No. 768,192. PATENTED AUG. 23, 1904.

G. W. PEIRCE.

VEHICLE DESTINATION SIGN.

APPLICATION FILED NOV. 3, 1903.

NO MODEL.

Fig. 5.

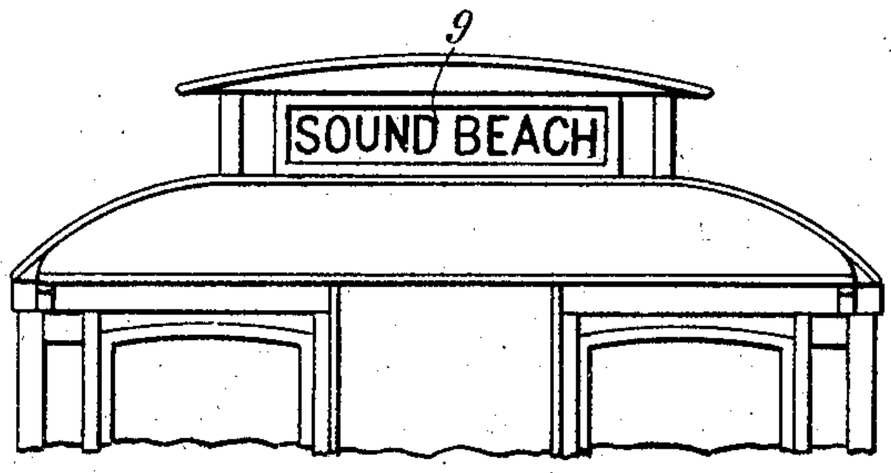


Fig. 1.

