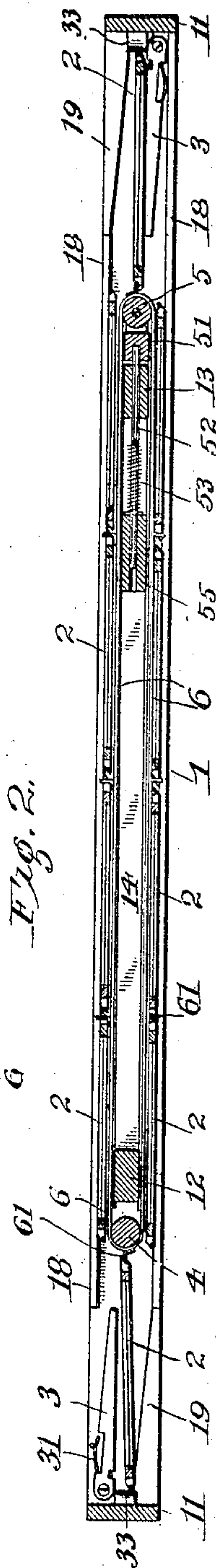
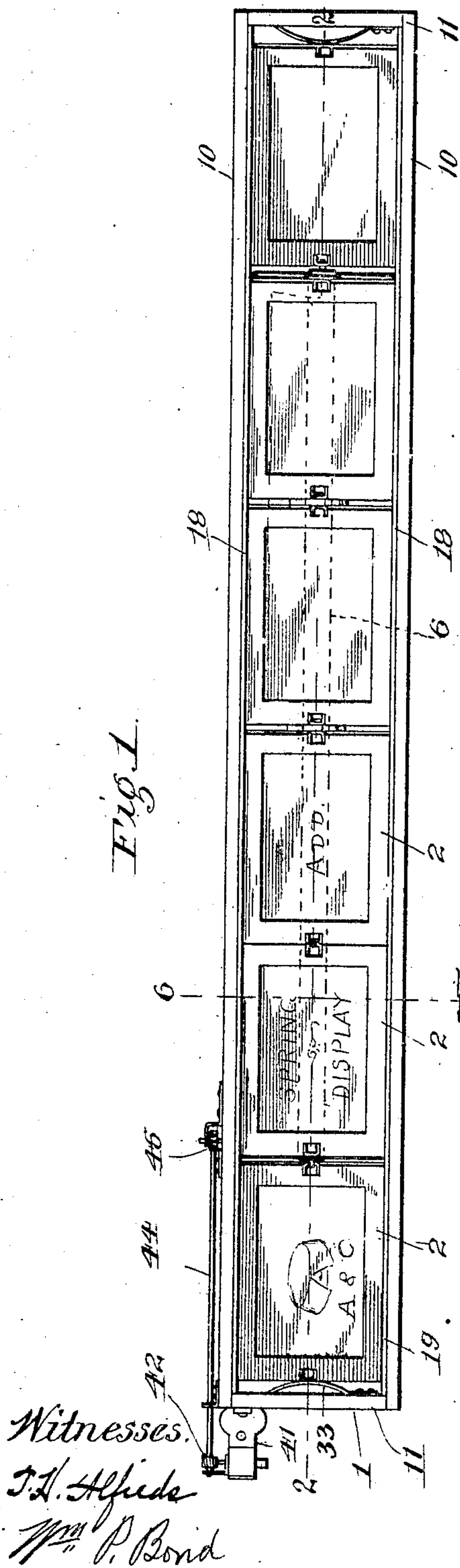


No. 849,493.

