

(Model.)

C. ROBINSON.

CAR REFLECTOR.

No. 266,203.

Patented Oct. 17, 1882.

Fig. 1.

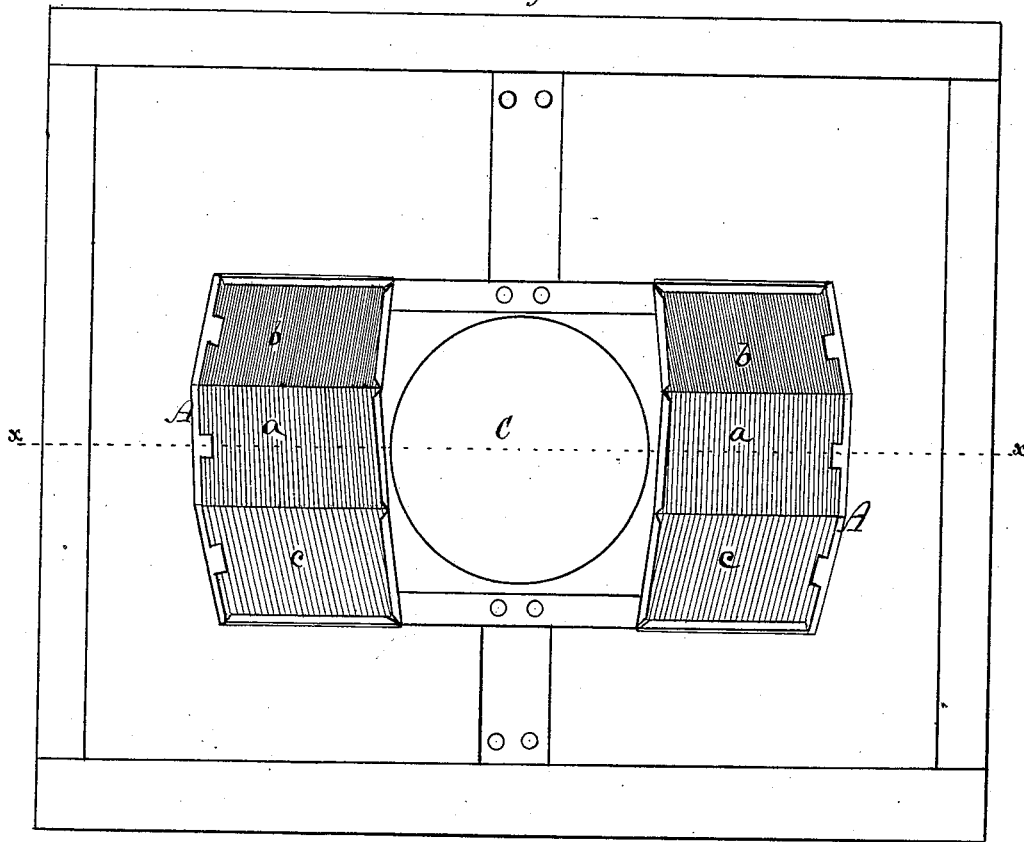
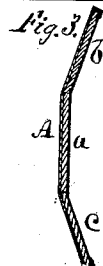
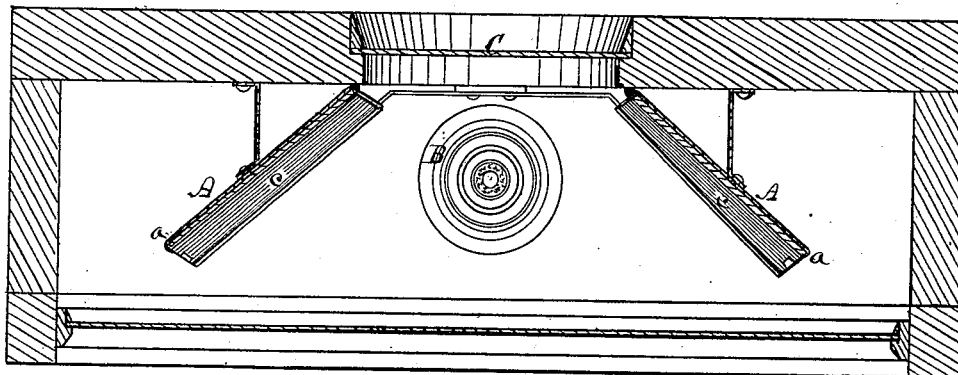


Fig. 2.