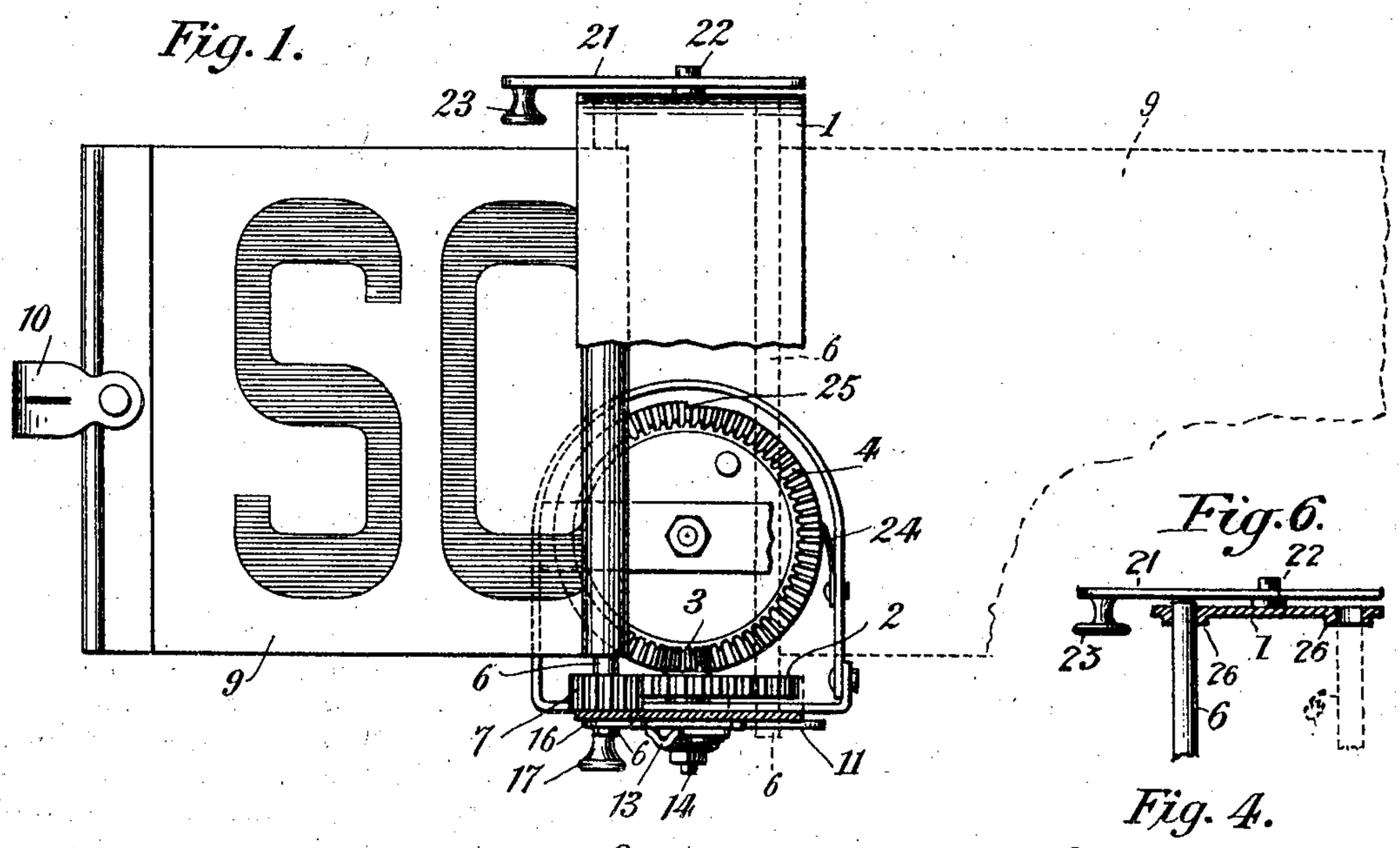


Fig. 6.

Fig. 4.

Fig. 2.

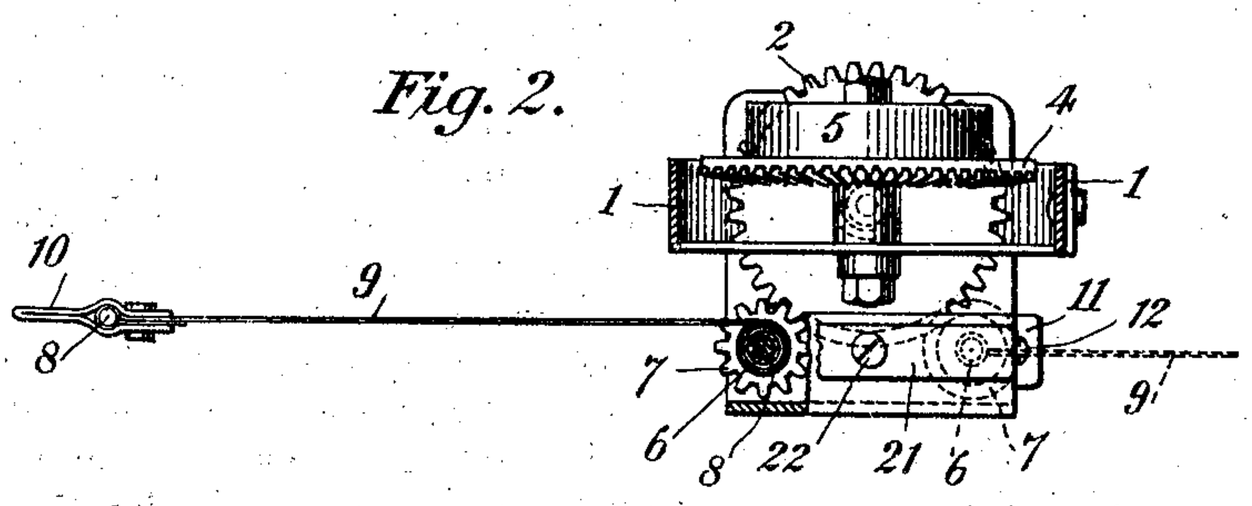
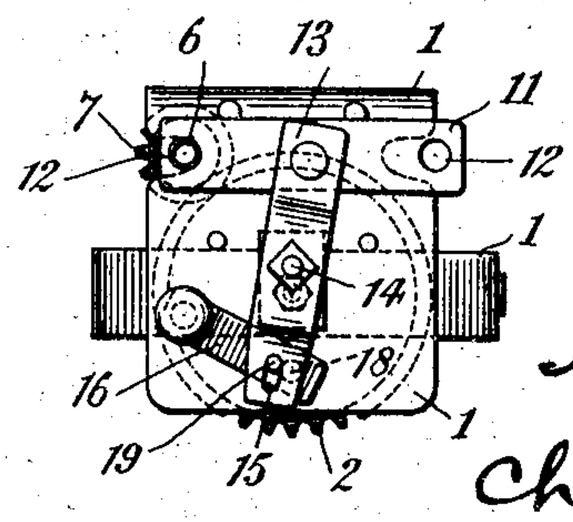
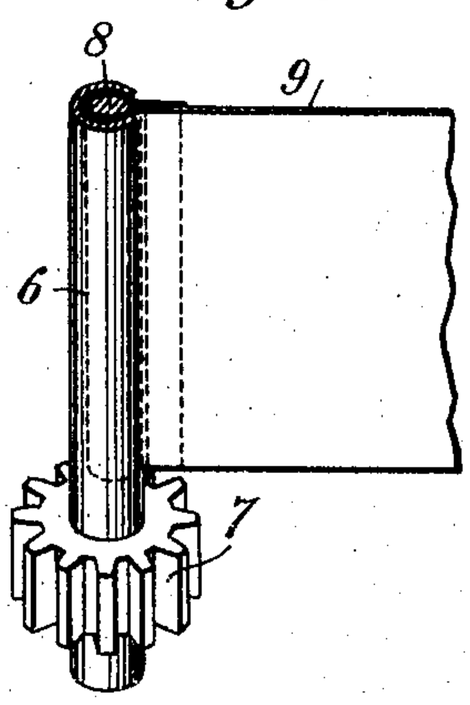


