Sept. 13, 1932. A. J. KAUFFMAN 1,877,406

ADVERTISING EXHIBITOR

Filed Feb. 6, 1931 3 Sheets-Sheet 1

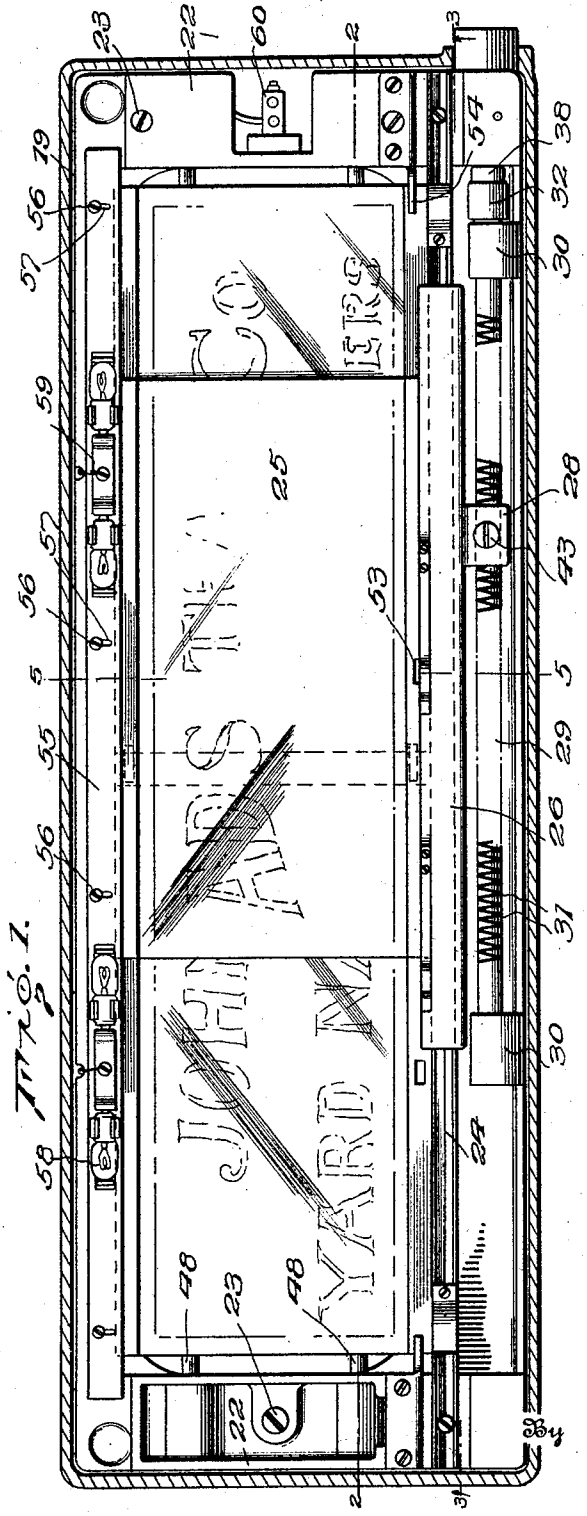


Fig. 1.