WITNESSES

J. C. Day
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UNITED STATES PATENT OFFICE.

CHARLES ROBINSON, OF CAMBRIDGEPORT, MASSACHUSETTS.

CAR-REFLECTOR.

SPECIFICATION forming part of Letters Patent No. 266,203, dated October 17, 1882.

Application filed April 1, 1880. Renewed August 14, 1882. (Model.)

To all whom it may concern:

Be it known that I, CHARLES ROBINSON, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented an Improved Car-Reflector; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification—

10 Figure 1 being a front view of my improved reflector applied to a street or horse car; Fig. 2, a horizontal section of the reflector in a plane indicated by the line *x x*, Fig. 1, showing a portion of the lamp-box of a street-car in section with the reflector; Fig. 3, a vertical section of the left-hand mirror.

Like letters designate corresponding parts in all of the figures.

My invention is specially applicable to street-railway cars, and is designed to greatly increase the illumination thereof both inside and outside of the same without increasing the number, size, or cost of the lights.

By my invention I place in each lamp-box of the car (there being ordinarily one in each corner thereof, two provided with signal-light holes with colored glass shining outward, besides shining inward) two plane-faced reflectors, A A, one on each side of the lamp B, far enough laterally therefrom to allow free or unobstructed passage of the light out through the signal-glass C, where they are used, and arranged at such an angle horizontally as to throw the reflected light directly back into the car, or nearly so, this angle being forty-five degrees, or approximately that, to the front or outer side of the lamp-box, substantially as shown. Besides this oblique arrangement of the reflectors in a horizontal direction, the plane *a* of the reflectors in the middle or opposite to the light is vertical, or nearly so, and, in addition, in order to obtain the best and a far better effect I add plane-faced reflectors *b c* at the top and bottom of the plane *a*, and inclined in a vertical plane from said plane *a* toward the light, substantially as shown in the drawings, the inclination being such as to cause the light

received from the lamp to be reflected back into the car in parallel or approximately parallel directions both in horizontal and vertical planes. More than two oblique faces *b c* might be used in addition to the vertical middle face, *a*; but this number is a proper one for general use and sufficiently illustrates my invention.

While I use plane-faced mirrors and reflect the light thus in a general nearly parallel direction, yet the varying angle at which the light strikes various parts of each plane of the mirror causes sufficient divergence to illuminate the whole car brilliantly with the four lamps usually employed in each street-car.

I propose to use the double reflector, especially as it is desirable not only to illuminate completely the entire interior of the car, but at the sides of the car outside. In fact my reflectors, when applied to all the lamps of a street-car, not only brightly light up the whole interior of the car, but at both sides outside of the car through the windows thereof, and also both in front and rear of the car, the reflectors at the front end of the car lighting up the rear by shining back through the car and its end windows or glasses, and the rear reflectors lighting up in front of the car in the same way.

While these reflectors are specially designed for street-cars, they may be used in other cars and in carriages, and, indeed, anywhere under similar arrangement where applicable, especially in room-corners.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the lamp B, of the reflectors A A, composed of vertical faces *a* and inclined faces *b c*, all arranged obliquely to the light in a horizontal direction, and the faces *b c* obliquely to the light in a vertical direction, substantially as and for the purpose herein specified.

The foregoing specification signed by me this 22d day of March, 1880.

CHARLES ROBINSON.

Witnesses:

H. L. HAZELTON,
WALTER ADAMS.