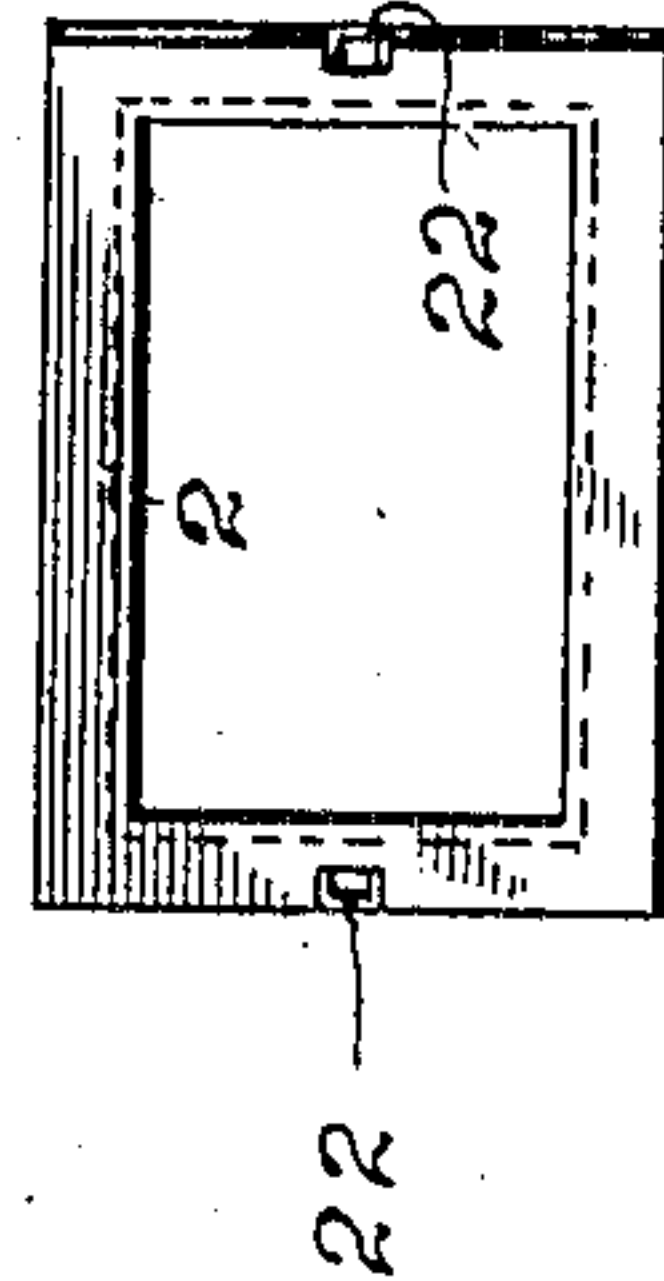
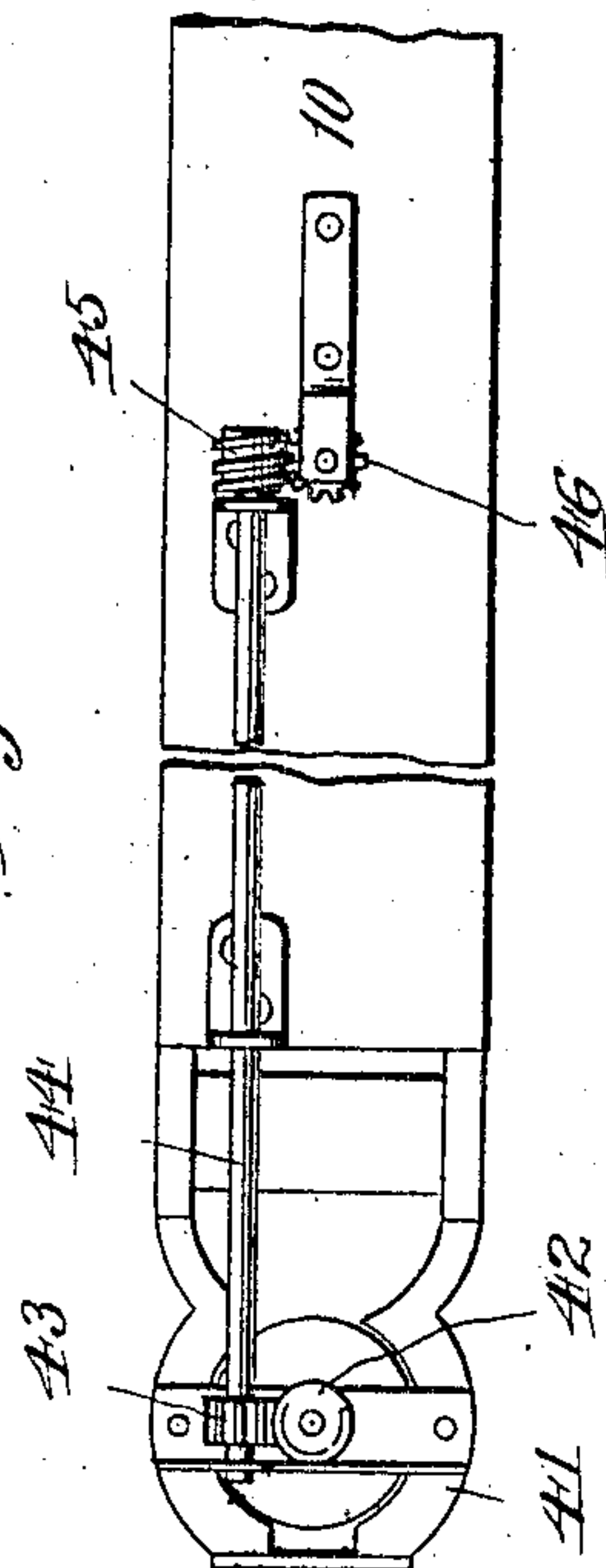
PATENTED APR. 9, 1907.

