(No Model.) 2 Sheets—Sheet 1.

G. M. TRAYLOR.

MOVING SIGN FOR CARS.

No. 303,470. Patented Aug. 12, 1884.

Fig. 1.

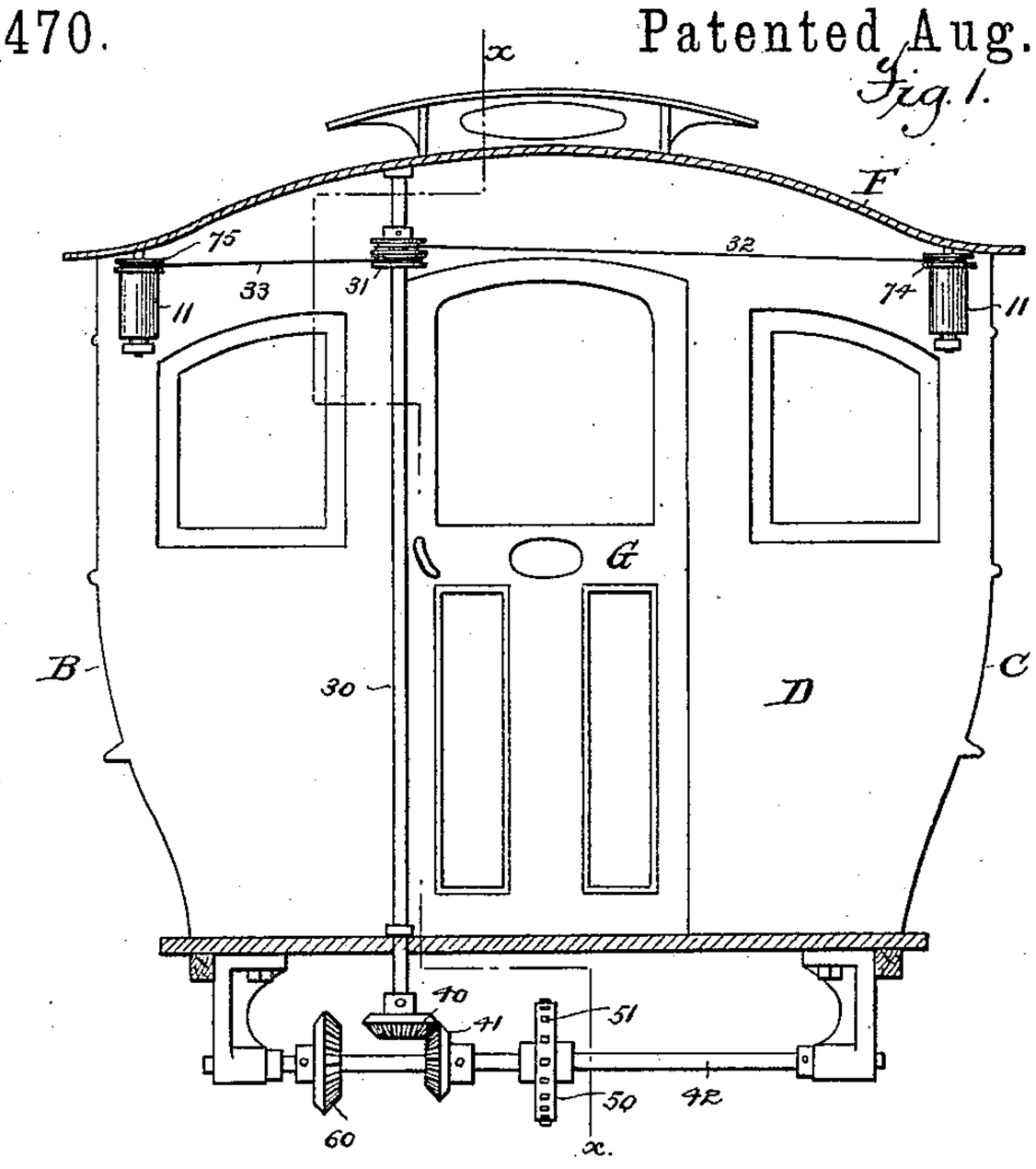
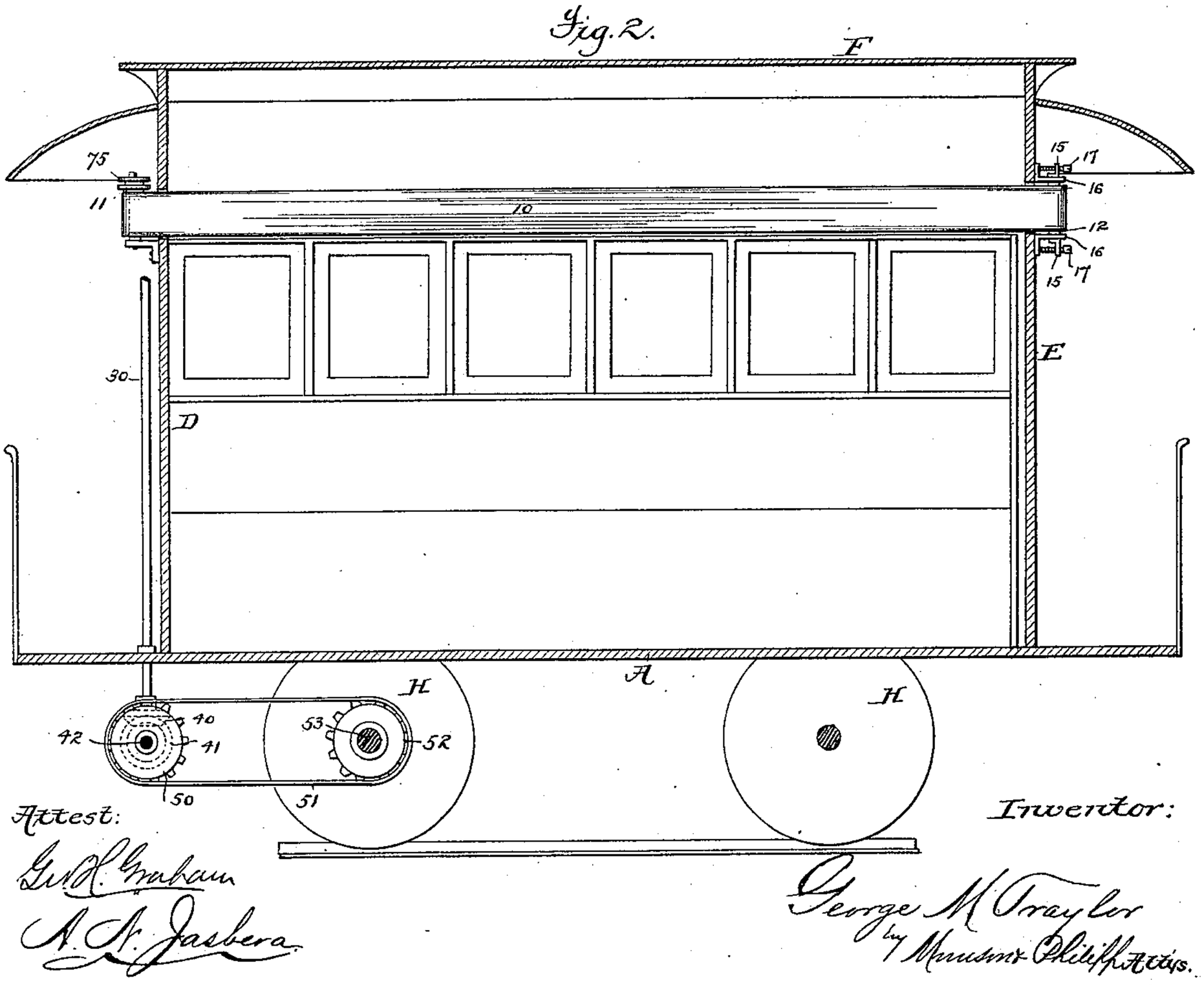


