

976,618.

Patented Nov. 22, 1910.

4 SHEETS—SHEET 1.

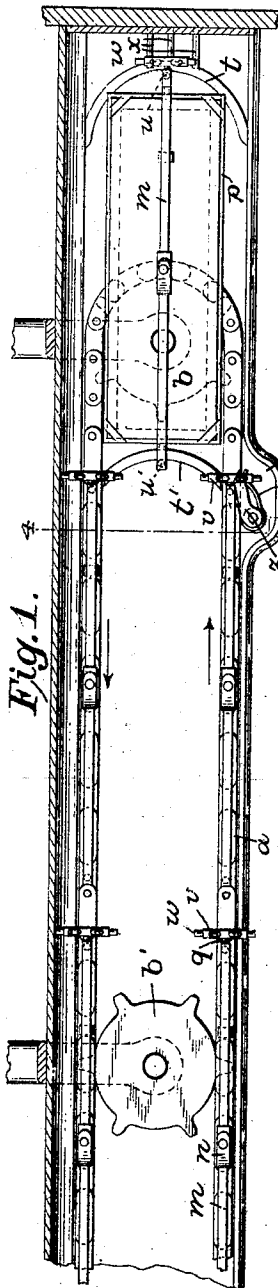


Fig. 1.

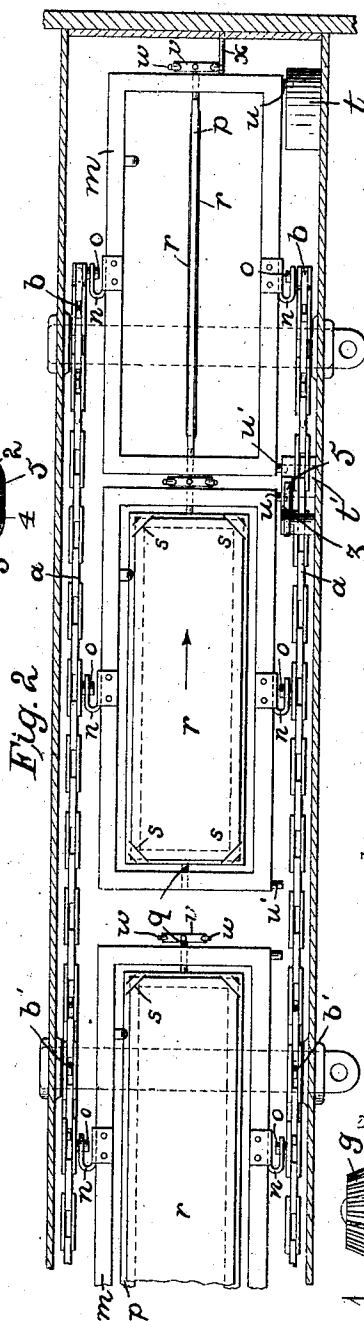


Fig. 2.