Fig. 3.





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No. 768,192. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

GEORGE W. PEIRCE, OF STAMFORD, CONNECTICUT.

VEHICLE DESTINATION-SIGN.

SPECIFICATION forming part of Letters Patent No. 768,192, dated August 23, 1904.

Application filed November 3, 1903. Serial No. 179,677. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PEIRCE, a citizen of the United States, residing at Stamford, county of Fairfield, and State of Connecticut, have made a new and useful Invention in Vehicle Destination-Signs, of which the following is a specification.

My invention is directed particularly to improvements in destination-signs such as are ordinarily used in connection with street-railway cars, omnibuses, or similar public conveyances, which signs are of an interchangeable nature for the purpose of conveying to the public information as to the destination of the vehicle.

My invention has for its objects, first, to provide detachable or interchangable signs which may be used either in day-time or at night and located wholly within the vehicle, where they are protected from the weather; second, to provide such a sign for night use, the same being of a transparent nature with opaque letters, or vice versa, designed to be used in connection with the ordinary source of illumination for the interior of the vehicle; third, to provide a sign of the nature indicated which shall be cheap, simple, and efficient and readily applicable to any existing public conveyance having side or end windows, the nature of the invention being such that it may readily be applied to such vehicles in the simplest possible manner; fourth, to provide signs of this nature a large number of which may be easily carried in the pocket of the motorman or conductor and be adapted for use in connection either with side or front windows of the vehicle.

My invention will be fully understood by referring to the following specification and the accompanying drawings, in which—

Figure 1 represents a front elevational view thereof with one sign partly displayed in full lines on the left and another in dotted lines on the right, the lower part of the sustaining-frame being broken away for illustrating the interior mechanism. Fig. 2 is a plan view as seen looking at Fig. 1 from the top toward the bottom of the drawings, parts of the frame and pivoted locking-lever being broken away for the purpose of illustrating the gearing and interior operative portions of the entire invention. Fig. 3 is an end elevational view as seen looking at Fig. 1 from the bottom toward the top of the drawings, the sign, however, in this instance being detached. Fig. 4 is an enlarged detail perspective view of the hollow sign-holding tube and its operating-pinion, the means of securing the sign within the tube being also illustrated. Fig. 5 is an end elevational view of the upper portion of a street-car, showing one of my novel signs fully exposed. Fig. 6 is a detail vertical sectional view taken through the top of Fig. 1, showing parts of the apparatus in elevation.