Fig. 2.



Attest:

G. H. Graham

A. S. Jasbera

Inventor:

George M. Traylor

by Munson & Philipp Attys.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

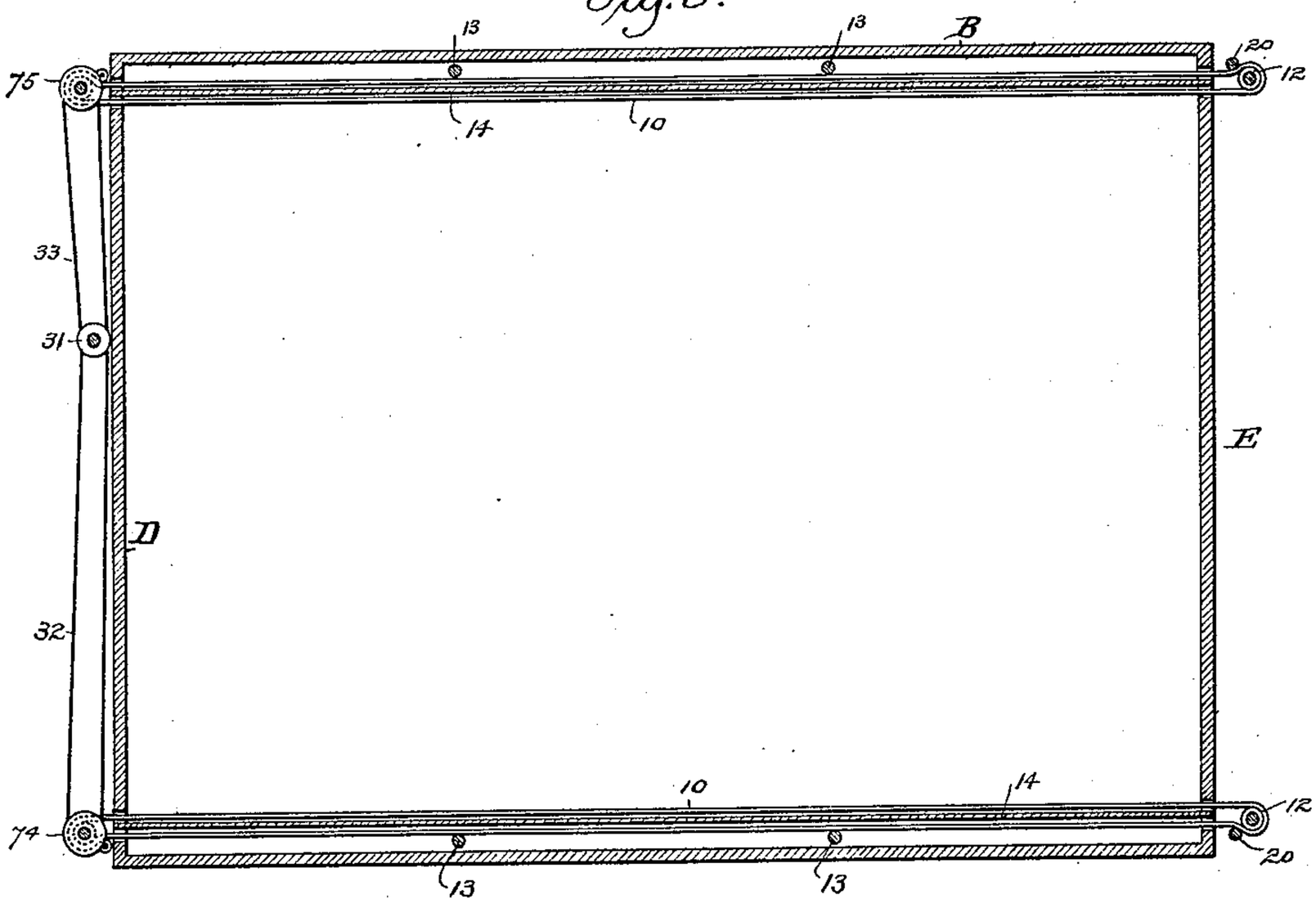


Fig. 4.

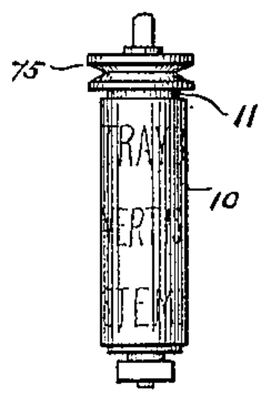


Fig. 5.