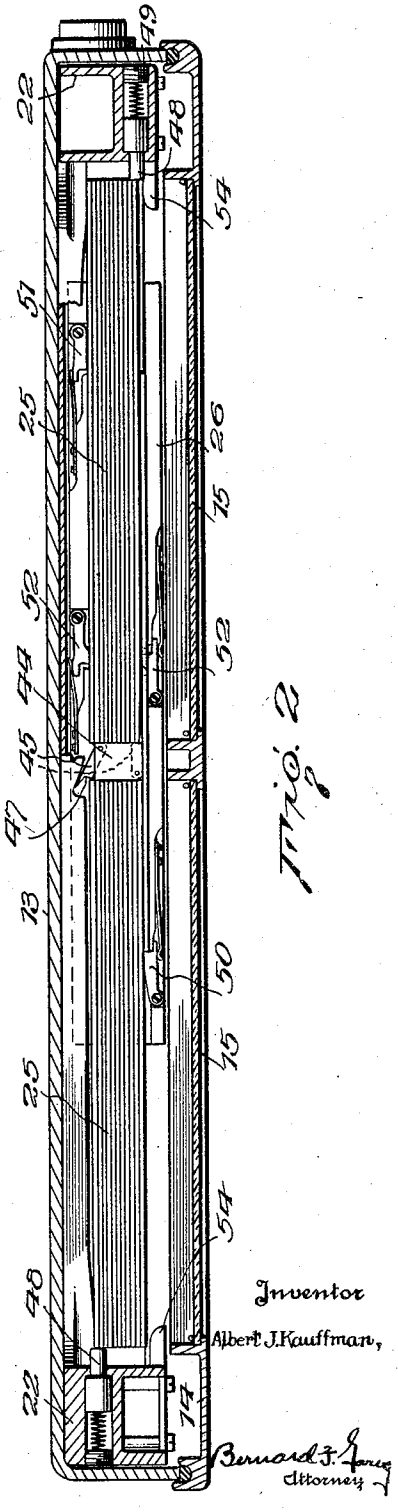


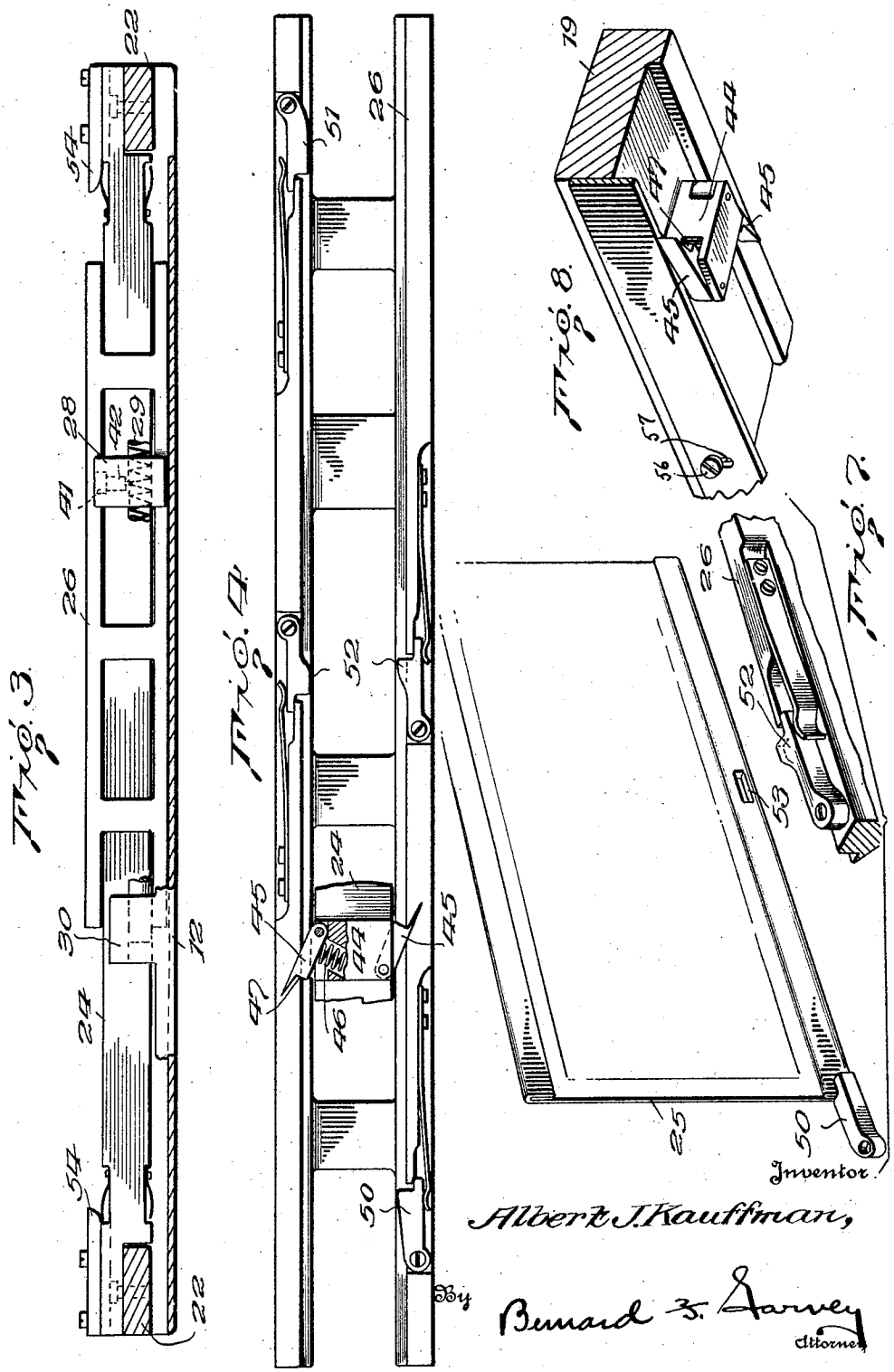
Fig. 2.