C. M. O'BRIEN.  
ADVERTISING DEVICE.  
APPLICATION FILED APR. 16, 1906.

2 SHEETS—SHEET 1.



*Fig. 3.*



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Att'y.





# UNITED STATES PATENT OFFICE.

CHARLES M. O'BRIEN, OF CHICAGO, ILLINOIS.

## ADVERTISING DEVICE.

No. 849,493.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed April 16, 1906. Serial No. 311,861.

*To all whom it may concern:*

Be it known that I, CHARLES M. O'BRIEN, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Advertising Devices, of which the following is a full, clear, and exact description.

My invention relates to certain new and useful improvements in advertising devices, and more particularly to improvements in advertising devices wherein a plurality of advertising-signs are contained only part of which are exposed to view at one time, but all of which are propelled onward by an endless conveyer, so as to be brought into view during a portion of their passage through the device.

The object of my invention is to produce an improved advertising device of this class by cheapening the cost thereof, by simplifying the construction, and by improving its effectiveness in other ways.

Another object is to provide means whereby the signs may be readily detached from the conveyer.

To such end the invention consists in certain novel features of construction, a description of which will be found in the following specification and the essential features thereof of more definitely pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a front view of an advertising device embodying my invention. Fig. 2 is a horizontal section taken in the line 2 2 of Fig. 1. Fig. 3 is a fragmental plan view illustrating certain gearing. Fig. 4 is a front view of one of the sign-frames. Fig. 5 is a front view of the main frame with the endless conveyer, the sign-frames, and certain other parts removed. Fig. 6 is a detail vertical cross-section taken in the line 6 6 of Fig. 1. Fig. 7 is a detail horizontal section illustrating the connection between the conveyer and the sign-frames. Figs. 8 and 9 are similar views illustrating the manner of shifting the signs from front to back, or vice versa; and Fig. 10 is a fragmental perspective view of the endless conveyer.

In these views, 1 is a rectangular supporting-frame comprising upper and lower longitudinal members 10 and end members 11, all of which are connected together to form a strong and substantial frame. These members 10 and 11 are made quite narrow, inasmuch as it is the intention to put these de-

vices in places where no great depth of frame is permissible, although their use is in no way limited to conditions of this kind. Within this frame are supported two struts 12 13, whose width is considerably less than that of the members 10 11, and said struts are connected by a longitudinally-extending bar 14, which serves to support the conveyer-guides, besides acting as a brace and stiffening member for the frame 1. Guide-strips 15 are secured to the sides of the struts 12 13 and bar 14 and extend to points slightly beyond the struts, as clearly seen in Fig. 5. Below and in front of the guide-strips 15 are strips 16, which, together with the guide-strips 15, form guides for the endless conveyer.

The signs are made up of sign-plates 21, supported in sign-frames 2, the latter being preferably rectangular in form and provided on each end with a connecting device 22, which is preferably in the form of a yoke or staple, as shown. The ends of the frame are beveled off, as shown, the purpose of which will appear later on in the course of this specification. The upper and lower edges of the sign-frames are guided in guideways which are provided upon the inner faces of the longitudinal members 10 of the frame 1. Said guideways are formed by central strips 17, secured to the longitudinal members of the frame 1 and extending between the struts 12 13, and strips 18, secured to the longitudinal members outside of the central strips, the space between the strips 17 and 18 being wide enough to receive the sign-frames 2. These guideways extend through the greater portion of the length of the frame 1 and at each end merge into a single guideway in which the signs can be shifted from one main guideway to the other. One of these guideways is at the front of the frame 1 and the other at the rear thereof, and the ones on the lower member 10 are duplicated upon the upper member 10. As shown in Fig. 2, one end of each strip 18 is continued to the end of the frame by a tapered strip 19, which deflects the course of the signs beyond the endless conveyer. Opposite each strip 19 is an arm 3, pivoted to the frame and pressed toward the center thereof by a spring 31, a stop 32 being provided to limit such movement in one direction. Springs 33 are secured upon the end portions 11 of the frame and are engaged by the signs as they are shifted from one guideway to another. The springs 33 and spring-arms 3 yieldingly hold the signs



in engagement with the conveyer as they are being shifted from one main guideway to the other.