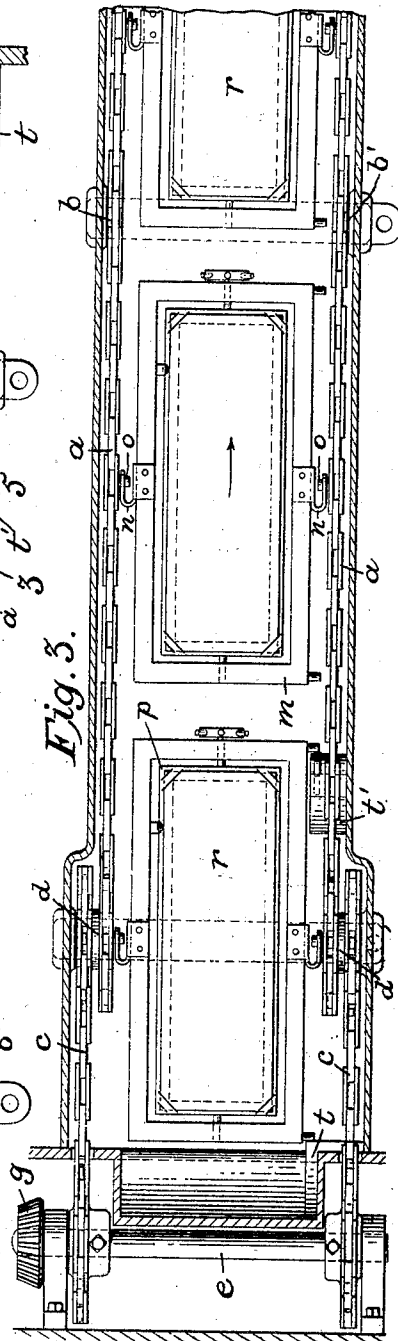


Fig. 3.

Attest:

Edw. L. Tolson.

Barth H. Stahl.

Inventor:

Melville S. Weilman,

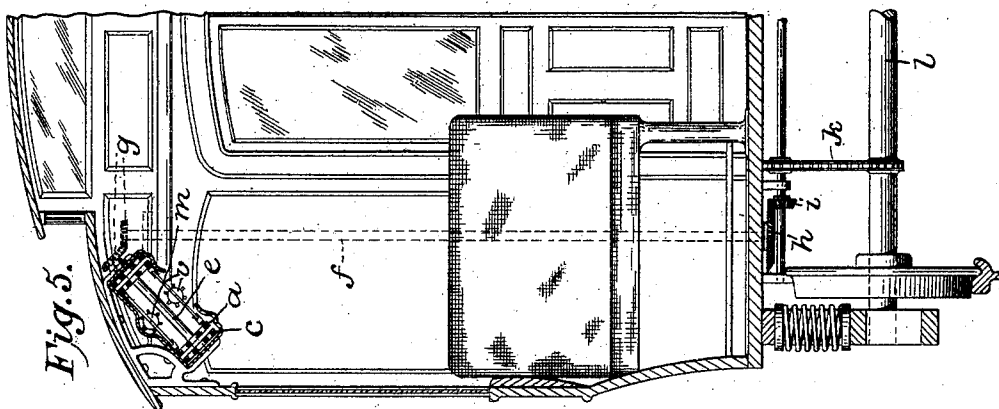
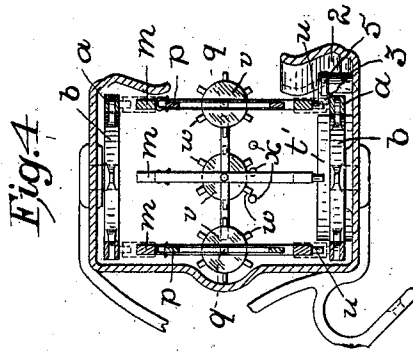
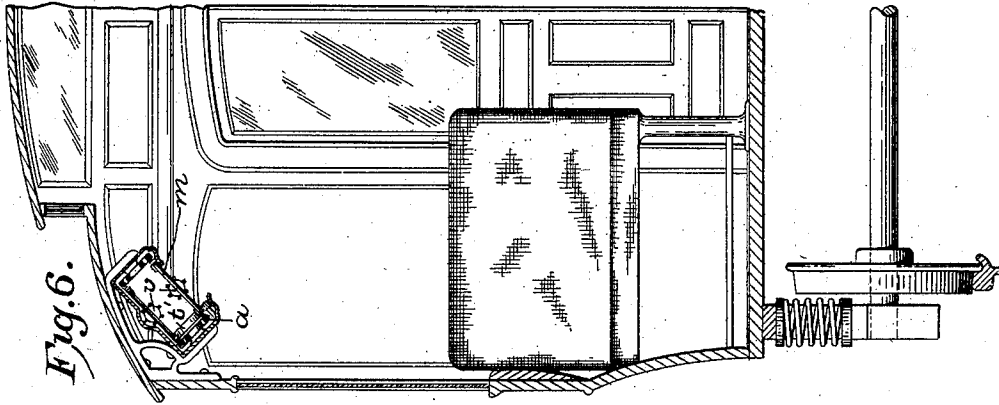
By Spear, Middleton, Richardson & Spear
attys.

M. S. WEILMAN.
ADVERTISING DEVICE.
APPLICATION FILED AUG. 18, 1909.

976,618.

