

A. N. JOHNSON.  
MOVING SIGN.  
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1,018,975.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

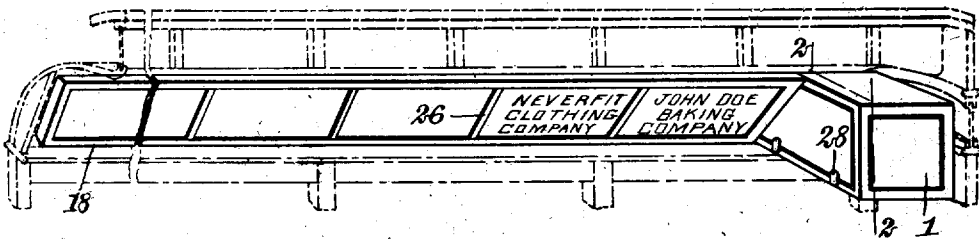


Fig. 5.

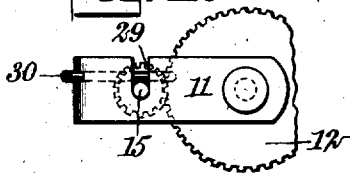
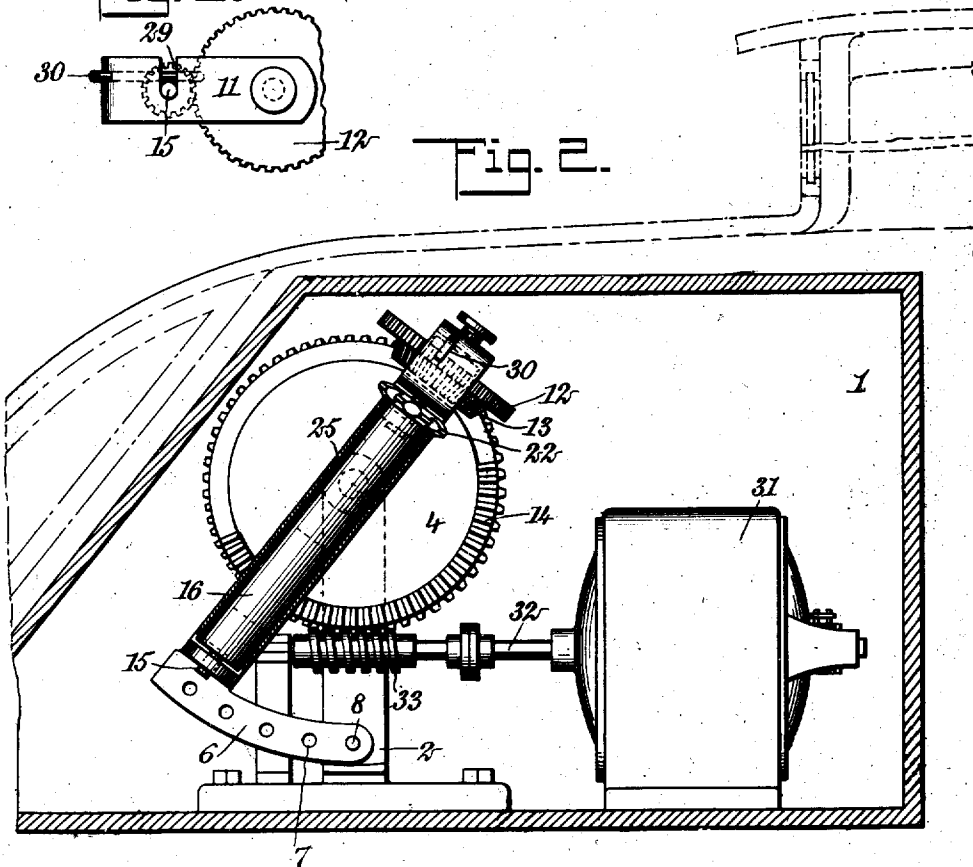


Fig. 2.



WITNESSES

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## MOVING SIGN.

1,018,975.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed March 30, 1909. Serial No. 486,712.

### *To all whom it may concern:*

Be it known that I, ARCHIE N. JOHNSON, a citizen of the United States, and a resident of Kansas City, in the county of Jackson and State of Missouri, have invented a new and Improved Moving Sign, of which the following is a full, clear, and exact description.

This invention relates to advertising devices or signs such as used in public places.

More particularly, the invention relates to an advertising device to be used in street cars, and the object of the invention is to provide an arrangement whereby a number of advertising cards may be displayed on an endless web. These cards are advanced intermittently so that they move progressively along a frame. In this way the cards are made to have periods of rest in successive frames. After a complete cycle all of the advertising cards on the web will have been presented to view.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective of the device partly broken away and illustrating by dotted lines the manner in which it is mounted in the street cars; Fig. 2 is a vertical cross section through the device taken substantially on the line 2—2 of Fig. 1, and illustrating particularly the driving mechanism and the arrangement for adjusting the position of the advertising frame; Fig. 3 is a front elevation of the advertising device, a portion of the mechanism being broken away and shown in cross section on the line 3—3 of Fig. 4, this view further illustrating the driving mechanism; Fig. 4 is a vertical section on the line 4—4 of Fig. 3 and further illustrating the driving mechanism; and Fig. 5 is a detail showing a portion of the mechanism in plan and illustrating especially the means for holding one of the rollers in position.

