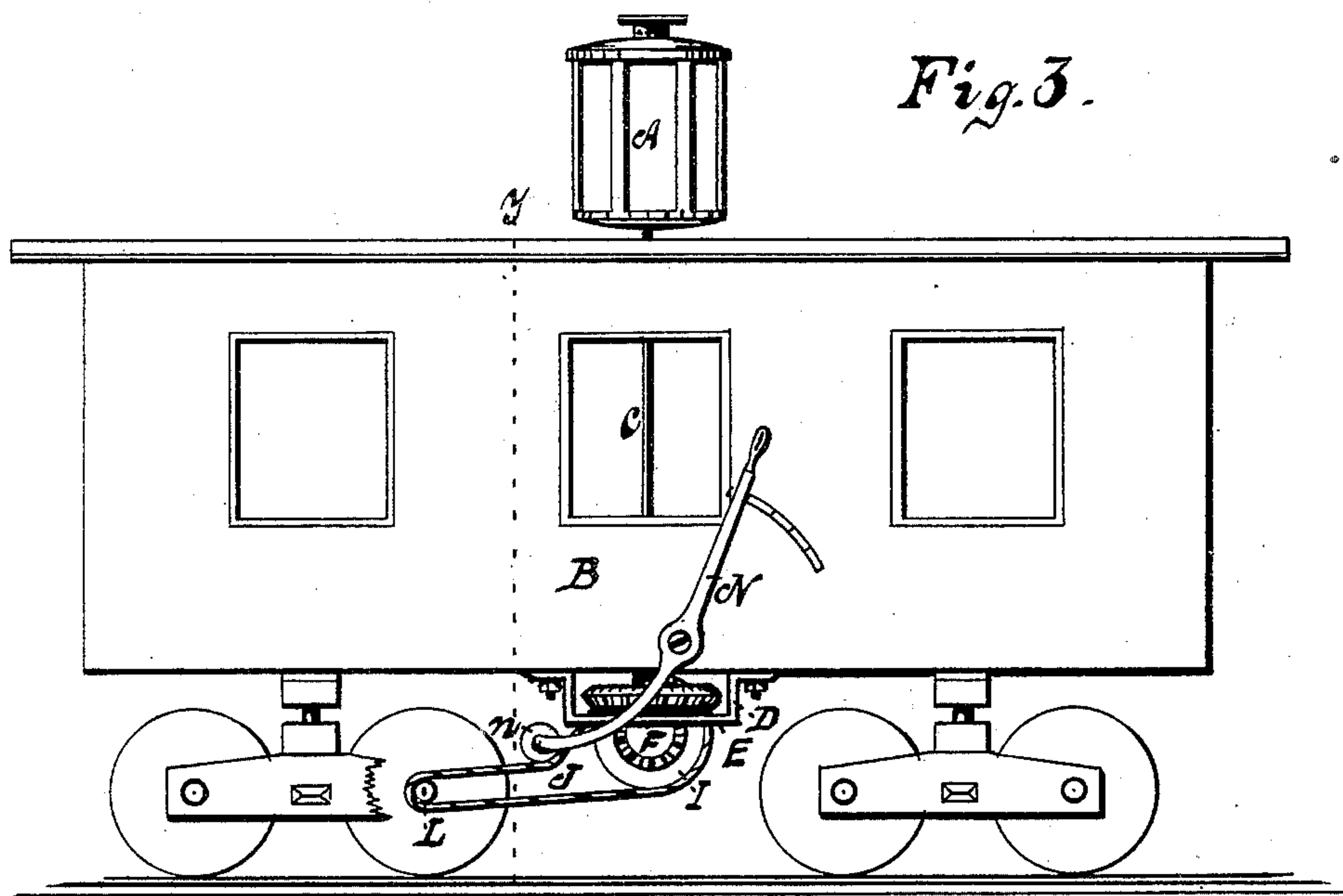