Patented Nov. 22, 1910.

4 SHEETS—SHEET 2.



Attest:

Edw. A. Tolson.

Inventor:

Melville S. Weilman,

By *Bent M. Stahl*, *Spear, Muddleton, Donaldson & Spear*
Attys.

M. S. WEILMAN.
ADVERTISING DEVICE.
APPLICATION FILED AUG. 18, 1909.

976,618.

Patented Nov. 22, 1910.

4 SHEETS-SHEET 3.

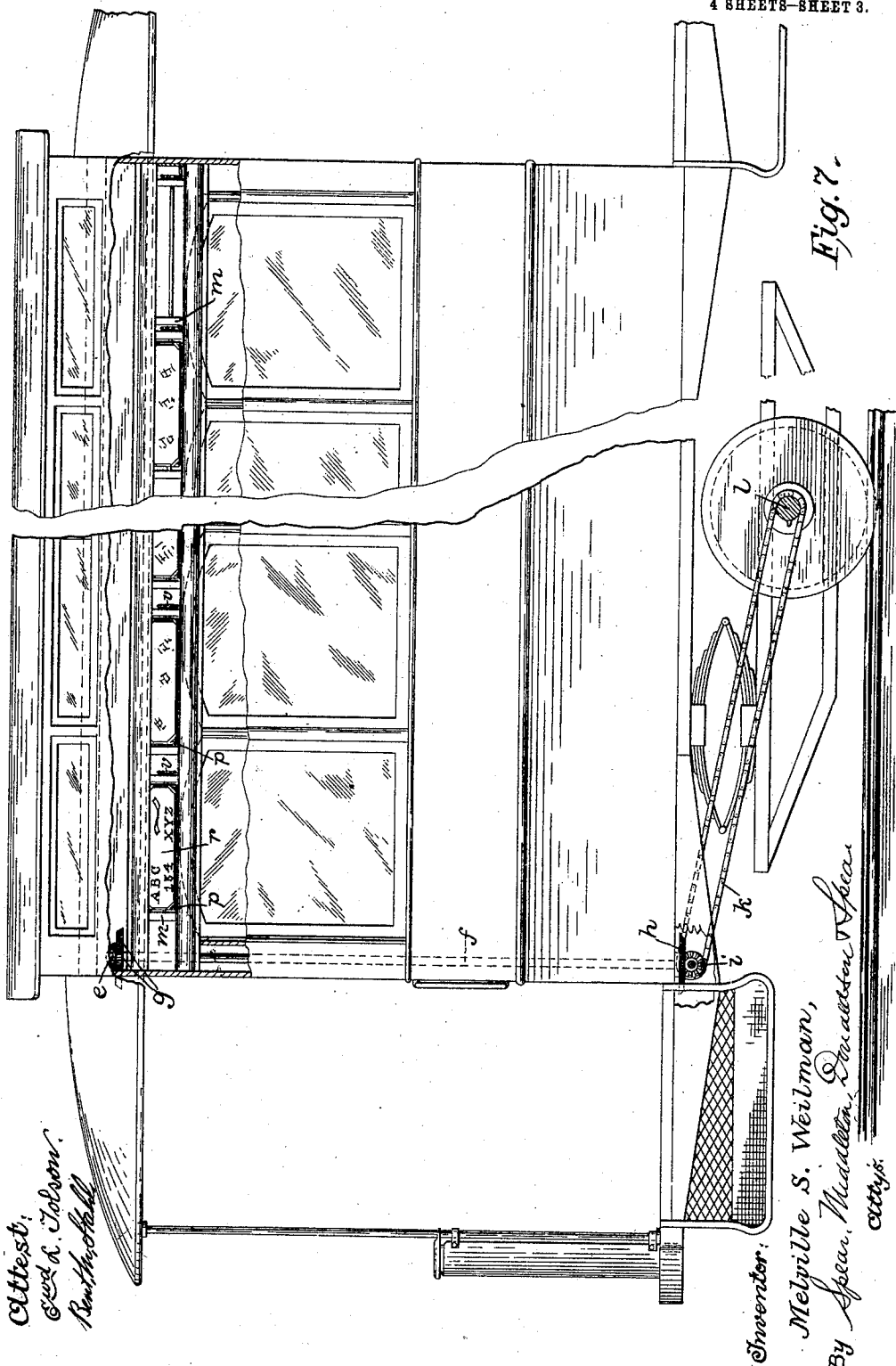


Fig. 7.

