

(No Model.)

C. R. KLETTNER.

ILLUMINATED AND CHANGEABLE STREET CAR SIGN.

No. 571,726.

Patented Nov. 17, 1896.

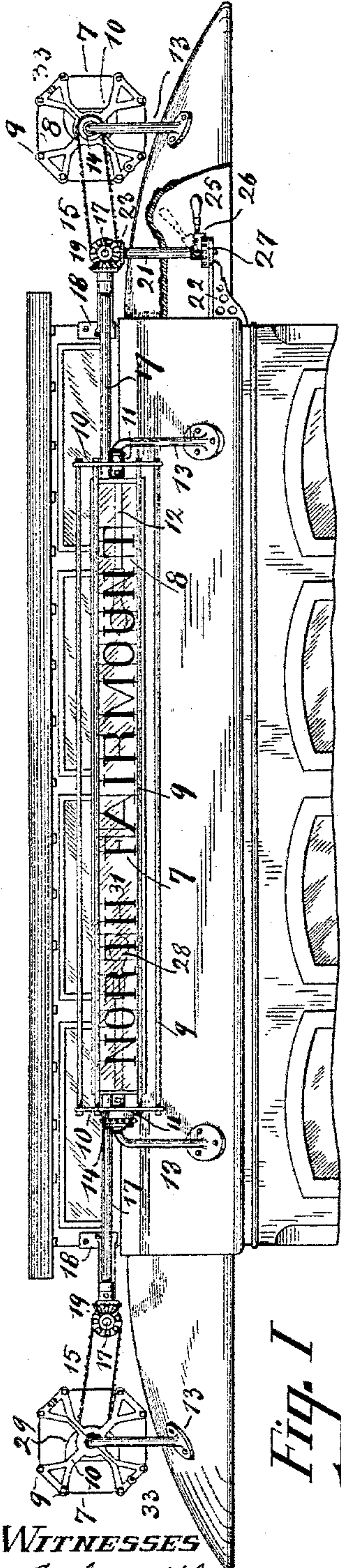


Fig. 1

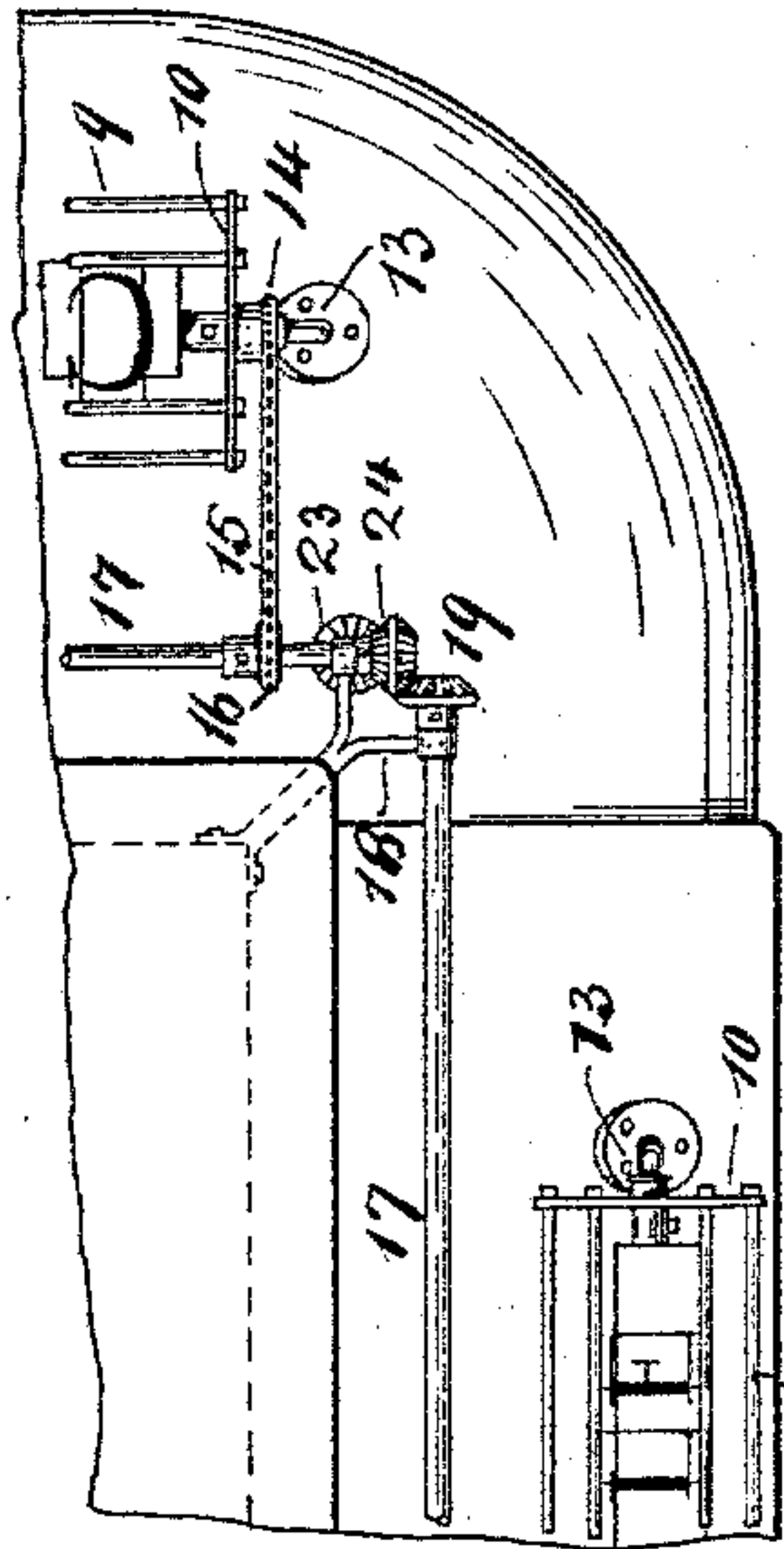


Fig. 2

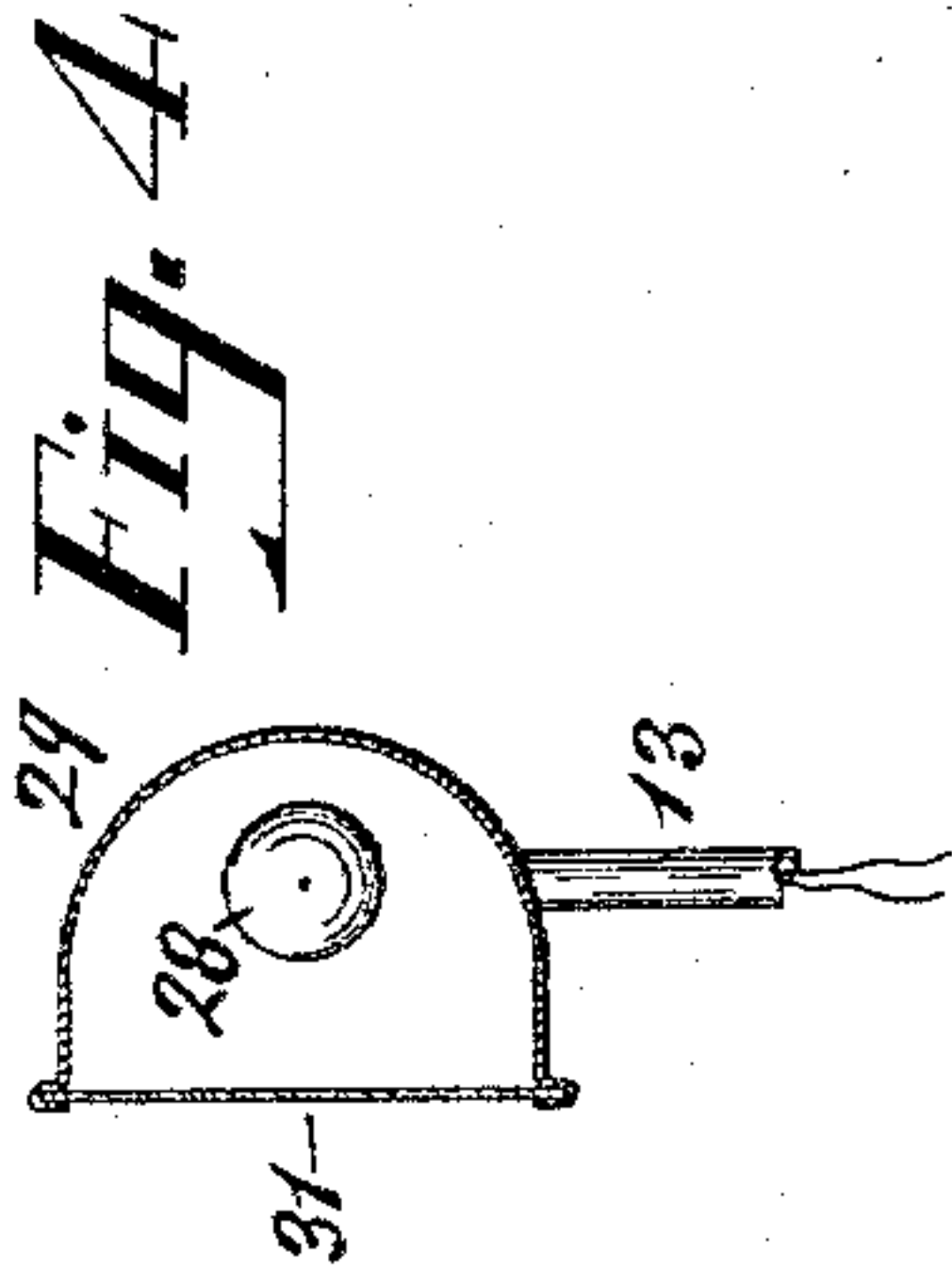


Fig. 4

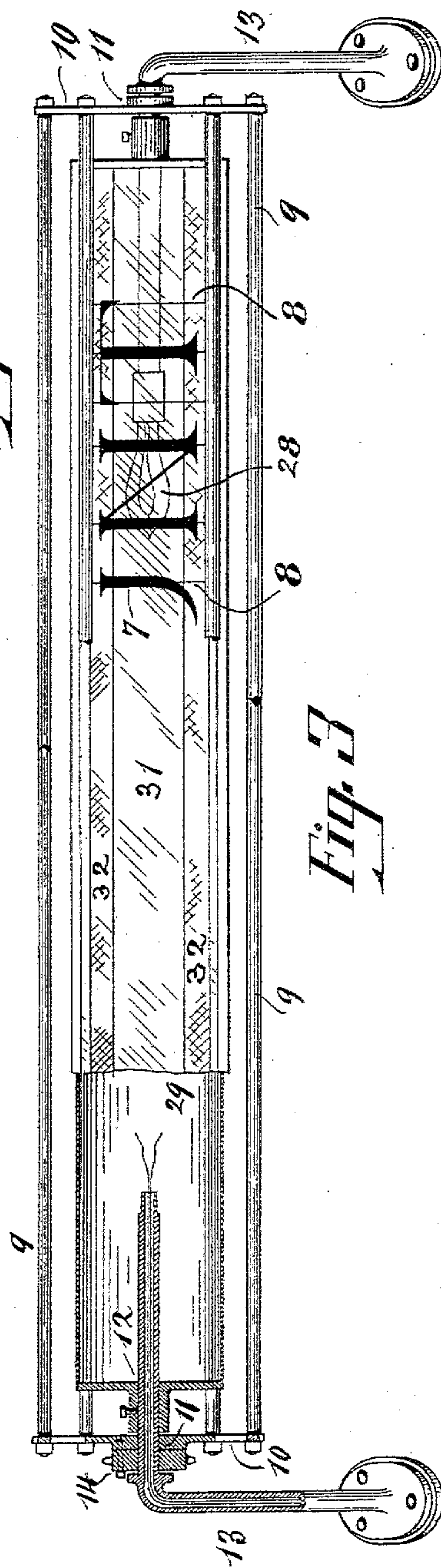


Fig. 3

WITNESSES

Arthur Hline

J. L. Ort.

INVENTOR

Charles R. Klettner  
by C. Spengel Atty



# UNITED STATES PATENT OFFICE.

CHARLES R. KLETTNER, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO DANIEL O. LAWS AND THOMAS N. BUCHANAN, OF SAME PLACE.

## ILLUMINATED AND CHANGEABLE STREET-CAR SIGN.

SPECIFICATION forming part of Letters Patent No. 571,726, dated November 17, 1896.

Application filed June 1, 1896. Serial No. 593,764. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES R. KLETTNER, a citizen of the United States, and a resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Illuminated and Changeable Street-Car Signs; and I do declare the following to be a clear, full, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form a part of this specification.