Referring more particularly to the parts, 1 represents the case of the machine, which is adapted to be mounted in the upper part of a car and near one end thereof, as indi-

cated in Fig. 1. As shown in Figs. 2 to 4, within this case there is provided a bracket 2 having a horizontal pivot pin 3, upon which a worm wheel 4 is rotatably mounted. The pin 3 projects beyond the worm wheel 4, and the projecting end is provided with an adjusting bracket 5 mounted loosely thereupon, as shown. This adjusting bracket 5 has an arm which extends downwardly and presents a laterally projecting quadrant 6. This quadrant is provided with adjusting openings 7 which enable the adjusting frame to be held in any desired position by means of a removable pin 8, mounted in the lower part of the bracket 2, as shown in Figs. 3 and 4. The lower part of the adjusting bracket 5 is provided with a horizontally projecting arm 9. The upper end of the adjusting bracket 5 is provided with a horizontally projecting arm 10 which is substantially parallel with the arm 9, and this arm is doubled back upon itself so as to form an outer arm 11 parallel with the arm 10. Between the arms 10 and 11, a gear wheel 12 is rotatably mounted, said gear wheel being formed integrally with a bevel gear wheel 13. On the face of the worm wheel 4, adjacent to the gear 12, a bevel gear segment 14 is formed which meshes with the bevel gear 13, as shown. In the ends of the arms 9, 10, and 11, the spindle 15 of a roller 16 is rotatably mounted, said spindle being provided at its upper end with a pinion 17 which meshes with the aforesaid gear wheel 12.

Extending longitudinally of the car at the outer end of the case 1, a frame 18 is provided, and in the end of this frame remote from the case 1, a roller 19 is rotatably mounted, the spindle 21 of the said roller 19 being mounted in brackets 20 attached to the outer side of the frame, as shown. The spindles 15 and 21 are provided respectively with sprocket wheels 22 and 23, and over these sprocket wheels a sprocket chain 24 passes, as shown. The rollers 16 and 19 are connected by a web or endless belt 25, and this belt is divided into advertising cards or spaces upon which advertising literature is printed. The frame 18 is open on its forward side, but presents vertically disposed bars 26 which divide the entire length of the frame into spaces corresponding to the lengths of the advertising spaces or cards of the web. The rear side of the case 1 is pro-

vided with a door 27 which is mounted on hinges 28 so that it may be opened when desired.

The upper end of the spindle 15 does not pass through simple openings in the arms 10 and 11, but instead of openings at this point I provide deep notches 29, as indicated in Fig. 5, and the notch in the upper arm 11 is provided with a transverse locking pin 30 which holds the spindle in position, as indicated.

In the forward part of the case 1, a motor, such as an electric motor 31 is mounted, as shown. The shaft 32 of this motor extends transversely under the worm wheel 4, and is provided with a worm 33 which meshes with the worm wheel, as indicated. This motor 31 may be driven from a shunt from the trolley current, or it may be driven if desired from an independent source of current. In the operation of the device the motor 31 runs continuously and operates to drive the worm wheel 4 continuously. At each revolution of the worm wheel 4, the segment 14 engages the bevel gear 13 and rotates the pinion 17 and the spindle 15; this rotates the roller 16 and advances the web through one advertising space, that is, the card displayed in the first advertising space will be advanced to the next advertising space. The motion imparted to the web is just sufficient to advance each card from one space to the next, and during the periods that the segment 14 is not in mesh with the gear wheel 13, the web is left at rest. In this way the advertisements are presented in succession in the small frames of the large frame, and the advertisements on the back of the web are presented in turn to view.

The quadrant 6 enables the angle or inclination of the web to be adjusted as desired; the limit of its inclination is indicated in Fig. 2. In practice the desired inclination of the frame will be determined upon and the frame 18 will then be constructed and attached to the case 1 with a corresponding inclination.

Having thus described my invention I claim as new and desire to secure by Letters

Patent,—

1. In a device of the class described, in

combination, a bracket having a pivot pin, an adjusting bracket pivotally mounted on said pivot pin, a roller mounted in said adjusting bracket, an endless web passing around said roller, means for securing said adjusting bracket in a plurality of positions, a wheel mounted on said pivot pin, means for driving said wheel, and means for driving said roller from said wheel.

2. In a device of the class described, in combination, a bracket having a pivot pin, an adjusting bracket mounted on said pivot pin, a roller mounted in said adjusting bracket, an endless web passing around said roller, a wheel rotatably mounted on said pivot pin and having a gear segment formed thereupon, and gear wheels connecting said segment with said roller for driving said roller intermittently from said first wheel.

3. In a device of the class described, in combination, a bracket having a pivot pin, an adjusting bracket mounted on said pivot pin and having outwardly projecting arms, means for securing said adjusting bracket in a plurality of positions, a roller mounted between said arms, an endless web passing around said roller, a wheel rotatably mounted on said pin, a gear segment formed on the side of said wheel, a gear wheel meshing with said segment, and gears connecting said last gear wheel with said roller for actuating the same.

4. In a device of the class described, in combination, a bracket, a wheel rotatably mounted thereupon, an adjusting bracket rotatably mounted on said first bracket on the same axis with said wheel, said adjusting bracket having a quadrant formed thereupon, means for locking said quadrant to said first bracket in a plurality of positions, a roller carried by said adjusting bracket, a gear segment formed on said wheel, means for driving said roller from said segment, and means for driving said wheel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARCHIE N. JOHNSON.

Witnesses:

JAMES R. HALL,  
GEO. K. GAMBRILL.