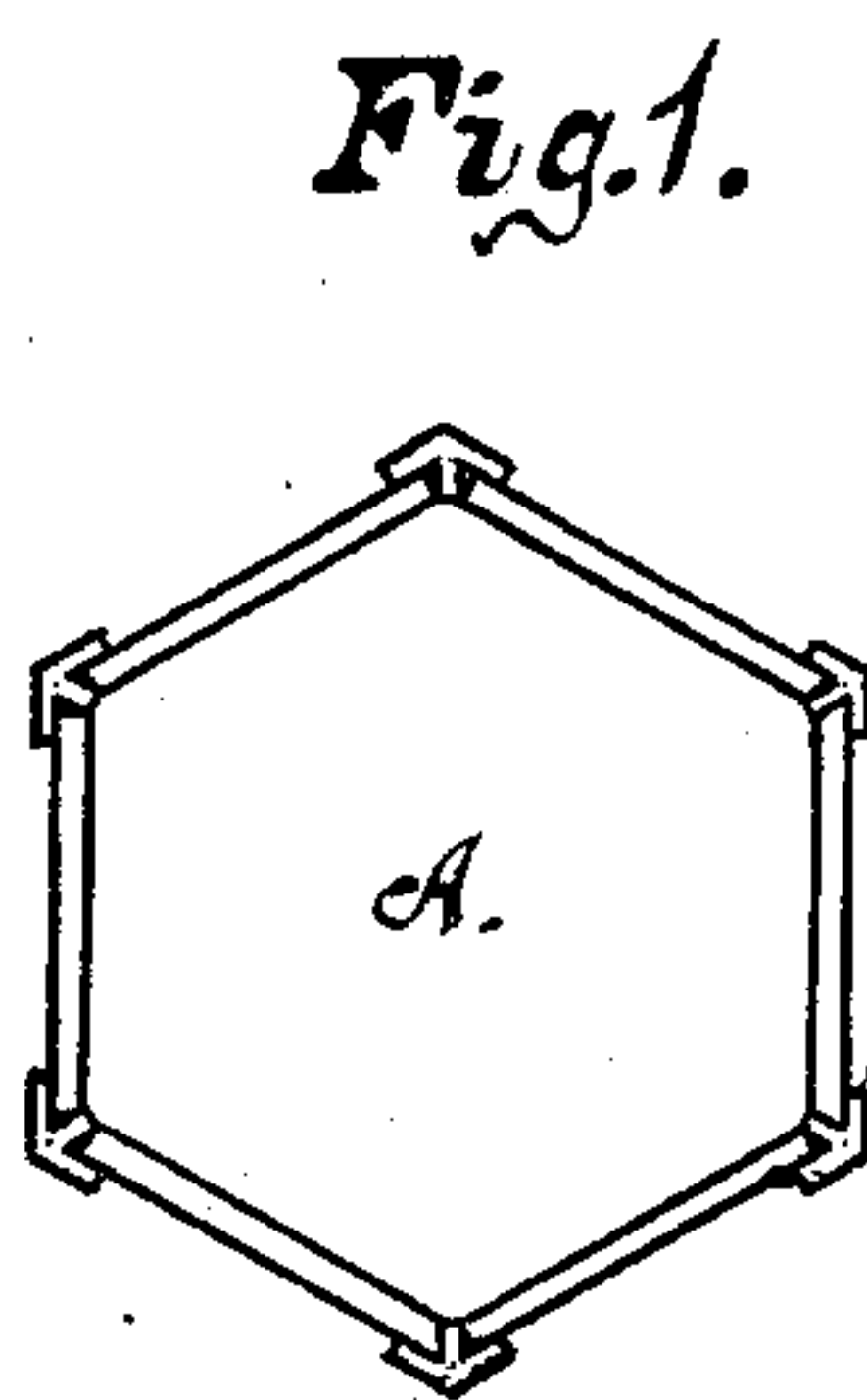
