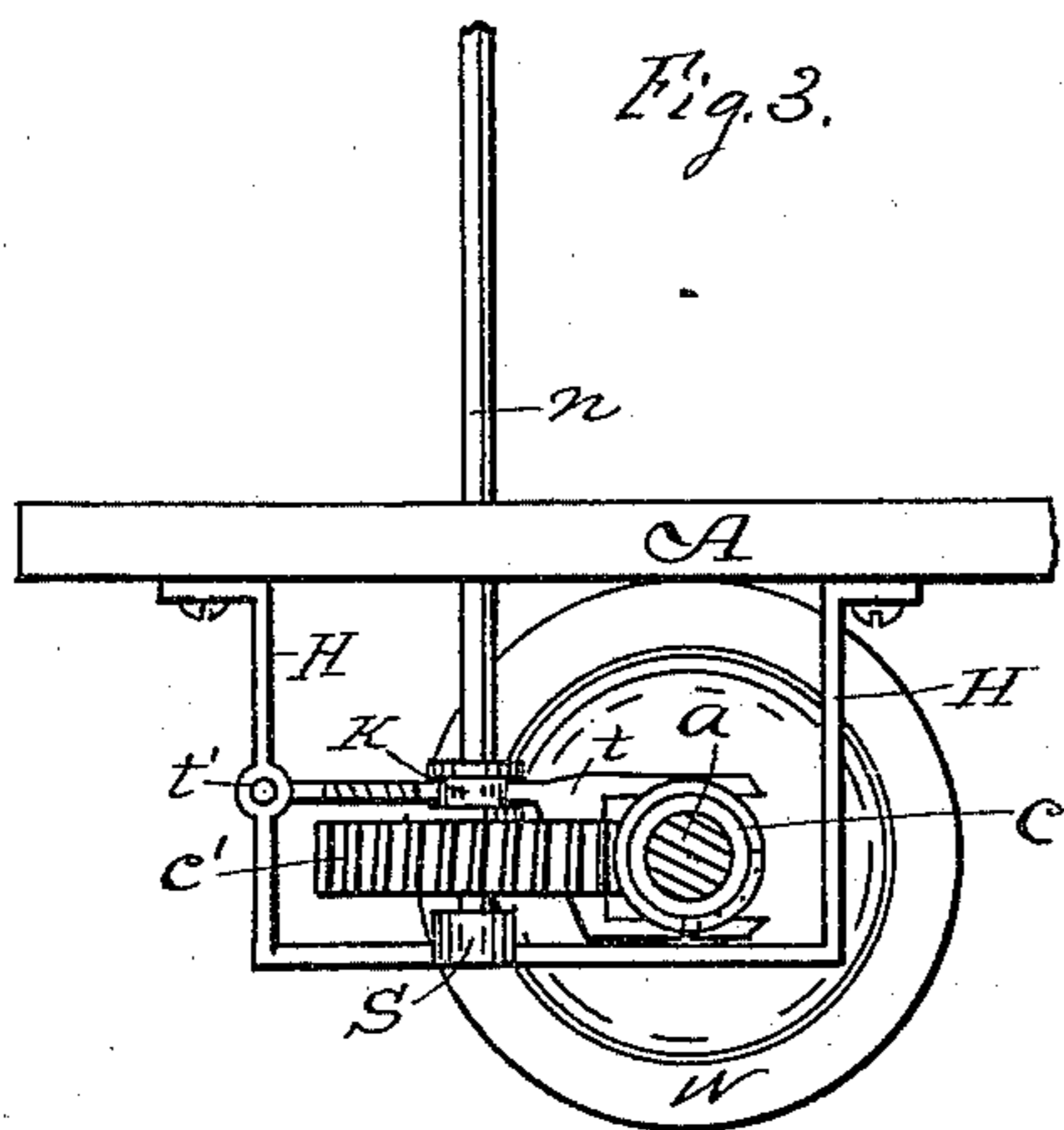
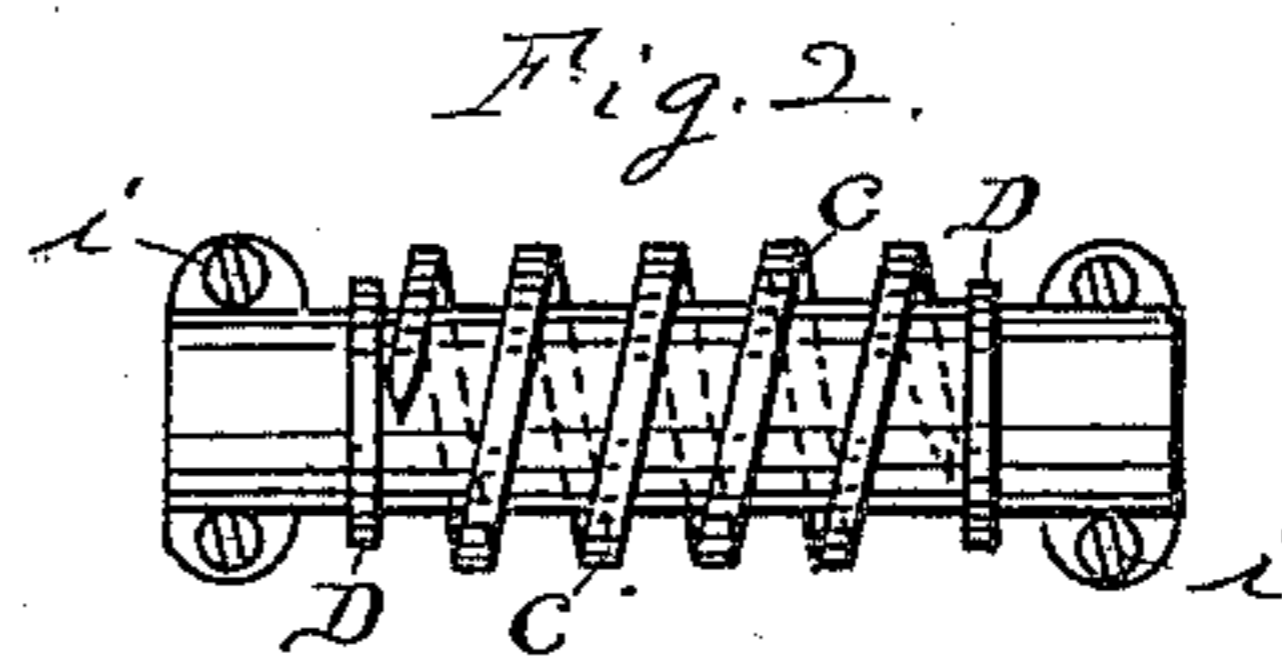