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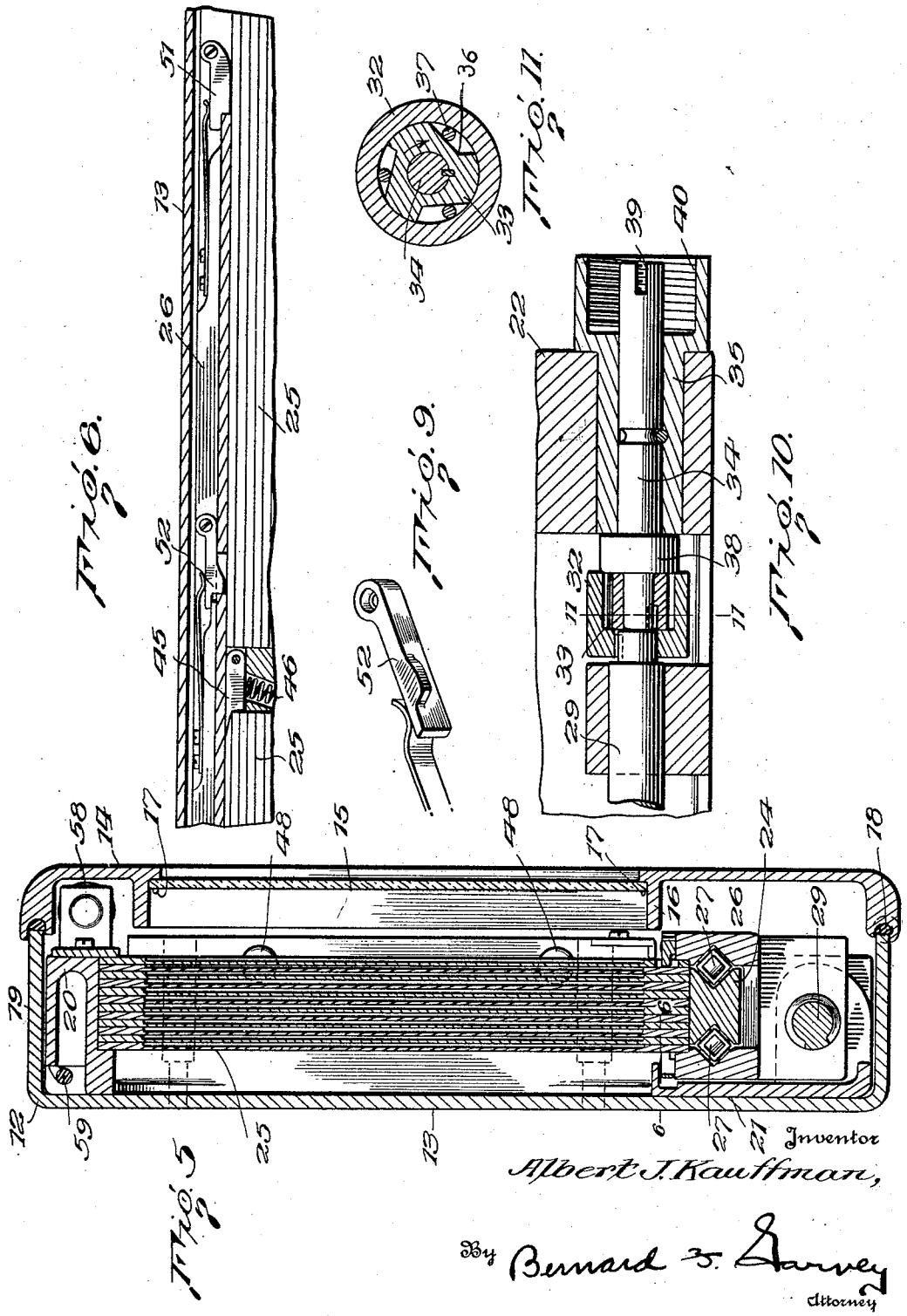
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ADVERTISING EXHIBITOR