This invention relates to improvements in signs such as are used on street-cars to indicate terminals of the route, direction of travel, or other matters which it is desirable to be known by the patrons and traveling public.

The object of this invention is to have these signs constructed in a manner that they are also visible at night, and, furthermore, that they are changeable in a manner that they may indicate, for instance, the change of direction when a car is on its return trip, the name of the other terminal which it is then approaching, &c.

The invention consists of the features of construction in general as well as in detail whereby these objects are attained.

In the following specification, and particularly pointed out in the claims, is found a full description of the invention, its operation, parts, and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the upper part of a car equipped with my illuminated and changeable street-car sign. Fig. 2 is a top view of one of the corners or roofs thereof. Fig. 3 is an enlarged front view, partly in section, of one of the signs detached; and Fig. 4 is a cross-section of the reflector of the same.

The letters 7 of the signs consist of tin, galvanized iron, or other suitable material, painted, colored, and otherwise prepared in a manner to stand exposure to the weather. They are held in position by wires 8, to which they are secured by solder, riveting, or other-

wise. Wires 8 are again secured to longitudinal rods 9, which are connected and held in position by end frames 10. Two of rods 9 are required to form the face of one of the signs, and of the latter there should be as many as are needed to provide for all the changes. Two or three signs may be sufficient to satisfy the requirements in most cases. To meet, however, all possible contingencies, as well as for convenience in construction and arrangement, I have provided rods for four signs, the whole with the end frames forming a cage-like structure or frame with four faces for signs.

If there is no need for the full possible complement of signs, one or two of the faces are simply left blank. The end frames are provided with bearings or boxes 11 by which these structures are supported in a horizontal position on journals 12, supported by standards 13, which rise from the roof of the car. These sign-frames may be arranged around all four sides of the car, as shown, or only in front or rear, or at the sides, whatever the case may require. For the purpose of turning these sign-frames each one of them is at least provided with one sprocket gear-wheel 14, which is operatively connected to one of the bearings 11, and all of which are connected by chains 15 to a similar sprocket 16 on shafts 17. Of these latter there are as many as there are sign-frames, all supported on brackets 18 at the corners and each provided with a bevel gear-wheel 19, which meshes into a similar wheel on the adjoining shaft, so that when one of the latter is turned they all turn at once.

Thus, for instance, if a change of sign-faces is contemplated, it is required to turn only one of the shafts, whereupon all sign-frames turn. For this operation an upright shaft 21 is provided, supported on a bracket 22 and carrying a bevel-wheel 23, which meshes into another bevel-wheel 24, mounted on one of the shafts 17. Of these it is preferable to use the one above the rear platform, because it brings the operating means within reach of the conductor, who usually occupies a position on that platform, and who can thus operate and control all signs from one point. However, this is of course optional. The op-



erating medium consists of a lever 25, affixed to shaft 21 in a manner to permit the same to be rotated. The effect is of course apparent, since by reason of the bevel-gears all shafts are connected.

To keep all parts, particularly the sign-faces, from turning out of their adjusted position, they are locked in a suitable way after adjustment. It may be best done by lever 25, which is provided with a projection 26, adapted to engage with one of a number of notches in a locking-plate 27, fixedly secured. For such purpose lever 25 is pivotally secured to upright shaft 21 in a manner to have an independent movement in or out of the notches of the locking-plate, but when moved laterally its movement is not independent and the upright shaft is rotated by such movement. After the parts have arrived in their proper position lever 25 is dropped and by engaging with one of the notches in the locking-plate the parts are held in position.

To make the signs visible at night, lights 28 back of them, in combination with a reflector 29, are used, which parts must be located inside of the sign-frame to prevent two of the signs from becoming visible at once. In this case the reflector is a trough-shaped structure of a suitable material, best sheet metal with its inner surface polished or otherwise prepared to have reflecting properties. It is supported on the prolonged journals which support the sign-frames. The lights may be electric (incandescent) and are supported on the ends of the inwardly-extended journals 12, which thus form brackets for them. In case electric lights are used the wires therefor may be conveyed through standards 13 and their journals, which parts for such purpose are hollow. In some cases car-lines are designated and known by colors as to their particular route and destination. For such purpose a colored pane of glass 31 may be applied in front of the reflector, in which case perhaps the other signs may under certain conditions be entirely dispensed with. It is preferable, however, to use the two parts in this combination, and in which case the larger part of the glass should be colorless to bring out clearer the letters of the sign, while the color may be indicated by one or two narrow strips 32 near and parallel with the margin and above and below the letters, and which strips are then only colored. It may be advisable in all cases, even where colors are of no consequence, to close the open reflector by a sheet of clear glass to protect the lights and the reflecting-surfaces.