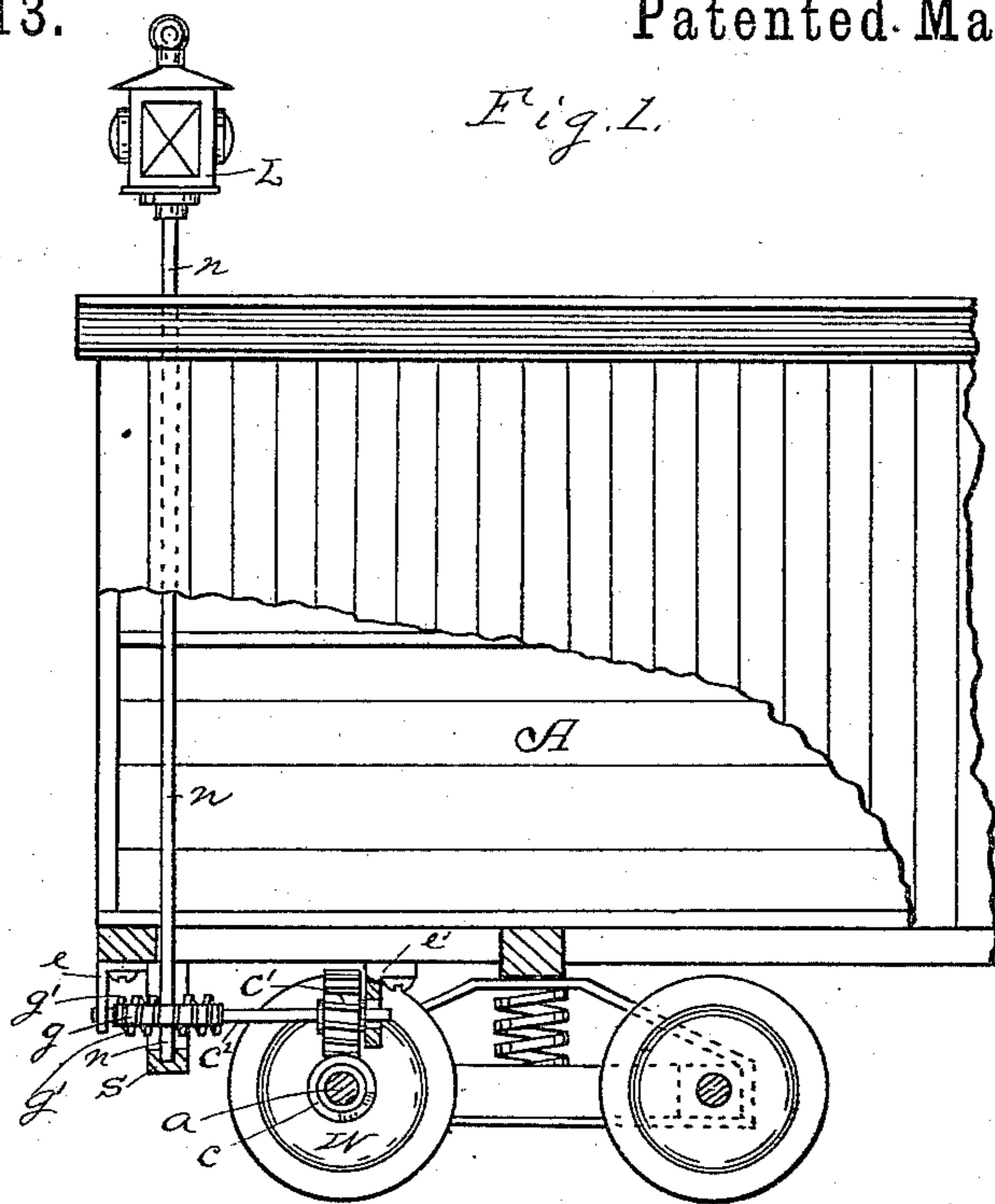