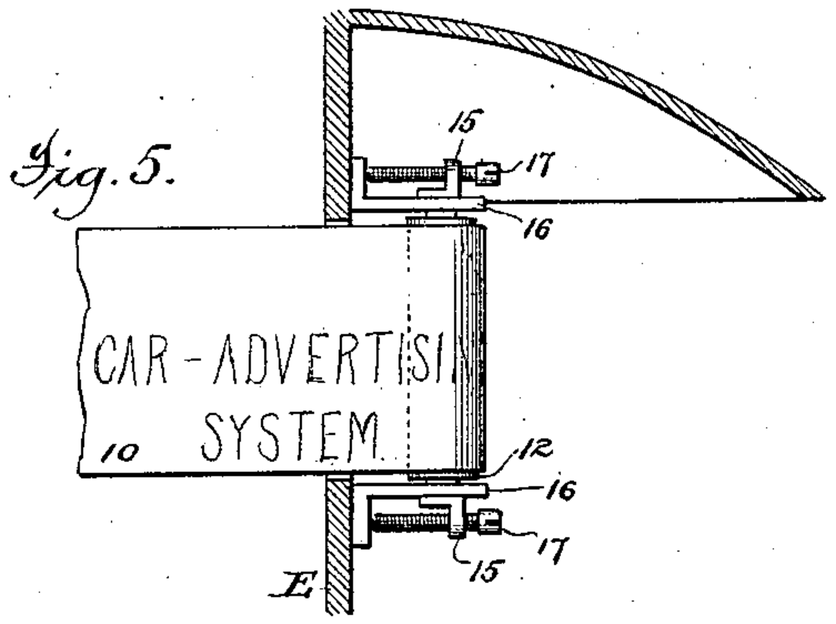


Fig. 7.

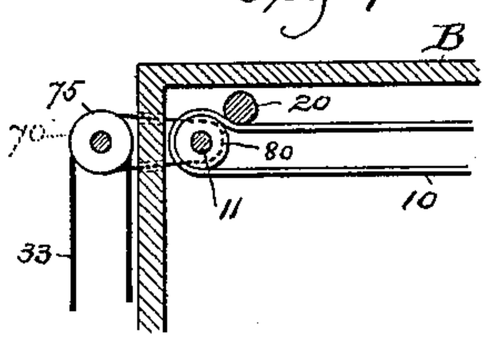


Fig. 6.

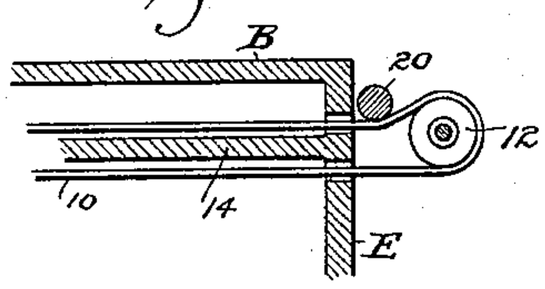
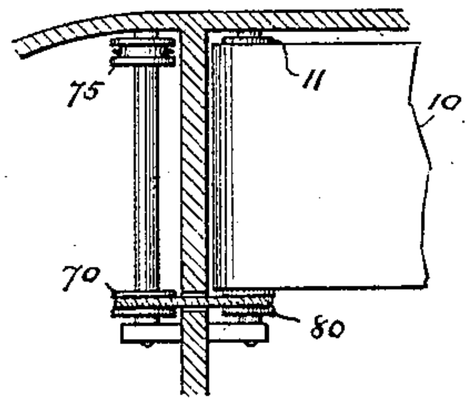


Fig. 8.



Attest:

Gus. H. Graham

A. M. Jasbera.

Inventor:

George M. Traylor

by Munson & Philipp

Attys.

UNITED STATES PATENT OFFICE.

GEORGE M. TRAYLOR, OF ATLANTA, GEORGIA.

MOVING SIGN FOR CARS.

SPECIFICATION forming part of Letters Patent No. 303,470, dated August 12, 1884.

Application filed May 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. TRAYLOR, a citizen of the United States, residing in the city of Atlanta, county of Fulton, and State of Georgia, have invented certain new and useful Improvements in Moving Signs for Cars, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to means for displaying advertisements within the body of a railway-car or similar carriage, and more particularly to that form known as a "traveling" sign.

Heretofore many devices have been proposed for displaying advertisements in connection with moving carriages by means of movable belts driven by the running-gear of the carriage. In one example a driving-shaft is shown mounted at the side of the car, and in another at the corner of the car, the one driving a belt running along the car under the eaves of its roof, and in the other a belt mounted above the roof of the car. In such arrangements the driving-shaft is so positioned as not only to be unsightly, but either liable to be stripped off or otherwise become useless by contact with passing vehicles, or interfere with the ingress or egress of the passengers.

In the display of advertisements within the body of a vehicle the great desideratum is to so position the sign that it must be seen by the occupant without necessitating effort on his part. The most available place in an ordinary railway-car is the space between the tops of the windows and the roof of the car, the reason for which is that such space on one side of the car is directly within the vision of passengers seated on the other side of the car. It is further desirable that the sign shall constantly change, in order that the attention of a passenger once arrested may be held by the presentation of new matter, and the purpose of advertising thus be accomplished. This requirement is best attained by the use of an endless apron or belt carrying the advertising matter.