A roller 4, journaled in the frame 1, and a roller 5, journaled in a longitudinally-movable head 51, carry the endless belt 6, and the roller 4 is rotated by a motor 41, which may be of any of the well-known forms capable of advancing the signs through the device. Gearing is interposed between the motor and the roller 4, and, as shown, said gearing consists of a worm 42, upon the motor-shaft, a gear 43 in mesh with said worm and fast upon a shaft 44, a worm 45 upon the opposite end of said shaft, and a gear 46, fast upon the shaft of the roller 4.

The roller 5 is spring-pressed and adjustable longitudinally of the frame, whereby any slack in the endless conveyer may be taken up and the latter kept taut. As shown, the head 51, which carries the roller 5, is mounted upon two rods 52, which pass through and are guided in the strut 13 and are encircled by springs 53, which abut against stops 54 upon the rods, and blocks 55, slidably connected to the bar 14. The blocks 55 have secured to them slotted plates 56, through the slots of which extend screws 57. By loosening the screws the blocks 55 may be adjusted along the bar 14 to regulate the amount of tension of the springs 53.

The endless conveyer 6 is shown in the form of a belt, although this construction is not material to my invention, broadly speaking, and said belt carries a number of laterally-projecting pins 61, which engage with and draw the signs along the guideways. The length of these pins is such that when a pin passes around either one of the rollers it will be withdrawn from engagement with the sign-frame and the latter wholly disconnected therefrom. This permits the pin to continue its course around the roller. Upon becoming detached from the sign-frame to which it was connected it immediately engages the adjacent frame—that is, the one in advance of the frame from which it was detached—and propels the new frame to the opposite end of the device.

In the operation of my device the advertising cards or signs are secured in the sign-frames and the latter placed in the guideways of the device and hooked upon the pins of the endless conveyer. As shown in Fig. 2, one end of the rear guide-strips 18 is cut away, so that the sign-frames may be slid into the device through the opening thus formed. Should it become necessary to remove or replace any one of the signs, it may be detached from the pin on the conveyer while it is at the shifting-point and then be slid along after the one preceding it until the rear end thereof passes the arm 3, whereupon it may be slid out through the opening and another frame substituted for the one re-

moved. If now the motor be started, the roller 4 will be rotated, the endless conveyer advanced, and the signs propelled through their circuit through the device. The pins 61 remain in engagement with the yokes 22 of the sign-frames during their passage through the straight portions of the guideways, and as each pin begins its movement around either roller it is gradually withdrawn from the yoke until the sign-frame is wholly disconnected therefrom and left standing in the guideway. This is only for an instant, however, as the pin which follows the one that has been detached from its sign and which is propelling the sign-frame following the one left standing strikes the yoke on the other end of the frame and pushes it beyond the roller and into the space between the strip 19 and arm 3. At this point the two guideways are merged into one, so that the signs may be shifted from one main guideway to the other. Each pin, therefore, pulls or propels its frame from roller to roller when it lets go, and the following pin pushes the sign beyond the roller and into that portion of the guiding-circuit where the two main guideways are united. When a sign reaches the position where it is to be shifted from one side of the conveyer to the other, the end nearest the conveyer slides toward the roller on account of the beveled edges of the sign-frames, which brings the yoke into a position insuring the engagement of the pin with the yoke. The pin upon being withdrawn from its yoke still remains in engagement with the frame in advance of it, and then the further movement of the pin draws this sign out of the path of the one following it and carries it around with the pin, the spring 33 and spring-arm 3 holding it against the conveyer, so that the pin will eventually enter the yoke and draw the frame into the rear guideway. The sign is then drawn through the rear guideway to the other roller, where it is again shifted to the front guideway and its course continued as before. The signs are thus propelled through the two main guideways and shifted from the front one to the rear one and back again without reversing the signs, and the use of a very thin supporting-frame is thus made possible. If desired, the advertisements may be placed upon both sides of the sign-frames, and in this way the capacity of the device will be doubled and the advertisements made visible from both sides of the device. However, if but one side of the signs are to be used, the back of the device may be covered up, if desired, and the front inclosed by a glass plate; but these features form no part of my invention.

I realize that various alterations and modifications of the parts are possible, and I do not, therefore, desire to limit myself to their exact construction shown and described ex-



cept so far as required on the scope of the following claims.