(No Model.)

A. A. BISSELL.
SIGNAL LIGHT FOR RAILWAY CARS.

No. 278,213.

Patented May 22, 1883.



Witnesses.

Wm. J. Hutchins
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Inventor.

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UNITED STATES PATENT OFFICE.

ALBERT A. BISSELL, OF JOLIET, ILLINOIS, ASSIGNOR OF ONE-HALF TO
EDWARD R. KNOWLTON, OF SAME PLACE.

SIGNAL-LIGHT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 278,213, dated May 22, 1883.

Application filed February 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. BISSELL, of the city of Joliet, in Will county, and State of Illinois, have invented certain new and useful Improvements in Signal-Lights for Railroad-Cars, the construction and operation of which I will proceed to explain, reference being had to the annexed drawings and the letters and figures thereon, making a part of this specification, in which—

Figure 1 is a side elevation; Fig. 2, a side elevation of the worm that is intended to attach to the car-axle, and Fig. 3 a side elevation.

This invention relates to the method of operating a revolving signal-light on a railroad-car by means of a suitable mechanical device deriving its motion from the axle of the car as the car moves. The light is designed to stand on a vertical shaft, so that the light is above the roof of the car, to be visible, and by its rotation indicate whether the car is in motion or not.

Referring to the drawings, at Fig. 1, L represents the light, or lantern in which the light is located, and which stands on the upper end of the vertical shaft *n*, which stands in the step *s*. The lower end of said vertical shaft is provided with the worm-wheel *g*, which derives its motion from the worm *g'* on the shaft *c*². The shaft *c*² is provided at its opposite end over the car-axle *a* with the worm-wheel *c'*, which derives its motion from the worm *c* on the axle *a*, the form and construction of which worm is shown more particularly in Fig. 2, and consists of two separate equal halves, which, after being placed on the axle, near its center, are then bolted or riveted together by means of bolts *i*, so each half is brought firmly together on the axle, by means of which the axle is not injured or weakened, but rather strengthened at that place, and which construction furnishes means for repairing said worm or replacing it with a new one in case of its wearing out or breaking. The shaft *c*² journals into a long box in the arm *e'*, so the vibration of the car up and down will not detach the worm-wheel *c'* from the worm on the axle. It is obvious that when the car moves the rotation of the axle *a* will cause the lantern L to revolve, so it will

show different-colored lights alternately, and thereby indicate to the observer whether the car is in motion or not.

I am aware that such lantern standing on a vertical revolving shaft has been in use before, but not propelled by such a simple mechanism as I have shown and invented.

The worm-wheel *c'* may be placed on the lower end of the shaft *n*, as shown in Fig. 3, so that said worm-wheel may derive its motion directly from the worm *c* on the axle *a*. In such case said worm-wheel *c'* is feathered on the shaft *n*, and has its hub provided with an annular groove for the reception of a collar, K, in the shaft *t*, which has its outer end pivoted at *t'* in the frame H, while its inner end forks over the axle *a*, so that when the car vibrates up and down the lever *t* will carry with it the worm-wheel *c'* along on the shaft *n*, so that it will not be disengaged from the worm *c* on the axle *a*. By either construction the result will be the same and the same object accomplished.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. As a means for operating lights on railroad-cars, the combination of the axle *a*, worm *c*, constructed in two parts to inclose and be detachable from the axle *a*, worm-wheel *c'*, arranged on the inner end of the horizontal shaft *c*², over the worm *c*, to engage therewith, arm *e'*, having a long journal-box for supporting the inner end of the shaft *c*², and to permit it to have vertical motion, shaft *c*², worm *g'* on shaft *c*², worm-wheel *g*, on the lower end of the vertical shaft *n* to engage with the worm *g'*, and vertical shaft *n*, and step *s*, all adapted to operate as and for the purpose set forth.

2. As a means for operating lights on railroad-cars, the combination of the axle *a*, detachable worm *c*, constructed in halves, worm-wheel *c'*, feathered on the shaft *n*, and lever *t*, pivoted at one end to the frame H at *t'*, and forked over the axle *a* at its outer end, all adapted to operate as and for the purpose set forth.

ALBERT A. BISSELL.

Witnesses:

WM. J. HUTCHINS,
G. JULIAN BARNES.