Attest:
Edw. A. Tolson,
Rm. 4000

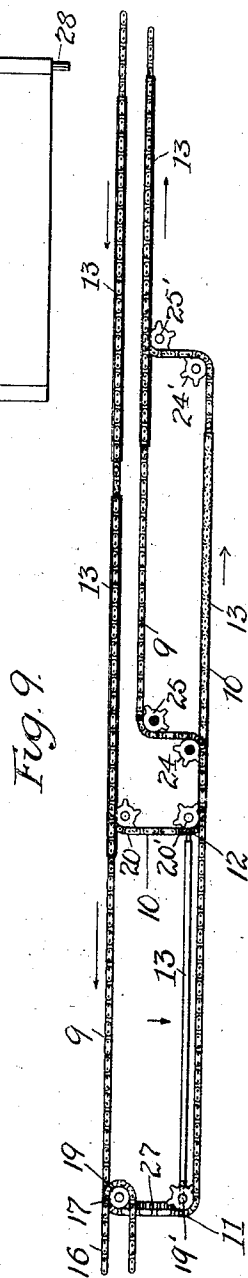
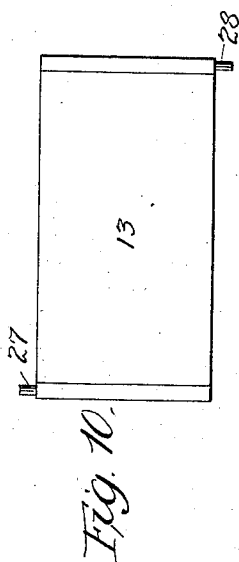
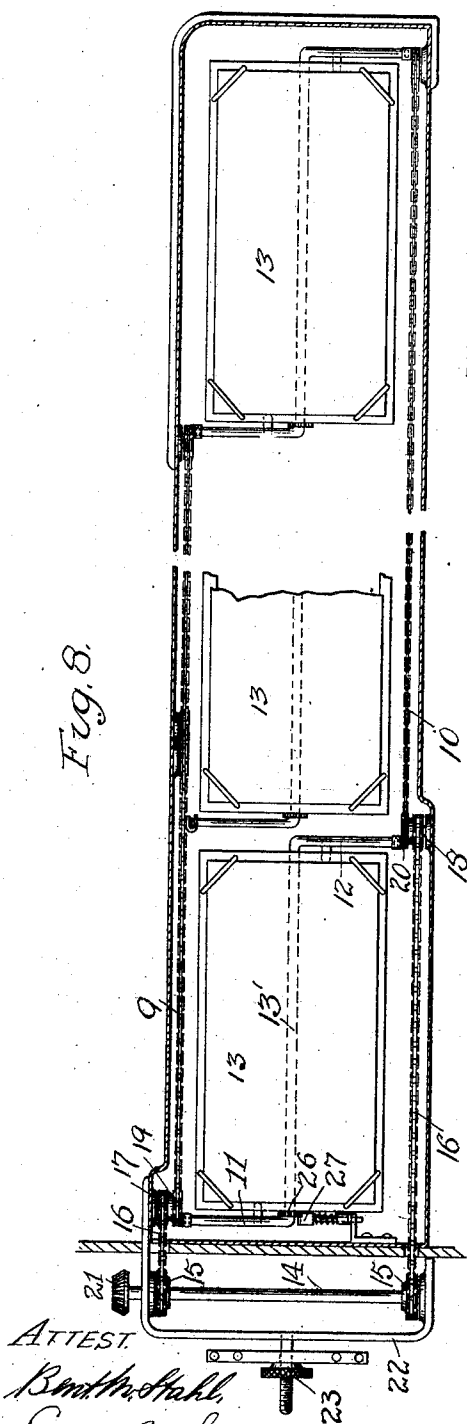
Inventor:
Melville S. Weilman,
By Spear, Muddiman, Davenport & Spear,
Attys.