Filed Feb. 6, 1931 3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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ADVERTISING EXHIBITOR

Application filed February 6, 1931. Serial No. 514,013.

In my Patents No. 1,707,861 and No. 1,779,475, issued to me April 2nd, 1929 and October 28th, 1930, respectively, and in my co-pending application Serial Number 394,594, filed September 23rd, 1929, Patent No. 1,811,720, issued June 23, 1931, on improvements in advertising exhibitors, now known in the trade as adometers, the principle of mounting a changeable exhibitor in a motor vehicle is exemplified and different structural embodiments of the invention illustrated. The present invention is designed as a further improvement on the exhibitor and additionally, increases the mechanical efficiency of the device.

While I still maintain a casing within which the operating mechanism of the exhibitor is housed, it is nevertheless an object of this invention to permit complete detachment of the mechanism from the casing to facilitate servicing of the mechanism and replacement of parts if and when this becomes necessary.

A further object of the invention is to simplify the advertising card transfer mechanism, at the same time providing a more stable and durable structure to assure smooth and uninterrupted transfer of the cards while the vehicle in which the exhibitor is mounted is moving forwardly.

Other objects of the invention are to further simplify the driving mechanism; to provide novel means for securing the advertising cards, which means may be adjusted in a facile and expeditious manner for inserting or removing the cards in or from the exhibitor, respectively; and to provide illuminating agents carried by the card securing means of the exhibitor mechanism to render the agents readily accessible and to insure maximum illumination of the cards while the latter are secured in the exhibitor.

While one of the preferred embodiments of this invention is herein shown and described as adapted for use in taxicabs or like public service vehicles, it is nevertheless to be understood that the invention is susceptible of various other uses, such as on street cars, sign boards, and for various other advertising and display purposes, operable from any suitable source of energy. Furthermore, while in the present embodiment of the invention the advertising indicia is visible through one side only of the exhibitor, it is nevertheless to be understood that both sides of the exhibitor casing may be made transparent so as to permit simultaneous display of the advertising matter on both sides of the exhibitor.

Other objects of the invention will be apparent from the following description of the present preferred form of the invention, taken in connection with the accompanying drawings, wherein

Fig. 1 is a vertical sectional view of an exhibitor constructed in accordance with the present invention, looking at the faces of the advertising cards;

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view, taken on the line 3—3 of Fig. 1, looking downwardly in the direction of the arrow;

Fig. 4 is a top plan view of the carriage forming a part of the present invention;

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1;

Fig. 6 is a fragmentary sectional view, taken on the line 6—6 of Fig. 5;

Fig. 7 is a detail, combined view, showing one of the advertising cards in perspective and a portion of the carriage in fragmentary perspective, to illustrate the manner of engaging the carriage with an advertising card;

Fig. 8 is a detail, fragmentary, enlarged, perspective view of the top of the exhibitor frame, showing to advantage one of the yielding pawl carrying center blocks and also illustrating the manner of engaging the card securing rail with the frame;

Fig. 9 is a detail, enlarged, perspective view of one of the center carriage pawls, showing a spring fragmentarily, engaged therewith;

Fig. 10 is a detail, fragmentary sectional view, taken through the bottom of the exhibitor and showing to advantage the control clutch for the driving shaft of the exhibitor; and

Fig. 11 is a sectional view, taken on the line 11—11 of Fig. 10.