Referring now to the drawings in detail, in all of which like numerals represent like parts, 1 represents the frame of the sign supporting and operating device, the same being constructed, preferably, of strong sheet metal, such as brass, and of such width and depth as to readily adapt it to be secured by screws or in any preferred manner between the ventilator-windows of a street-car or at either side of the front or rear top windows thereof and preferably on the inside of the car.

2 represents a gear-wheel secured to a shaft journaled in the base of the frame, the same shaft carrying also a bevel-pinion 3, meshing with a vertically-disposed bevel gear-wheel 4, the shaft of which gear-wheel is operatively connected to one end of a strong spiral driving-spring 5, the other end of said spring being secured directly to the frame and the arrangement of both the gear-wheel and pinion 3 such that when the spring is put under tension there is a strong tendency to rotate the horizontally-disposed gear-wheel 2.

6 is a hollow sign-supporting tube slitted on one side for the reception of a supporting-rod 8 for a flexible sign 9, made, preferably, of transparent material, such as oil-silk or the like, having painted upon one surface thereof in black or equivalent opaque letters the name of the street or destination it is desired to indicate to the public, said sign being stitched or otherwise secured to the rod 8 and the arrangement such that it may be slipped into the hollow tube 6 in the manner shown in Fig. 4 of the drawings.

7 is a pinion secured to the lower end of the hollow tube 6.

10, Fig. 1, is a catch secured to a metallic

strip of the same length as the width of the sign, said catch being provided with an opening, as shown, for the purpose of securing it to a hook or equivalent retaining catch or device located at the distant side of the car-window.

Referring now to Figs. 1 and 3, 11 is a sliding bar provided at its opposite ends with journal-bearings 12 12 for the lower end of the hollow sign-supporting tube 6, said bar being adapted to move longitudinally back and forth on the under surface of the frame 1 and connected by a pivot-pin to one end of an operating-bar 13, curved downward at its center and provided with a pivot opening or hole for receiving a pivot-pin 14, secured directly to the bottom of the frame 1. The outer end of the operating-bar 13 is slotted at 15, so as to receive an operating-pin 19, carried by a handle 16, pivoted at 18 to the bottom of the frame and provided with an operating-knob 17, the arrangement being such that when the operating-handle is turned to its extreme position through one hundred and eighty degrees by means of the knob 17 the journal-bearings 12 at the opposite ends of the sliding bar 11 will assume definite relations to the horizontally-disposed gear-wheel 2 and in such manner as to bring the pinion 7 into and out of operative relation therewith, dependent upon which sign-holding tube 6 is in position. 21 is a locking-lever pivoted at its center 22 in the upper end of the frame and provided with an operating-knob 23, the function of said lever being to prevent the hollow tube 6 from moving upward after it is located in position in the proper one of the journal-bearings 26. (See Fig. 6.)

The operation is as follows: When it is desired to change a destination-sign, the motorman or conductor simply inserts the carrying-rod 8 of the sign 9 in the hollow slotted tube 6 in the manner shown in Fig. 4 and then snugly rolls the sign thereof in the proper direction. The upper end of the tube is then inserted through one of the journal-bearings 26 in the upper end of the frame upon the proper side, dependent upon the position of the supporting-frame with relation to the window. The lower end of the tube is then forced down into the corresponding journal-bearing 12 in the sliding bar 11 until the pinion 7 rests upon the upper face of the bottom of the frame, (see Fig. 1,) and the locking-lever 21 is then rotated to the central position above the end of the tube through the agency of the knob 23. The handle 16 is then rotated through an arc of one hundred and eighty degrees through the agency of the knob 17, thereby forcing the teeth of the pinion 7 into operative relation with the gear-wheel 2. The catch 10 is then taken hold of and the sign 9 drawn out to its extreme limit until it is fully exposed, said action rotating the main gear-wheel 2 through the agency of the pinion 7 and imparting motion through the bevel-pinion 3 to the bevel gear-wheel 4, thus putting the strong spiral spring 5 under additional tension, so that the tendency of such spring is to restore the sign to its normal or closed position. The opening in the catch 10 is then placed over a corresponding pin or lug at the opposite side of the window, and the sign is fully exposed in the manner shown in Fig. 5.