976,618.

M. S. WEILMAN.
ADVERTISING DEVICE.
APPLICATION FILED AUG. 18, 1909.

Patented Nov. 22, 1910.

4 SHEETS—SHEET 4.



INVENTOR.
MELVILLE S. WEILMAN.
BY Spear, Middleton & Donaldson & Spear
ATTYS.

UNITED STATES PATENT OFFICE.

MELVILLE S. WEILMAN, OF CINCINNATI, OHIO.

ADVERTISING DEVICE.

976,618.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed August 18, 1909. Serial No. 513,478.

To all whom it may concern:

Be it known that I, MELVILLE S. WEILMAN, citizen of the United States, residing at Cincinnati, Ohio, have invented certain new and useful Improvements in Advertising Devices, of which the following is a specification.

My invention relates to an advertising device for railway cars, and other situations and is designed to provide means for displaying advertising cards in motion, the cards being carried by an endless carrier actuated through the mechanism of the car, or through an electric motor, as may be found most convenient.

It is my aim not only to provide a movable support for the advertising cards, but to utilize the two surfaces of the card containing the advertising symbols, and to have these cards reversed in position at intervals, so as to display first the advertisement on one side and then on the other. I also provide for the convenient removal of the advertising cards and their replacement by others, so that the cards can be changed very readily.

In the accompanying drawings, Figure 1 is a plan view of a part of the conveyer, some of the parts being in section, with the top chain and sprocket wheel removed, and showing one of the sign carriers in the position of being shifted from the front to the rear at the end of the car; Fig. 2 is a front elevation showing the conveyer and the sign carriers, with the casing in section; Fig. 3 is a view similar to Fig. 2, but taken at the opposite end of the car to show a part of the driving means; Fig. 4 is a transverse section on line 4—4 of Fig. 1, looking toward the front of the car; Fig. 5 is a section of half of a car body taken near the end where the driving means are located; Fig. 6 is a view similar to Fig. 5 taken at the opposite end of the car where the turning of the sign takes place; Fig. 7 is a side elevation of a car partly broken away, showing the driving mechanism. Figs. 8, 9 and 10 are views of another form of my invention.

In carrying out my invention, I may locate the endless carrier at any convenient point in the car, but prefer to arrange it, as shown in Figs. 5 and 6, at an angle in the corner formed by the junction of the side wall and roof of the car. I provide endless chains *a* supported by sprocket wheels *b*, which may include one or more idlers *b'*.

These chains are driven in any suitable manner from the mechanism of the car or by an electric motor, as preferred, but, as I have shown in Figs. 3, 5 and 7, I utilize, as one form of driving mechanism, chains *c* driving the carrier chains through suitable connecting shafts *d*, these chains being driven through a shaft *e*, which, in turn, is driven from the axle through a vertical shaft *f*, and pinions *g* and suitable gearing between the shaft *f* and the axle including gears *h* and *i*, and a chain *k* leading to the axle *l*. I use, as a conveyer for the signs, an upper and lower chain, as shown, and I pivot to these chains sign carriers *m* which are provided with a metal clip *n* centrally arranged at top and bottom of the frame, and engaging the pivot pins *o* on the chain. These sign carriers pivotally support frames *p* which are adapted to swing in a horizontal plane through pivots *q* passing through the ends of the carriers *m*, and these frames *p* are adapted to support the card carrying the advertising matter, the card being shown at *r*. This card is slipped into place and held by its corners, as shown at *s*, Fig. 2, and may be readily removed so as to be replaced by another card bearing another or a different advertisement. The frame *p* carries two advertising cards, one at the front and one at the back, or, if desired, a single card may be used printed on its two faces. The chains are given preferably continuous motion through the mechanism described, and as the chains approach the front of the car, or the right hand end, as shown in the drawings, provision is made to have the sign carrier pass to the rear, and, at the same time, turn the sign frame to bring the opposite face into view. This is accomplished by providing two cam tracks *t*, *t'*, which are of the shape shown in Figs. 1 and 2. The carrier *m* is provided, on its bottom edge, at the extreme ends, with pins *u*, *u'*, and as the chain moves forward, the pin *u* comes in contact with the track *t*, while the pin *u'* contacts with the track *t'*, and, by reason of the pivoted connection of the carrier with the endless chain, the carrier is simply moved laterally, as shown in Fig. 1, to the rear, and passes back toward the rear of the car in the continued movement of the chains at the rear of the recess occupied by the conveyer. The display card carrying the advertisement is shifted or turned just as the carrier reaches a central