I claim as new and desire to secure by Letters Patent—

1. In an advertising device, the combination with a suitably-operated endless conveyer, of a plurality of signs guided to move in a circuit around the endless conveyer, and connecting devices between the conveyer and signs each of which is constructed and arranged to become detached from the sign to which it is connected, and to pick up the sign in advance thereof at the turning-points of the conveyer.

2. In an advertising device, the combination with a plurality of slidably-supported signs, of an endless conveyer constructed and arranged to propel said signs through a circuit, part of which is behind the other and parts of which extend beyond the conveyer, said conveyer having means for engagement with the signs, which means are automatically disengaged from the signs when the latter reach that part of the circuit which extends beyond the conveyer.

3. In an advertising device, the combination with a plurality of signs, of an endless conveyer arranged to propel said signs through a circuit, part of which extends behind the other and parts of which extend beyond the conveyer, sign-engagement devices upon the conveyer each of which is adapted to be withdrawn from the sign with which it is in engagement and to be brought into engagement with the sign in advance thereof to shift the latter sign from one part of the circuit to the other.

4. In an advertising device, the combination with a plurality of slidably-supported signs, of rollers, an endless conveyer carried by said rollers, a guideway on either side of the conveyer each of which guideways merge into a single guideway beyond the conveyer and devices upon the conveyer arranged to propel said signs through the circuit formed by the guideways without reversing the signs, each connecting device being arranged to let go of its sign and pick up the one in advance thereof while passing around the rollers.

5. In an advertising device, the combination with a plurality of signs and a guiding-circuit therefor, one part of which is in back of the other part, of a suitably-operated endless conveyer adapted to propel the signs through the circuit, means of connection between the conveyer and signs, each of which is arranged to become detached from its sign at the point where the sign is shifted from one guideway to the other and to engage with the sign in advance thereof.

6. In an advertising device, the combination with a plurality of signs, a guiding-circuit therefor containing two straight portions one of which is behind the other, of a

suitably-operated endless conveyer, sign-engaging devices upon the conveyer, which are adapted to engage with the signs to propel them through the straight portions of the guiding-circuit and each of which is adapted to be detached from the sign which it propels through the straight portions of the guiding-circuit, and to be brought into engagement with the sign in advance thereof at the points where the signs are shifted.

7. In an advertising device, the combination with a suitably-operated endless conveyer, of a guiding-circuit surrounding said conveyer, a plurality of signs slidably mounted in said circuit, pins upon the conveyer detachably connected with the signs, and arranged to become detached from one sign and connected to the preceding sign at the ends of the circuit.

8. In an advertising device, the combination with a suitably-operated endless conveyer, of a guideway surrounding the conveyer, a plurality of signs, detachable connections between the conveyer and signs constructed and arranged to release each sign from the conveyer at the extremities of the guideway and to engage the preceding sign, and a tension device for the conveyer.

9. In an advertising device, the combination with a suitably-operated endless conveyer, of a guiding-circuit extending around said conveyer, the extremities of which extend beyond the conveyer, signs sliding in the guiding-circuit, detachable connections between the conveyer and signs constructed and arranged to release each sign from the conveyer at the extremities of the guideway and to engage the preceding sign, and springs in the extremities of the guideways adapted to yieldingly hold the signs in engagement with the conveyer while the signs are being shifted.

10. In an advertising device, the combination with a suitably-operated endless conveyer having laterally-projecting pins, of front and rear guideways which merge into single guideways beyond the conveyer, signs having means of engagement with the pins, said pins being adapted to draw the signs through the front and rear guideways and each pin being arranged to be withdrawn from its sign and brought into engagement with the sign in advance thereof in shifting the sign from front to back, or vice versa, and springs in the guideways adapted to yieldingly hold the signs in engagement with the conveyer while said signs are being shifted.

11. In an advertising device, the combination with a plurality of signs, of a guiding-circuit therefor constructed and arranged to guide said signs against reversal, one part of said circuit being in back of the other part, a suitably-operated conveyer constructed and arranged to propel said signs through said



circuit and constructed and arranged to release each sign and engage the one in advance thereof in shifting the signs from front to back or vice versa.

5 12. In an advertising device, the combination with a plurality of suitably-guided and supported signs, arranged in a closed circuit, of a suitably-operated endless conveyer arranged to move in a circuit within the circuit  
10 of the signs and between the upper and lower

edges thereof, and detachable connections between the signs and conveyer whereby the conveyer may impart a reciprocatory movement to the signs in the guiding-circuit without reversal of the signs.

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