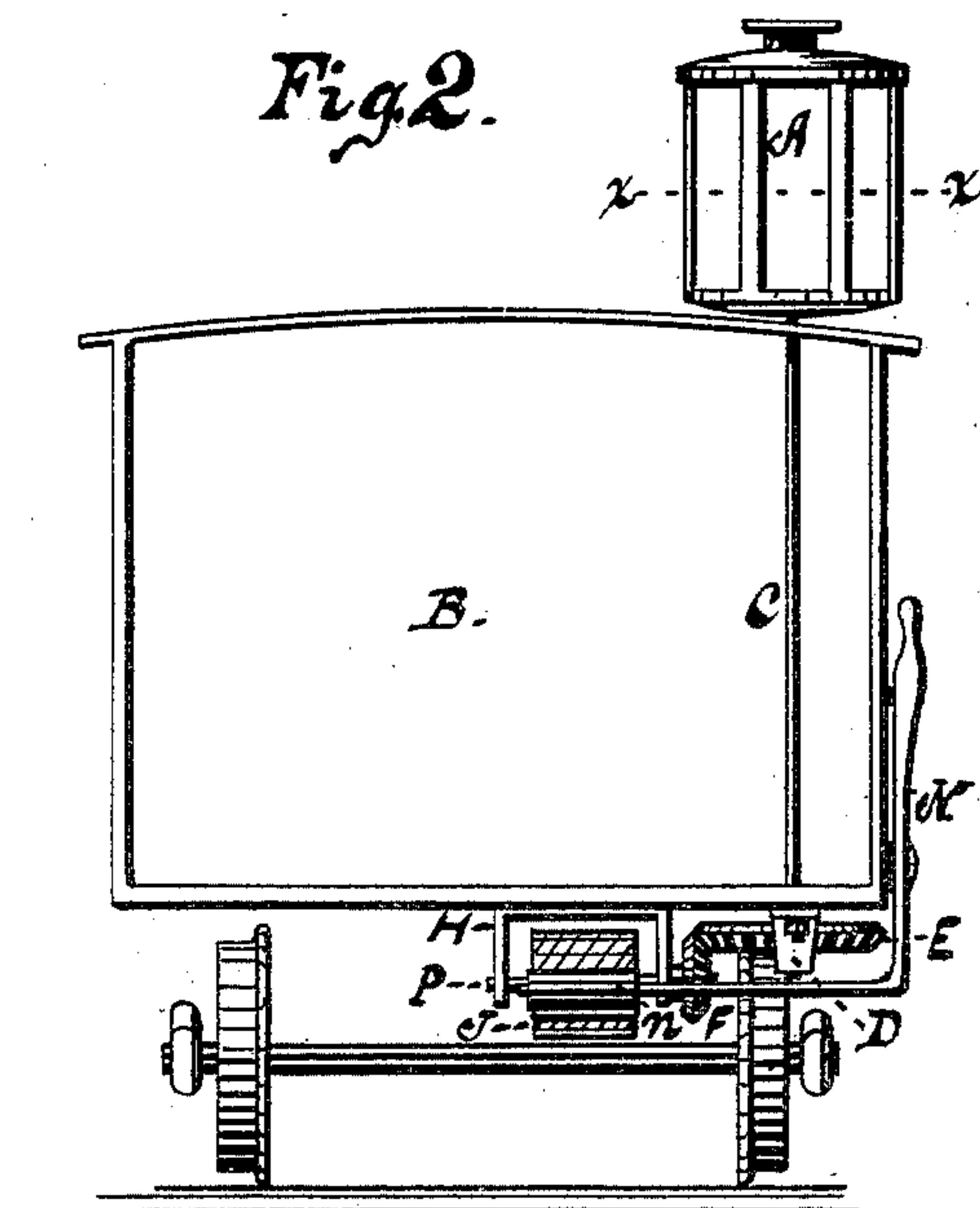


