

(No Model.)

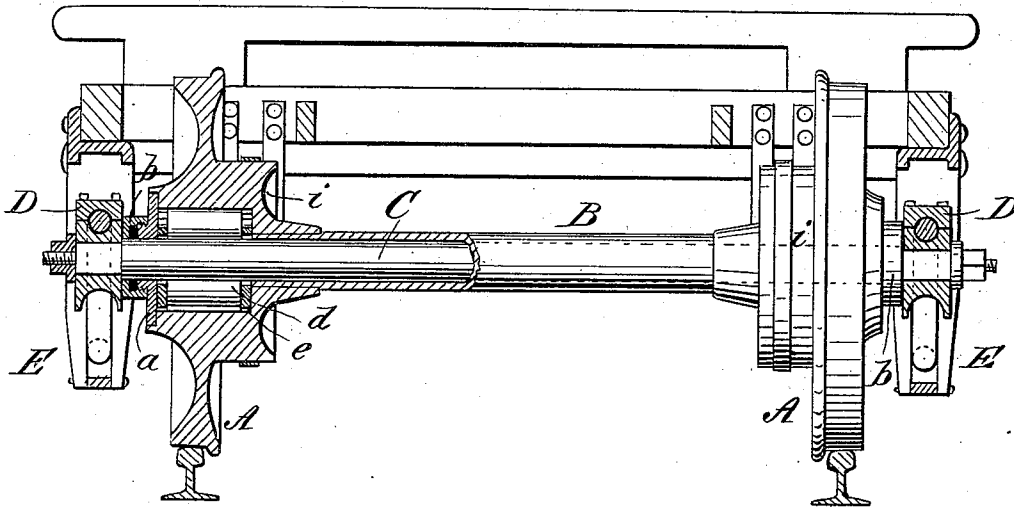
C. E. CANDEE.

RUNNING GEAR FOR RAILWAY CARS.

No. 310,029.

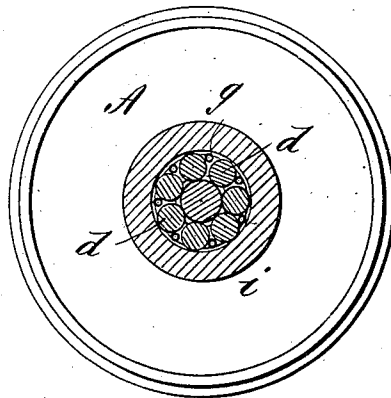
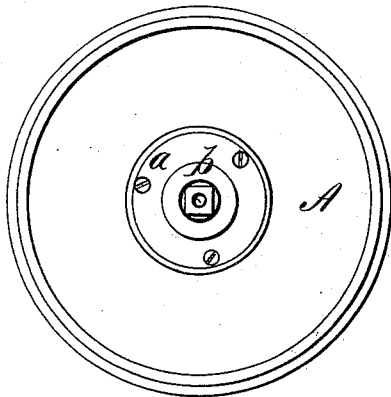
Patented Dec. 30, 1884.

*Fig. 1.*

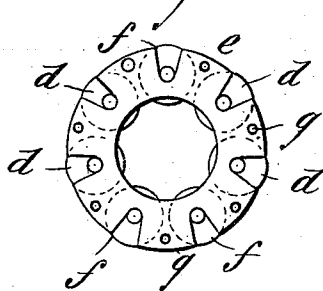


*Fig. 2.*

*Fig. 3.*



*Fig. 4.*



WITNESSES:

*Donn Twitchell*  
*W. Sedgwick*

INVENTOR:

*C. E. Candee*  
BY *Munn & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES E. CANDEE, OF NEW YORK, N. Y.

## RUNNING-GEAR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 310,029, dated December 30, 1884.

Application filed May 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. CANDEE, of the city, county, and State of New York, have invented a new and Improved Running-Gear for Railway-Cars, of which the following is a full, clear, and exact description.

My invention consists in improved journal-boxes wherein friction-rollers are employed, and in connection therewith a novel construction of axle, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional end elevation of a car-truck with my improvements. Fig. 2 is a side view, and Fig. 3 a cross-section, of one of the wheels; and Fig. 4 is a side view of the roller-frame and friction-rollers.

The wheels A are fast upon the ends of a hollow axle, B, through which passes a fixed axle, C, that is sustained at its ends in boxes D. The boxes are sustained in the pedestals E of the truck-frame, the construction being as shown and claimed in an application for patent made by me, and of even date herewith. The wheels A are hollow, or made with pockets or recesses that open on the outer side of the wheel, where caps *a* are attached to close the recesses, and packing-glands *b* are provided on the caps and around the fixed axle, for the purpose of retaining oil in the recesses. The wheels are formed with brake-drums *i*, which lengthen the wheel-hubs, so that the recesses can be made of sufficient depth to receive long friction-rollers. This form of wheel is shown in connection with brake mechanism in another application of mine of even date herewith.

*d d* are the friction-rollers contained in the

recesses of the wheels around the fixed axle C, so as to bear thereon, and also on the inner surface of the pockets. The rollers are carried by a frame consisting of rings *e e*, Fig. 4, having slots *f* for the journals of the rollers, and connected by bars *g g*, so that the frame serves to retain the rollers equidistant, while allowing them to revolve freely.

The rollers arranged as described reduce the friction and wear to a minimum. Being in the wheel, and thus directly above the tread, the weight is taken directly and without any tendency to bend the axle, and the axle, rollers, and wheels can be readily and independently removed when worn out.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of recessed wheels A, hollow axle or sleeve B, fast to the wheels, and turning upon the fixed axle C, and friction-rollers *d*, substantially as shown and described.

2. The combination, with fixed axle C and recessed wheels A, of the rollers *d*, cap *a*, and packing-glands *b*, said plate being bodily let into a recess of the hub, and the gland secured upon the plate, substantially as described.

3. The car-wheel having an elongated pocketed hub, whereby said hub serves as a brake-drum and to receive a roller-bearing, as specified.

4. The combination, with wheels A, having the elongated pocketed hubs, of the frame composed of rings *e* and bars *g*, and friction-rollers journaled in the rings, substantially as described.

CHARLES E. CANDEE.

Witnesses:

EDGAR TATE,  
ROBERT ADAMS.

Correction in Letters Patent No. 310,029.

It is hereby certified that Letters Patent No. 310,029, granted December 30, 1884, upon the application of Charles E. Candee, of New York, New York, for an improvement in "Running-Gear for Railway-Cars," should have been issued to the said Charles E. Candee and *Albert G. Story*, of Little Falls, New York, assignee; that the correction has been made in the files and records of the case in the Patent Office, and should be read in the Letters Patent to make it conform thereto.

Signed, countersigned, and sealed this 20th day of January, A. D. 1885.

[SEAL.]

M. L. JOSLYN,  
*Acting Secretary of the Interior.*

Countersigned:

BENJ. BUTTERWORTH,  
*Commissioner of Patents.*