position between the front and rear of the casing. This is accomplished by a wheel or disk *v* provided with a series of knobs or projections on its periphery *w*, and these knobs, in the lateral movement of the carrier, come in contact with pins *x* projecting from the frame, having the effect to turn over the sign frame, giving the frame a half turn, and bringing to view the opposite face of the sign. Thus as the chain passes along the front of the car on every alternate movement, the opposite face of the card is displayed. It is necessary, in the movement of the chain, to permit the front end of the sign carrier to pass through, as shown in Figs. 1 and 2, to engage the cam track *t*, but it is also necessary that there should be guiding means to direct the pin *u'* to the cam track *t'*, and I arrange for this by making a recess in the front of the casing, as shown at 2, Fig. 1, and in this casing pivot a switch arm 3, which forms an extension or continuation of the cam track *t'*. This switch arm 3 is spring pressed, as at 5, and while it will direct the pin *u'* onto the track *t'*, it will not interfere with the passing through of the pin *u*, for the reason that the chain is being positively moved, and the pin *u* will pass through the switch, pressing it back and passing through to contact with the cam track *t*, at which time the pin *u'* is being directed to the cam track *t'*, and thus the two ends of the carrier move laterally simultaneously. The proximity of the sign carriers to the wall of the casing, both at the front and back, will prevent undue oscillation or movement. Other means may be employed to keep the cards from tilting. It will thus be seen that I provide a very simple construction readily applied and actuated with a slight expenditure of power. I change the signs by a partial rotation of the frames at every complete revolution of the conveyer chains, and the advertising signs may be removed and replaced by others without the slightest difficulty.

Instead of the form above described, I prefer the arrangement illustrated in Figs. 8 and 9, my object here being to provide a simple construction whereby the cards 13 may be moved along the car without interfering with each other and will be held in a simple manner at their forward and rear ends, requiring no special directing or controlling devices at the ends of the travel of the cards to hold them in proper position while the direction of their movement is being changed. The cards are held by suitable frames; at their ends they are connected with upper and lower chains 9 and 10. These chains while being in the same plane with each other, that is, in the plane of the cards, are not co-extensive but chain 9 extends toward the left in Fig. 8 beyond the

end of the chain 10 and this lower chain extends to the right beyond the end of the upper chain. Suitable connection is made between one end of each card and the lower chain 10 and similar connections are made between the opposite ends of the said cards and the upper chain 9. These connections may consist of the upper and lower extensions 11 and 12 of the center rod 13'. These extensions connect with the links of the chain, the upper chain and the connections 11 controlling the movements of the front edge of the cards in moving one way and the connections 12 and the lower chain supporting and controlling the movement of the other edge of the card. These chains pass around suitable toothed wheels and while the forward edge of the card, or rather its connection with the chain is passing around the upper sprocket, the other connection is passing around the lower sprocket and both ends of the card are thus held and properly controlled so that parallelism of the card with the side of the car is constantly maintained both in the traverse of the card from one end to the other, and when it changes its direction at the end of its movement. The chains are driven from a shaft 14 supported in suitable brackets having sprocket wheels 15 thereon connected by chains 16 to the upper and lower sprockets 17 and 18 which are connected with the toothed wheels 19 and 20 about which the upper and lower chains 9 and 10 pass. The shaft 14 may be driven in any suitable manner, as for instance by the gear 21. The bracket 22 may be adjusted by any suitable device as at 23. I may prefer to turn the cards to expose their different faces and this turning movement may be accomplished at the end of the longitudinal travel of the cards. For this purpose the upper chain may be passed as shown in Fig. 9 about a second toothed wheel 19' and thence about the toothed wheels 24 and 25 and the lower chain after passing around the toothed wheel 20 may be passed about a toothed wheel 20' and thence about toothed wheels 24' and 25'. By this arrangement when the card arrives at the end of its longitudinal travel it will be moved outwardly from the side of the car toward the interior thereof a sufficient distance to allow the card to be given a half revolution, and for giving this rotary movement a toothed wheel or pins may be arranged on the card at 26 to engage teeth or pins on a bar 27 extending transversely in respect to the chains at the end of the travel of the cards so that as the cards are moving from the wheel 19 to the wheel 19' they will be given a turning movement to expose their opposite face. By the arrangement of the chains (upper and lower) as just described, the parallelism of the card will be maintained. I do not limit myself to the mecha-