E. H. BROWER.
Revolving Car-Signal.

No. 223,313.

Patented Jan. 6, 1880.



Witnesses:

Frank G. Seaman
Geo. A. Johnson.

Inventor:

Emmett H. Brower, per
Otto L. Johnson.
Att'y

UNITED STATES PATENT OFFICE.

EMMETT H. BROWER, OF CARSON CITY, MICHIGAN.

REVOLVING CAR-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 223,313, dated January 6, 1880.

Application filed May 9, 1879.

To all whom it may concern:

Be it known that I, EMMETT H. BROWER, of Carson City, in the county of Montcalm and State of Michigan, have invented certain new and useful Improvements in Speed-Signals for Railroad-Trains; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is not only to enable an engineer of a train to ascertain the speed of a train just preceding his, but to tell him in which direction it is going, as well as to inform him if the rear car or a portion of the train has become detached.

The first part of my invention consists in the use of a revolving signal-lantern, A, placed above the roof of the car B, and it is usually made hexagonal in shape, as shown in Figure 1, which represents a cross-section of the signal-lantern in the line *xx*. The sides of said signal-lantern are formed of white and colored plates of glass, and placed alternately, so that there will be a different-colored plate of glass between the white panes, and the engineer can readily tell in which direction the train just preceding is moving by observing the order in which the colored lights appear. The rapidity of motion of this changing signal thus made indicates the speed of the train, and the engineer can govern the speed of his train accordingly. No change in the signal would indicate that the car had ceased to move.

The second part of my invention consists in the general arrangement of the several parts connected with the truck-axle to operate the signal-lantern A, which I will now proceed to describe, and which is best shown in Fig. 3, representing a railway car or caboose, in side elevation, having my improvement attached.

C is a perpendicular rod, which at any convenient point passes up through the car B, and is supported by a bracket, D, bolted to the frame-work beneath the car. To the upper end of said rod C is fastened my revolving signal-lantern. To the lower end, and within said bracket, is keyed the bevel-wheel E. At right angles with rod C, and running parallel with the truck-axle L, is the shaft P, 55 suspended in a bracket, H, and having the

bevel-wheel F keyed to one end, gearing with wheel E, as shown in Fig. 2, which is a cross-section of the car in the line *yy*. The drum I is fastened within said bracket to shaft P.

J represents an endless belt passing loosely around the drum I and truck-axle L.

N is a lever, the lower end being bent, as shown in Fig. 2, and provided with a friction-roller, *n*, for shortening the belt J and putting the lantern A in motion when required. The lever N is held up by any well-known device for that purpose, and in the drawings said lever is shown bolted to the outside of the car; but in practice I shall place it within the car.

I do not claim a speed-signal lantern in combination with gearing, whereby the rotation of one of the axles of the car causes said lantern to rotate, a part of said gearing being carried by an adjustable tilting frame, whereby it may be raised out of operation at will, as shown in the patent of Burnham and Strong, March 16, 1875, No. 160,871; nor do I claim, broadly, the combination of a car-axle, a signaling device, a belt connecting the axle with a shaft, and cog-gearing connecting the shaft with the signaling device, that being shown in the patent of H. A. Wright, November 16, 1869, No. 97,016; but

What I do claim, and desire to secure by Letters Patent, is—

1. In combination with lantern A, rod C, bevel-wheels E F, and belt J, connecting car-axle L and the shaft of bevel-wheel F, a pivoted lever provided at its lower end with a roller, and engaging near its upper end with a locking-rack, substantially as shown.

2. In combination with the axle, lantern-shaft, car-body, cog-gearing, and belt, all constructed and arranged substantially as set forth, the pivoted lever N, having at its lower end an arm extending horizontally under the car, said arm being provided with a terminal roller, substantially as and for the purpose set forth.

3. In combination with axle L, lever N, belt J, and cog-gearing E F, the enlarged drum I, journaled in stirrup H, and carrying smaller bevel-wheel F, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

Witnesses: EMMETT H. BROWER.

GEO. P. STONE,

JOSHUA TENNANT.