support for one of said indicia.

2. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of first and second horizontal pulleys rotatable about vertical axes with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path during which one side of the carrier engages the first pulley and the other side of the carrier engages the second pulley; the first pulley having a peripheral horizontal supporting surface on the upper part thereof and the second pulley having a peripheral horizontal flange projecting from the lower part thereof but the peripheral surfaces of the pulleys being smoothly cylindrical; and wherein the carrier consists essentially of a plurality of pivotally interconnected members, each member comprising a U-shaped part consisting of a vertical plate-like portion to engage said peripheral surfaces and defined between upper and lower edges, upper and lower generally horizontal flanges extending from said upper and lower edges respectively and spaced so that the underside of the upper flange engages the supporting surface of the first pulley and the undersurface of the lower flange engages the peripheral flange of the second pulley and an upwardly open retroverted hook portion depending from the lower horizontal flange, each hook portion forming the sole support for one of said indicia.

3. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of first and second horizontal pulleys rotatable about vertical axes with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path during which one side of the carrier engages the first pulley and the other side of the carrier engages the second pulley; the first pulley having a peripheral horizontal supporting surface on the upper part thereof and the second pulley having a peripheral horizontal flange projecting from the lower part thereof but the peripheral surfaces of the pulleys being smoothly cylindrical; and wherein the carrier consists essentially of a plurality of pivotally interconnected members, each member comprising a U-shaped part consisting of a vertical plate-like portion to engage said peripheral surfaces and defined between upper and lower edges, upper and lower generally horizontal flanges extending from said upper and lower edges respectively and spaced so that the underside of the upper flange engages the supporting surface of the first pulley and the undersurface of the low-

er flange engages the peripheral flange of the second pulley, a generally vertical portion depending from the lower horizontal flange and an inclined portion extending from the lower edge of the vertical portion and retroverted towards said lower flange, the free edge of the inclined portion and the undersurface of said lower flange defining a slot in which the peripheral flange of the second pulley engages, and the retroverted inclined portion providing an upwardly open hook portion, each hook portion providing the sole support for one of said indicia.

4. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of first and second horizontal pulleys rotatable about vertical axes with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path during which one side of the carrier engages the first pulley and the other side of the carrier engages the second pulley; the first pulley having a peripheral horizontal supporting surface on the upper part thereof and the second pulley having a peripheral horizontal flange projecting from the lower part thereof but the peripheral surfaces of the pulleys being smoothly cylindrical; and wherein the carrier consists essentially of a plurality of pivotally interconnected members, each member having a U-shaped part consisting of a vertical plate-like portion to engage said peripheral surfaces and defined between upper and lower edges, upper and lower generally horizontal flanges extending from said upper and lower edges respectively and spaced so that the underside of the upper flange engages the supporting surface of the first pulley and the undersurface of the lower flange engages the peripheral flange of the second pulley, a generally vertical portion depending from the lower horizontal flange and an inclined portion extending from the lower edge of the vertical portion and retroverted towards said lower flange, the free edge of the inclined portion and the undersurface of said lower flange defining a slot in which the peripheral flange of the second pulley engages, and the retroverted inclined portion providing an upwardly open hook portion, each hook portion providing the sole support for one of said indicia; each member also including lateral plate-like extensions of the plate-like portion, one of said extensions on each member being provided with a slot and the other extension forming a tongue which engages the slot in an adjacent member to provide pivotal interconnection between the members.

5. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of a plurality of horizontal pulleys, rotatable about vertical axes and having horizontal supporting surfaces and smooth cylindrical peripheral surfaces with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path; and wherein the carrier consists essentially of an endless band of flexible material and a plurality of unitary supporting and locating members, each member having a vertical plate-like portion which is defined by upper and lower edges and is secured to the band, the height of said portion between said edges being substantially equal to the width of the band, a horizontal flange extending from said upper edge to engage said horizontal supporting surfaces which thus support the weight of the carrier and the indicia, and an upwardly open retroverted hook portion extending downwardly from said lower edge, each hook portion providing the sole support for one of said indicia.