nism for securing this rotary movement of the card, nor do I limit myself to having the card rotated as the upper and lower chains may be employed without deflecting them transversely of the card and the cards may be given their traveling movement without turning, if desired.

Instead of employing connections such as shown at 11 and 12 between the cards and the chains, I may as shown in Fig. 10, employ cards having upper and lower projections at their diagonal opposite points to connect with the upper and lower chains, these projections being indicated at 27 and 28.

I do not limit myself to the details of construction herein shown and described except as set forth in the appended claims, as the broad spirit of my invention may be embodied in other ways than that shown.

What I claim is:—

1. In an advertising device for street cars and the like, a horizontally movable conveyor, and a series of frames pivotally supported by the conveyor at their forward and rear ends to be reversed about horizontal axes and means for reversing the frames.

2. In combination with a series of cards, supporting and propelling means for giving them a back and forth movement along a car, said cards being pivotally mounted on axes extending longitudinally of the propelling means and means for turning the cards at one end of their traveling movement.

3. In combination with an endless longitudinal conveyor, a series of cards connected therewith and having lateral movement at opposite ends of their travel and mounted to turn during such lateral movement on an axis parallel with the longitudinal line of movement of the conveyor, and means for turning the cards during their lateral movement at one end to present their opposite faces to view, substantially as described.

4. In an advertising device, a series of cards mounted to turn, an upper longitudinally traveling controlling device for one end of the cards having connections thereto and a longitudinally traveling controlling device for the other end of each card having connection thereto, said controlling devices projecting beyond each other at opposite ends of the travel of the cards and arranged to maintain the parallelism of the cards axially with the longitudinal direction of

traveling movement of the controlling devices in both their forward and return traveling movement and at the ends of their traveling movement and turning means for the cards at the end of their travel in one direction.

5. In combination a series of cards mounted to turn, a propelling chain to which one end of each card is connected, and controlling means having connection with the opposite end of each card, said propelling chain and controlling means projecting in respect to each other at the ends of the travel of the cards and adapted to hold the cards in axial parallelism at all times and turning means for the cards at the end of their travel in one direction.

6. In combination in an advertising device for street cars a series of cards mounted to turn about horizontal axes, means for moving the cards along the car wall and for giving the cards a bodily movement in a direction transversely of the car at the end of their travel while maintaining their parallelism axially with the longitudinal direction of traveling movement of the moving means, and means for turning the cards in said transverse movement at one end of their travel.

7. In combination a series of cards mounted to turn, a controlling means consisting of a longitudinal endless carrier to which one end of each card is connected, and controlling means having connection with the opposite end of each card, said endless carrier and controlling means projecting in respect to each other at the ends of travel of the cards, and holding the cards in parallelism axially with the longitudinal direction of movement of the endless carrier, said endless carrier and controlling means at one end of the travel of the cards having straight portions directed transversely of the line of travel of the cards whereby the cards will move bodily transversely while maintaining their axial parallelism with their general line of travel, and means for turning the cards in said transverse movement, substantially as described.

In testimony whereof I affix my signature in presence of witnesses.

MELVILLE S. WEILMAN.

Witnesses:

EDWARD J. FISHER,
ELLEN A. BYRNE,
EDNA FORTNEY.