While in the present invention I still employ an exhibitor of box-like conformation which is adapted to be deposited in the wall of a taxi-cab, bus, street-car, train or like public service vehicle, as well as in railway stations, or other buildings or stationary structures, etc., in order that the advertisements or other indicia to be displayed are in a position in the path of vision of the occupants of the cab or vehicle, nevertheless, in the present invention, I detachably mount the exhibitor mechanism in the casing. It is the purport of this invention to make the complete exhibitor mechanism in a unit which is detachably carried by the casing in a manner more fully hereinafter described.

The casing of the present invention is generally designated 12 and, as shown to advantage in Figs. 1, 2 and 5, is of substantially oblong construction and relatively flat, so as to be readily accommodated within the wall of an automobile. The casing consists of a body portion 13 and a hinged cover portion 14. The cover 14 is provided with transparent panels or panes 15, preferably two (2) in number, being disposed to permit simultaneous visualization of two (2) advertising cards or the like, arranged in parallel relation within the casing. The panels or panes 15 are mounted in frames 16, which extend inwardly an appreciable distance from the wall of the cover to form a protective housing. The panels or panes are preferably secured from displacement by springs 17. The marginal edge of the cover which engages the complemental margin of the body, is recessed and provided with a suitable packing 18 to provide a seal between the body and cover. The cover may be secured to the body by any conventional fastening means capable of holding the packing 18 in intimate contact with the body.

The exhibitor mechanism is generally designated 19 and is of a size and shape which conforms to the contour of the body 13 in which it is deposited. The mechanism embodies essentially a skeleton frame which may be cast or otherwise formed as a unit, the frame consisting of top and bottom bars 20 and 21, respectively. The frame also embodies end rails or bars 22. The frame is secured to the body 13 by means of three (3) screws 23, which are readily operable to attach or detach the exhibitor mechanism in an apparent manner.

Detachably secured to the end bars 22 of the frame, is a track 24, which extends the full length of the frame and is adapted to have superimposed thereon advertising members which, in the present instance, consist of cards 25. The bottom face of the top bar 20 is recessed to receive the upper marginal edges of the cards 25, whereas the lower marginal edges of the intermediate cards are superimposed on the track or platform 24. It will be noted, however, upon reference to Fig. 5 of the drawings, that the outermost cards 25 are positioned beyond the sides of the rail 24 to permit transfer of the same in a manner hereinafter set forth. It will also be noted upon reference to Fig. 5 of the drawings that the rail or platform 24 extends in parallel relation to the lower bar 21 of the frame and is spaced therefrom to accommodate one side of a carriage 26, which latter is slidably mounted on the rail. The opposite sides of the rail are provided with longitudinally extending grooves or recesses which complement corresponding grooves formed on the inner walls of the sides of the carriage 26 to provide substantially diamond shaped channels in which anti-friction means 27 are mounted. The carriage 26 is free to slide over the entire length of the rail 24, so as to carry or transfer cards from one end of the frame to the other, as will be more fully hereinafter set out.

In order to operate the carriage, I equip the latter with a bearing block 28, which extends from the bottom face of the carriage and is provided with an opening through which a drive shaft 29 extends. The opposite ends of the drive shaft are journaled in bearings 30, formed integral with the bottom bar 21 of the frame. The drive shaft is provided with twin threads 31, running in opposite directions to provide a double action worm drive. One end of the shaft is reduced and keyed or otherwise fixedly secured to one side 32 of a clutch, the other side 33 of the clutch being keyed or otherwise fixedly secured to a stub shaft 34, the latter being journaled in a bearing sleeve 35. The part 32 of the clutch head is provided with a circular bore, while the outer periphery of the part 33 of the clutch is provided with a series of longitudinally extending recesses 36. Gravity pins 37 are mounted in the recesses 36 and when the parts of the clutch are in position, as shown in Figs. 10 and 11, the pins bear against the inner periphery of the part 32 of the clutch. It is apparent that when the stub shaft 34 is turned in one direction, motion is imparted to the drive shaft 29, whereas rotation of the stub shaft in the opposite direction will have no effect in the drive shaft. The stub shaft 34 is equipped with an annulus 38, which spaces the parts of the clutch from the bearing sleeve 35. In the present instance, I have shown the outer end of the stub shaft 34 to be bifurcated, as indicated at 39, adapted for engagement with a complemental fitting carried by a driving element which may extend to the moving part of a vehicle, be driven by a motor, or otherwise operated. Furthermore, I have shown the outer end of the bearing sleeve 35 to be enlarged and to be provided with internal screw threads 40 for engagement with a complemental fitting in a manifest manner. The bearing sleeve 35 is