6. In an advertising device having a casing and window in the casing past which advertising indicia are moved, the combination of a plurality of horizontal pulleys, rotatable about vertical axes and having horizontal supporting surfaces and smooth cylindrical peripheral surfaces with an endless indicia carrier entrained around

the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path; and wherein the carrier consists essentially of a plurality of unitary supporting and locating members, each member having a vertical intermediate portion to engage said peripheral surfaces and defined by upper and lower edges, a horizontal flange extending from said upper edge to engage said horizontal supporting surfaces which thus support the weight of the carrier and the indicia, an upwardly open retroverted hook portion extending downwardly from said lower edge, each hook portion providing the sole support for one of the said indicia, and lateral plate-like extension of said plate-like portion, one of said extensions being provided with a slot and the other extension forming a tongue which engages in the slot in an adjacent member to provide pivotal interconnection between the members.

7. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of first and second horizontal pulleys, rotatable about vertical axes and having horizontal supporting surfaces and smooth cylindrical peripheral surfaces with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path during which the first pulley engages one side of the carrier and the second pulley engages the other side of the carrier; and wherein the carrier consists essentially of an endless band of flexible material and a plurality of unitary supporting and locating members, each member having a vertical plate-like portion defined by upper and lower edges and secured to the band, the height of said portion between said edges being substantially equal to the width of the band, a horizontal flange extending from said upper edge to engage said horizontal supporting surfaces which thus support the weight of the carrier and the indicia, and an upwardly open retroverted hook portion extending downwardly from said lower edge, each hook portion providing the sole support for one of said indicia; the horizontal flanges of adjacent members extending in opposite transverse directions relative to the general extension of the carrier whereby the flanges on some of the members engage the horizontal supporting surface of the first pulley and the flanges of the other of the members engage the horizontal supporting surface of the second pulley.

8. In an advertising device having a casing and a window in the casing past which advertising indicia are moved, the combination of first and second horizontal pulleys rotatable about vertical axes with an endless indicia carrier entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path during which one side of the carrier engages the first pulley and the other side of the carrier engages the second pulley; the first pulley having a peripheral horizontal supporting surface on the upper part thereof and the second pulley having a peripheral horizontal flange projecting from the lower part thereof but the peripheral surfaces of the pulleys being smoothly cylindrical; and wherein the carrier consists essentially of a plurality of unitary supporting and locating members and means inter-connecting the members to allow the carrier to flex, each member comprising a vertical plate-like portion to engage said peripheral surfaces and defined between the upper and lower edges, a projection extending horizontally from one face of said portion adjacent to said upper edge and a flange extending from said face at said lower edge, the projection and the flange being spaced so that the underside of the projection engages the supporting surface of the first pulley and the undersurface of the flange engages the peripheral flange of the second pulley and an upwardly open retroverted hook portion depending from the flange to provide the sole support for one of said indicia.

9. In an advertising device having a casing and a

window in the casing past which advertising indicia are moved, the combination of first and second horizontal pulleys rotatable about vertical axes with an endless indicia entrained around the pulleys so that as the carrier moves around the pulleys a point on the carrier follows a horizontal path during which one side of the carrier engages the first pulley and the other side of the carrier engages the second pulley; the first pulley having a peripheral horizontal supporting surface on the upper part thereof and the second pulley having a peripheral horizontal flange projecting from the lower part thereof but the peripheral surfaces of the pulleys being smoothly cylindrical; and wherein the carrier consists essentially of a plurality of unitary supporting and locating members and means inter-connecting the members to allow the carrier to flex, each member comprising a vertical plate-like portion to engage said peripheral surfaces and defined between upper and lower edges, a projection extending horizontally from one face of said portion adjacent to said upper edge and a flange extending from said face at said lower edge, the projection and the flange being spaced

so that the underside of the projection engages the supporting surface of the first pulley and the undersurface of the flange engages the peripheral flange of the second pulley, a generally vertical portion depending from the flange and an inclined portion supported from the lower edge of the vertical portion and retroverted towards said flange, the free edge of the inclined portion and the undersurface of said flange defining a slot in which the peripheral flange of the second pulley engages, the retroverted inclined portion providing an upwardly open hook which provides the sole support for one of said indicia.

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