The practical use of an endless traveling advertising apron or belt along the most desirable space within a railway-car is the object of this invention, in the carrying out of which improvements are involved that render it possible with simple mechanisms to expose a greater advertising-space on an apron or belt relative to the size of the car than has been availed of heretofore, and this is accomplished without enlarging the vehicle or obstructing it, as will presently appear.

The invention consists in mounting the driving-shaft and connecting-gearing outside of the car, where it will least interfere with the users of the car; in mounting one or more endless advertising-aprons upon pulleys situate on the outside of the car-body, so that said apron will pass through the car, travel along its side, and be exposed at all points from end to end of the car; in driving two endless aprons arranged to travel along the car-sides from a single driving-shaft arranged outside of the car-body.

It also includes combinations of parts, all of which are fully hereinafter set forth.

One practical form or embodiment of these improvements is illustrated in the drawings.

Figure 1 shows an end elevation of an ordinary street-car provided with the invention, the platform and roof of said car being in section. Fig. 2 shows a longitudinal sectional elevation of the same on line *x x* of Fig. 1. Fig. 3 shows a horizontal section of the same, taken just below the roof. Fig. 4 shows an end elevation of one of the apron-pulleys. Fig. 5 shows a sectional elevation of part of the end of the car, with the apron and one of its pulleys in elevation. Fig. 6 shows a horizontal section of the same. Fig. 7 shows a horizontal section, and Fig. 8 a sectional elevation, of a modified form of mounting the aprons.

The car-body illustrated is of the ordinary type of street-car, and consists of a floor, A, sides B C, ends D E, roof F, end doors, G, and wheels H; but the arrangement of these improvements with such a car will sufficiently illustrate its application to all carriages. As shown, the endless advertising-belt 10 is mounted upon pulleys 11 12, the axes of which are journaled in brackets projecting from the car ends D E, which latter have slits for the passage of the apron through them. The pulleys 11 12 are placed in such position that the apron will be stretched and run along the space between the tops of the windows and the point where the spring of the arched roof begins, being thus brought into the place most conven-

iently observed by the occupants of the car. One member of the apron runs close to the uprights or vertical ribs 13 of the car-body, and its other or returning member may run in close proximity thereto; but it is preferable that a distending-board, as 14, shall extend from end to end of the car between the two members of the apron, and have a width equal to that of the apron, so as to afford a support insuring the widthwise distention of the apron should the same, from being improperly stretched or by reason of long use, have a tendency to sag.

To properly stretch the apron, one of its pulleys is provided with adjusting devices. (See Fig. 5.) These consist in providing its journal-bearings in movable pieces 15, that may slide on the brackets 16, which latter are slotted to permit the movement of the pulleys, said pieces 15 having ears with threaded openings, in which adjusting-screws 17 turn, and these screws 17 simply abut against the base of the brackets 16. Thus by proper turns of the screws 17 more or less stretch of the aprons may be effected, and an even stretching and true run of the apron may be accomplished.

While it is desirable to mount the apron close to the side of the car, so as to economize space and not interfere with the usual inside appearance of the car, which can always be effected by the use of small pulleys, it is equally important that the carrying-pulleys shall be of considerable dimensions, so as to freely and surely move the apron. To effect this, each belt, in addition to being mounted upon large carrying-pulleys 11 or 12, has bending-pulleys 20, suitably mounted to bring the two members of the apron into close proximity in their travel through the car. These pulleys and their mountings being outside the car enables the entire interior of the car to be utilized for exposing and moving the apron, and hence the advertising area in a car is largely increased beyond what is possible when the mountings for the apron are within the car, and as the mountings are outside of the car, and are supported near the roof overhanging the platforms, they are not only out of the way as obstructions, but are so positioned as not to interfere with the internal finish of the car or modify its external appearance.