To permit access to the reflector and its lights, the sign-frames may be opened, for which purpose they are lengthwise divided in two sections, the end frames being also divided and hinged together, as shown at 33, Fig. 1. After the sign-frames are opened the glass in front of the reflector may be slid out endwise, thus giving access to the in-

terior. When inserted again, the glass may be held in place by snap-catches or other suitable locking devices. The sprocket-wheels 14 are of course temporarily disconnected while the sign-frames are thus opened.

Having described my invention, I claim as new—

1. In a street-car sign, the combination of a sign-frame constructed of longitudinal rods 9 and end frames 10, forming a number of sign-faces, wires 8 stretched transversely between rods 9, the letters of the sign secured thereto and the whole pivotally supported at the end frames to permit the sign-faces to be changed.

2. In a street-car sign, the combination of a sign-frame constructed of longitudinal rods 9 and end frames 10, forming a number of sign-faces, wires 8 stretched transversely between rods 9, the letters of the sign secured thereto, the whole pivotally supported at the end frames to permit the sign-faces to be changed and lights and a reflector supported within the sign-frame in a manner to have the reflecting-surface back of the sign-face to be exposed at the time.

3. In a street-car sign, the combination of sign-frames, having sign-faces formed by longitudinal rods 9 and end frames 10, letters 7 suitably secured to the sign-faces, bearings 11 at end frames 10 on which the whole frame is supported in a manner to be capable of rotation to bring different sign-faces to the front, shafts 17 supported back of the sign-frames and parallel with them, mechanical connection between the sign-frames and these shafts whereby the latter may rotate the former, mechanical connection between all shafts whereby the rotation of one causes all to rotate, means to rotate one of the shafts and lights and a reflector behind the sign-face which is turned to the front.

4. In a street-car sign, the combination of sign-frames having sign-faces formed by longitudinal rods 9 and end frames 10, letters 7 suitably secured to the sign-faces, bearings 11 at end frames 10 on which the whole frame is supported in a manner to be capable of rotation to bring different sign-faces to the front, shafts 17 supported back of the sign-frames and parallel with them, mechanical connection between the sign-frames and these shafts whereby the latter may rotate the former, mechanical connection between all shafts whereby the rotation of one causes all to rotate, an upright shaft 21 operatively connected with one of the shafts 17 to rotate such shaft, a lever 25 to operate the upright shaft, means to lock the parts in their adjusted positions and lights and a reflector behind the sign-face which is turned to the front.

5. In a street-car sign, the combination of a sign-frame having sign-faces formed by longitudinal rods 9 and end frames 10, letters 7 suitably secured to the sign-faces, bearings 11 at end frames 10, hollow standards 13 bent



inwardly to form journals 12 which receive bearings 11 and on which the whole frame is supported in a manner to be capable of rotation to bring different sign-faces to the front, means to rotate the sign-frame, electric lights at the ends of journals 12 receiving the wires through the hollow standards and a reflector behind the sign-face which is turned to the front.

10 6. In a street-car sign, the combination of sign-frames having sign-faces formed by longitudinal rods 9 and end frames 10, letters 7 suitably secured to the sign-faces, bearings 11 at end frames 10, hollow standards 13 bent  
15 inwardly to form journals 12 which receive bearings 11 and on which the whole frame is supported in a manner to be capable of rotation to bring different sign-faces to the front,

shafts 17 supported back of the sign-frames and parallel with them, mechanical connection between the sign-frames and these shafts whereby the latter may rotate the former, mechanical connection between all shafts 17 whereby the rotation of one causes all to rotate, means to rotate the sign-frames, electric lights at the ends of journals 12 receiving the wires through the hollow standards and a reflector behind the sign-face which is turned to the front.

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

CHARLES R. KLETTNER.

Witnesses:

THOS. N. BUCHANAN,  
C. SPENGEL.