mounted in the lower end of one of the end bars 22, while the enlarged end thereof is mounted in a complemental opening formed in one end of the casing 12.

As shown in Fig. 3 of the drawings, the bearing block 28 has a recess 41 formed therein, which communicates with the bore of the bearing through which the drive shaft 29 passes. The lower end of the recess is reduced and has a worm follower 42 mounted therein, the lower end of which latter is reduced to provide a pintle which rides in the threads of the drive shaft 29. The worm follower is held from displacement by a screw 43. It is consequently manifest that rotation of the drive shaft 29 correspondingly imparts movement to the carriage 26 to slide the latter along the rail.

The advertising members or cards 25 are arranged in two (2) batteries or packs in the opposite ends of the casing, one battery or pack of the cards being separated from the other by means of partition blocks 44, one of said blocks being engaged with the lower face of the top of the frame, while the other block is engaged with the top of the track 24. Each of the blocks 44 has a pair of catches 45 mounted therein, each catch having one end thereof pivoted in the block, while the opposite end is normally projected outwardly therefrom by a coil spring 46. The outer end of each catch is reduced to provide a shoulder 47 at the juncture of the catch body and the reduced terminal thereof, for impingement against the terminals of the cards 25. It will be noted, especially upon reference to Fig. 4 of the drawings, that the free ends of the catches 45 extend in opposite directions in order that the outermost catches will engage the cards at the right side of the frame and the innermost catches will engage the cards at the left side of the frame, to serve as abutments against which the cards are held by spring-pressed plungers 48. A pair of the plungers is mounted in one of the end bars 22, adjacent the outer face of the latter, while another pair is mounted in the opposite end bar 22, adjacent the rear face of the latter. The spring of each plunger may be tensioned by an adjustable plug 49.

In order to transfer the cards from one end of the frame to the other, the carriage 26 is equipped with advertising card embracing means. The means in the present instance is shown to consist of a spring-pressed pawl 50, carried by the outer wall of the carriage at one end of the latter, a similar pawl 51 carried by the inner wall of the carriage at the opposite end of the latter, and twin pawls 52 mounted in the carriage approximately midway the ends of the carriage and at opposite sides, the pawls extending in opposite directions. Upon reference to Fig. 2 of the drawings, it will be noted that when the carriage is moving from the left to the right end of the casing, the pawls 50 and 52 on the outside of the carriage are engaged with the left terminal of the card and with a recess 53, respectively. In this position the rear pawls 51 and 52 are held in an inoperative position by the pressure of the cards on the right end of the casing. Also it will be noted that during this cycle of operation, the outer catch 45 is in a depressed or inoperative position, due to the pressure of the card being transferred against said catch. Conversely, the inner catch 45 is in an expanded position, so as to be impinged by the inner end of the card on the bottom of the battery or pack at the left end of the casing, due to the action of the plungers 48 at the left side of the exhibitor, as shown in Fig. 2. As soon, however, as the card is completely transferred from the left to the right end of the casing, the plungers 48 at the right end of the casing, are depressed and the cards at the right end of the casing are urged rearwardly, permitting the catch 51 to impinge against the right end of the innermost card at the right end of the casing, and also permitting the pawl 52 to flex into the opening 53 in said innermost card at the right end of the casing. Continued rotation of the shaft 29 causes the said innermost card to be urged over toward the left end of the casing, during which cycle of operation the inner catches 45 are depressed until said card is completely moved to the left side, at which time the plungers 48 at the left end of the casing are depressed and the rear or innermost catches 45 are permitted to flex out into a normal position for impingement against the terminal of the card which has just been transferred to the left end of the casing. The cards at the left end of the casing are then urged outwardly toward the front of the casing in an obvious mannner and continued rotation of the shaft causes the front card at the left end of the casing to be transferred to the right end of the casing, in the manner already described. It is apparent that this transfer of cards from one end of the casing to the other is continuous, so long as the shaft 29 is rotated. It is of course, apparent that if the stub shaft 34 is operated in a counter-clockwise direction, no movement is imparted to the shaft 29.