To properly and economically drive the endless aprons, the running-gear of the car must be used as is common. In order, however, not to obstruct the interior of the car either in its appearance or utility, the driving-shaft 30 is mounted outside of the car-body, and preferably parallel with and near the door-casing, though it might be placed at any other point against the end of the car. It is journaled in bearings provided in the roof F and floor A, and near its upper end is provided with a duplex band-pulley, 31, from which bands, cords, or chains 32 33 lead, respectively, to band-pulleys 74 75, carried by the axes of the apron-pulleys 11 11 at the opposite sides of one end of the car. The lower end of this shaft projects below the floor A, and is provided with a bevel-wheel, 40, that is engaged by a bevel-wheel, 41, fast on a cross-shaft, 42, mounted in brackets attached to the floor of the car, which shaft is driven at appropriate speed by means of a sprocket-wheel, 50, that is geared by the usual driving belt or chain, 51, from a sprocket-wheel, 52, mounted on the axle 53 of one set of wheels. The relative size of the sprocket-wheels may determine the speed at which the apron shall travel; but as it is desirable to provide means for producing more than one speed of movement for the apron, this may be provided for in a simple manner by mounting an extra bevel-wheel, as 60, on the shaft 42 and making the wheels 40, 41, and 60 adjustable on their shafts. If, then, the wheel 60 being of the largest size, it is desired to reduce the motion of the shaft 30, and hence modify the travel of the aprons, it is only necessary to loosen the several wheels 40 41 60, move the wheel 41 out of the way, and set the wheels 40 60 into gear.

Instead of the gearing heretofore described for driving the shaft 30, pulleys fast upon the shaft 42 and axle 53, connected by a driving-belt, may be used; or a driving-belt from a pulley on the axle 53 may run directly over a pulley on the shaft 30, and thus avoid the use of the bevel-wheels 40 41. In these arrangements the speed of the shaft 30 will be determined by the relative sizes of the pulleys.

By these simple contrivances any ordinary vehicle may be provided with advertising-aprons stretched from end to end thereof, so as to present a reading-surface to the eye at all points within the body of the vehicle, and said aprons may be made to travel at all times when the vehicle is in motion by the aid of devices so placed as not to obstruct the vision, interfere with the seating-space, or in any manner modify the æsthetic appearance of the interior or exterior of the car, said devices being also brought into positions most available for speedy repair and adjustment.

The apron-pulleys, driving-shaft, and pulleys may all be inclosed in suitable boxes and tubes to protect them from dust or injury, and the traveling aprons inside the car may be protected on the exposed surface by a glass covering or front.

A modified arrangement involving one branch of the invention is shown in Figs. 7 and 8. The pulleys carrying the apron 10 are mounted within the car-body, and a small driving-pulley, 70, is provided on the outside of the car, so as to communicate the power from the driving-shaft to the apron-pulleys by a band, cord, or chain gearing said pulley 70 to a pulley, 80, on the lower end of the shaft of the apron-pulley 11. The pulley 70 in this form is mounted at the lower end of a shaft that has at its upper end the band-pulley 75, around which the band, cord, or chain 33 or 32 passes. In this modification the cord, band, or chain gearing the pulleys 70 80 together requires no marring of the car-body beyond

simple perforations to provide for the passage of the band, cord, or chain connecting the pulleys 70 80, which is advantageous where the apron is applied to old cars.

What, therefore, is claimed is—

1. The combination, with a railway-car or similar carriage and an endless advertising apron or belt mounted upon pulleys and arranged to pass through the car and travel inside of the car along its side, of a driving-shaft and gearing for moving said apron, arranged outside of the car-body, at the end thereof, substantially as described.

2. The combination, with an endless advertising apron or belt carried by pulleys outside of the car-body, at the end thereof, which belt is arranged to pass through the car ends and travel within the same along its side, of a driving-shaft journaled so as to stand outside of the car-body, at the end thereof, substantially as described.

3. The combination, with an endless advertising apron or belt mounted upon pulleys outside of the car-body, at the end thereof, which belt is arranged to pass through the car and travel within the same along its side, of a driving-shaft mounted outside the car-body, at its end, and driving-pulleys and a band connecting said shaft and belt-pulley, substantially as described.

4. The combination, with a car-body, of two endless advertising-aprons arranged to travel within and along opposite sides of the car-body, a single driving-shaft, and gearing transmitting the motion of said shaft to both aprons, substantially as described.

5. The combination, with two endless advertising aprons or belts arranged to travel within along the sides of the car-body, of a driving-shaft mounted outside the car-body, a duplex driving-pulley carried thereby, and driving-bands leading therefrom to the apron-pulleys, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEO. M. TRAYLOR.

Witnesses:

T. H. PALMER,

H. T. MUNSON.