The body of the sign being of transparent material, such as oil-silk, and the lettered portion thereof painted in opaque letters, as indicated, the sign answers for both night and day, owing to the fact that in day-time the letters are plainly seen by the light outside the car and at night-time through the agency of the interior illuminating-light passing through the transparent portion thereof. When it is desired to substitute another sign for the one in use, it is only necessary to release the catch 10 and allow the tension of the spring to rewind it upon the hollow tube 6, after which it can be removed in a manner which will be apparent on inspection of the drawings and another sign substituted therefor, or two signs may be in position simultaneously—one concealed and the other exposed. Should it be required to show a sign on the other side in the manner shown in dotted lines, it is only necessary to insert the same in the opposite journal-bearings, locking it, as before, through the agency of the locking-lever 21 and reversing the action of the sliding bar 11 to the extreme limit, as will be apparent on inspection of Fig. 3, it being obvious that the withdrawal of the sign from left to right in the manner indicated in Fig. 2 will wind up the spring in the same manner that it was wound up before, with the understanding, however, that in this instance the sign must be so wound upon the hollow tube 6 as to put the spring under tension, as before.

In Fig. 1 there is illustrated in one edge of the bevel gear-wheel 4 a notch 25, and upon the right-hand side of the drawing is shown a pawl 24, the function of which parts is for the purpose of putting a preliminary tension on the spring and limiting the rotation of the driving parts of the apparatus, so that it will act always the same under all conditions of usage.

I do not limit my invention to the especial details of construction shown in the accompanying drawings and described in the specification hereinbefore, as obviously a number of the details thereof might be materially departed from and still come within the scope of my claims hereinafter made, nor do I limit myself to the use of a flexible transparent medium with opaque letters, as obviously the body of the sign may be of flexible opaque material and the letters transparent.

I believe it is broadly new with me to devise

a detachable sign-holding device for destination-signs for street-car and similar uses in which the holder is of a duplex nature and so arranged as to enable the user to display signs from either side thereof, and my claims are generic also as to this feature.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A flexible, transparent destination-sign provided with opaque letters or characters; in combination with a tube to which the same may be secured and means carried by the car for automatically winding the sign around the tube when it is desired to remove it.

2. Means for winding up flexible destination-signs for vehicles, consisting of a train of gear-wheels, a main spring and a frame supporting the same; together with a detachable sign-supporting tube provided with a pinion and means for locking the pinion in mesh with one of the gear-wheels.

3. Means for winding up flexible destination-signs for vehicles, consisting of a train of gear-wheels, a main spring and a frame supporting the same; together with a sliding bar having journal-bearings at its opposite ends and a detachable sign-supporting tube provided with a pinion, the arrangement being such that said sign-supporting tube may be caused to mesh with one of the gear-wheels on opposite sides in such manner as to display a sign on either side thereof.

4. A sign-supporting device for displaying flexible transparent signs through the ventilating-windows of a street-car or analogous vehicle, consisting of a frame adapted to be secured within the vehicle and a train of gearing supported thereby; in combination with a detachable sign-supporting tube adapted to be operatively connected with the train of gearing on either side in such manner that the entire apparatus is adapted for use generally in vehicles of the character indicated.

5. A sign-supporting device consisting of a frame, a train of gearing carried thereby operatively connected to a spiral spring; stationary journal-bearings at the upper end of said frame and movable journal-bearings located at the lower end thereof; together with a sign-supporting tube provided with a pinion at one end, said sign-supporting tube being adapted to be supported in either one of the stationary journal-bearings and the corresponding one of the movable journal-bearings; and means for locking the movable journal-bearings and the pinion in fixed relation to one of the gear-wheels and on either side thereof.

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

GEORGE W. PEIRCE.

Witnesses:
C. J. KINTNER,
M. F. KEATING.