In order to prevent the cards 25 from being projected beyond the front of the frame, fingers 54 are detachably mounted on the end bars 22 of the frame, at the bottom of the latter. It will be noted, especially upon reference to Fig. 2 of the drawings, that the inner faces of the fingers 54 are rounded to permit the cards 25 to slide freely thereover. A guard rail 55 is detachably and adjustably mounted on the top bar of the frame, said rail normally overhanging the upper margins of the cards when the latter are in position in the frame. The rail is secured to the

frame by screws 56, the latter being mounted in elongated openings 57 to permit the rail to be urged upwardly when it is desired to remove the advertising cards.

The guard rail 55 also serves as a supporting means for the illuminating agents 58, the latter in the present instance, consisting of small electric bulbs, which are lighted through the medium of wires 59. The wires 59 are countersunk in the top bar of the frame and are engaged with a conventional plug-in terminal 60, completely mounted within one of the end bars 22 of the frame.

In the present instance the advertising cards or plates consist of metal blanks, the lateral margins of which are rolled to reinforce the same, the advertisements being superimposed on said blanks. While I have found that this is a desirable form of carrying the advertising data, it is apparent of course, that various other modes of carrying and displaying the advertising may be employed.

It is of the essence of importance in the present invention, however, to construct the exhibitor mechanism as a unit which may be readily attached to and detached from the casing. It is also essential to provide a double action driving shaft, to permit continuous transfer of the cards from one end of the casing to the other by movement of the drive shaft in only one direction and being engaged by only a single bearing supported from the carriage and forming a part of the latter. It is of importance, also, in the present invention to provide a guard rail to augment retention of the cards in the frame, yet being movable in its entirety to permit the cards to be expeditiously removed. The guard rail also serves to conveniently support the lighting means in close proximity to the advertising cards and also retains the illuminating means in a readily accessible position, to permit the changing of bulbs, etc.

While I have described the device of my invention as being especially adapted for use in the exhibition of advertising medii for use in public service vehicles, or stationary exhibits, I am nevertheless aware that the device of the present invention may be also advantageously used for the exhibition of various other subject matter, within the scope of the claims hereto appended.

What is claimed is:—

1. In a device of the character described, a supporting frame equipped with a carriage, indicia bearing plates mounted in said frame and superimposed upon the carriage, the latter being movable from one extremity of the frame to the other to transfer only the cards mounted on the carriage, a drive shaft mounted on the frame, and a single bearing block supported by said carriage and engaged with said drive shaft, the co-acting faces of said block and shaft being complemental whereby movement of the carriage, from one end of the casing to the other and return, is effected during rotation to the drive shaft.

2. An advertising exhibitor including a frame equipped with advertising carrying members, means to move said members from one end of the frame to the other, means on the frame to prevent displacement of the advertising members, and illuminating agents mounted on said second-mentioned means.

3. An advertising exhibitor including a frame equipped with advertising carrying members, means to move said members from one end of the frame to the other, a guard rail detachably carried by the frame and overhanging said members to prevent displacement thereof while in use, and illuminating agents mounted on said detachable guard rail and removable with the latter.

4. An advertising exhibitor including a frame equipped with advertising cards, a platform engaged with the frame having recesses in the opposite sides thereof, a carriage slidably mounted on said platform and provided with recesses complementing the recesses of the platform to provide a channel diamond shaped in cross-section, roller bearings mounted in said channel, and means on the carriage and engageable with said cards to selectively move the latter in conjunction with the carriage.

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