

G. A. BEACH.
Railway Car-Brakes.

No. 152,319.

Fig. 1.

Patented June 23, 1874.

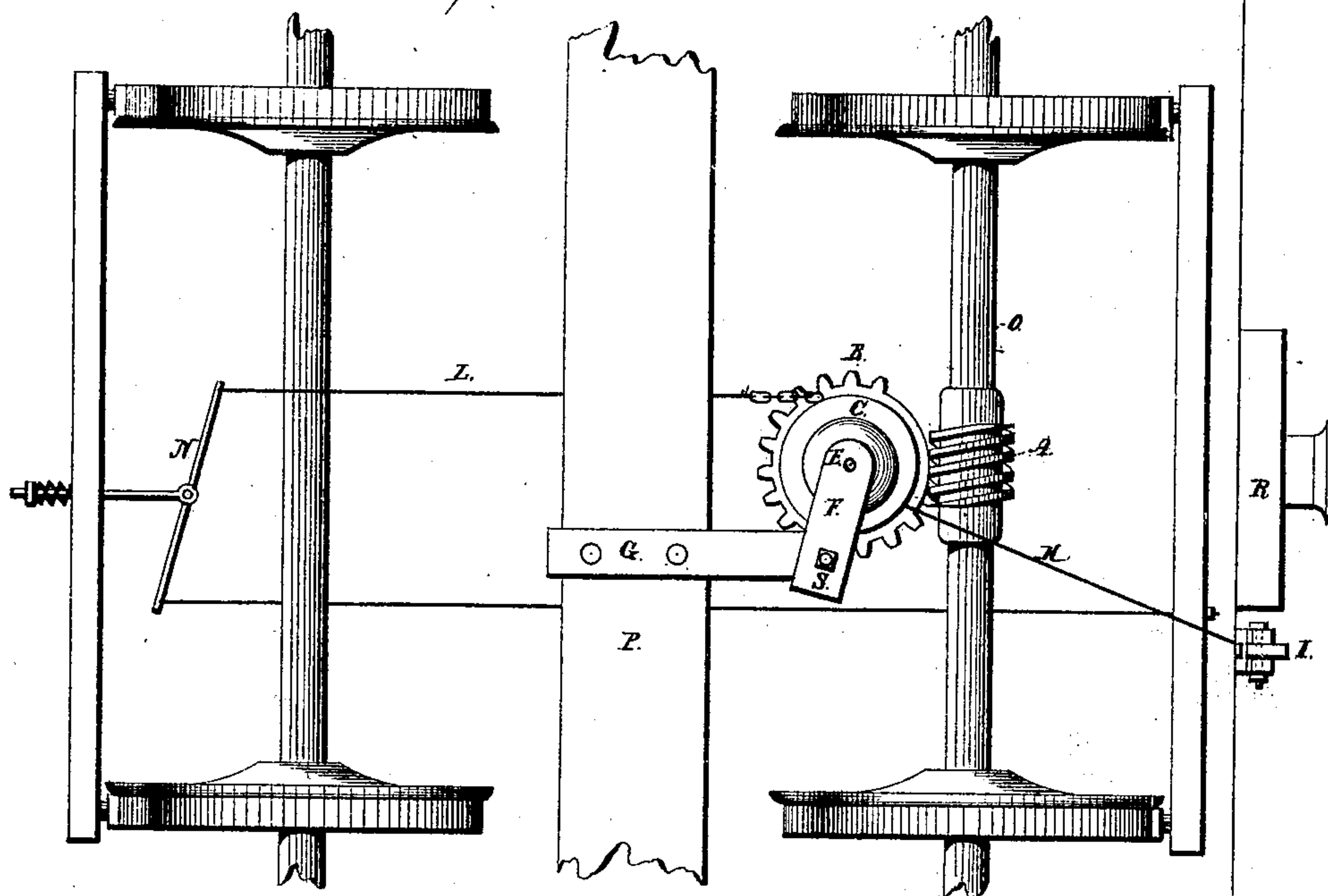
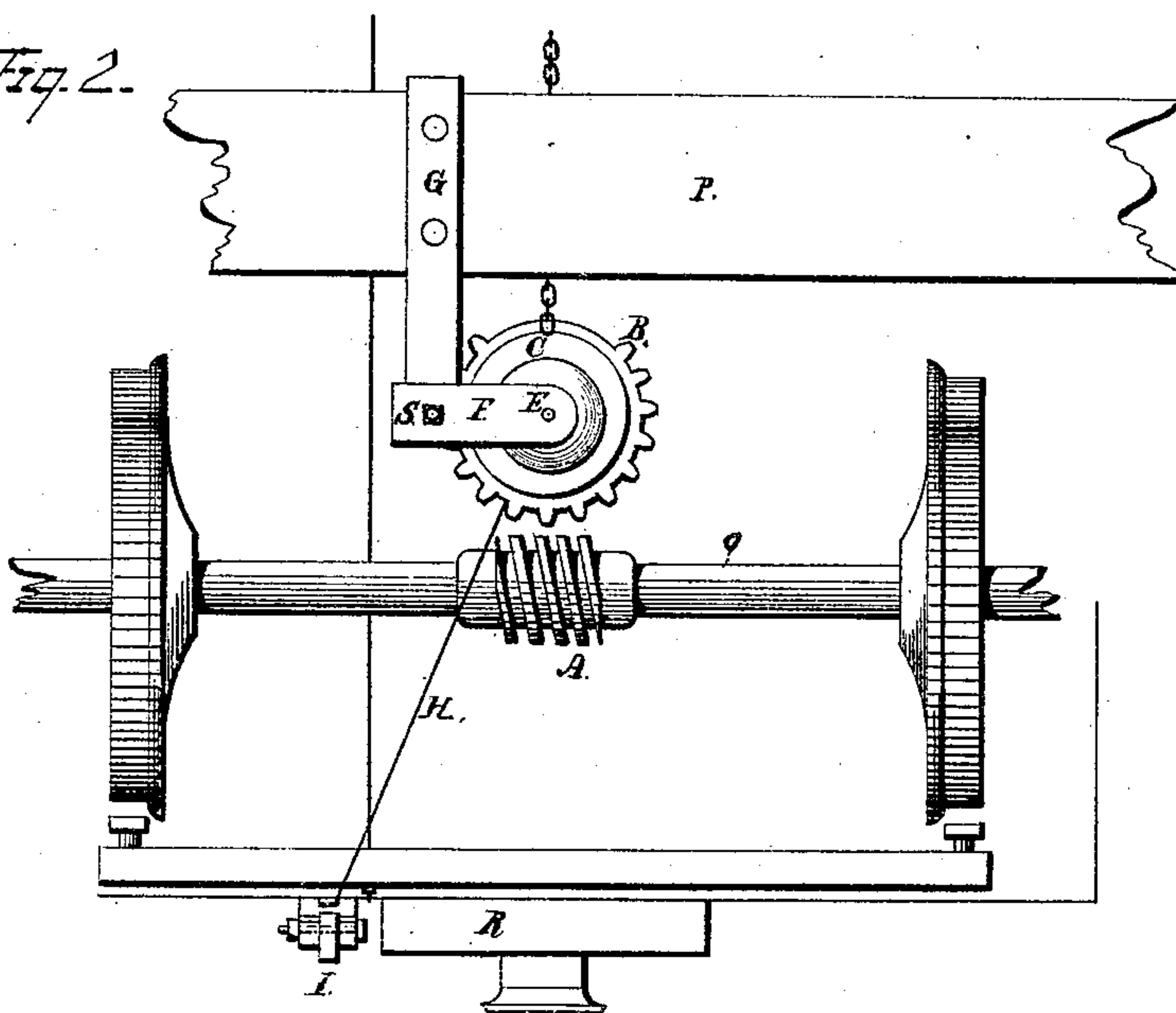


Fig. 2.



WITNESSES
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GEORGE A. BEACH, OF TOLEDO, OHIO.

IMPROVEMENT IN RAILWAY-CAR BRAKES.

Specification forming part of Letters Patent No. **152,319**, dated June 23, 1874; application filed May 1, 1873.

To all whom it may concern:

Be it known that I, GEORGE A. BEACH, of Toledo, in the county of Lucas and State of Ohio, have invented a new and Improved Mode of Tightening or Setting Brakes upon Railroad or Railway Cars; and I do hereby declare that the following is a full and exact description of the same.

In the drawings, Figure 1 represents a plan view of the invention, showing the device in operation; Fig. 2, the same, with the mechanism out of gear; Fig. 3, a vertical longitudinal section, showing the device in operation; Fig. 4, a side elevation with the mechanism out of gear.

My invention relates to certain combinations and arrangements of devices and appliances, as hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

It may be properly termed a car-brake. In describing my invention I intend the word rod to mean either rod, chain, cable, or rope, and the word iron to mean any metal, wood, or other material practicable for the construction and use of this invention.

I connect iron straps G G to the beams P P, and to the ends of these straps I fasten frame F by bolts or other means, so that it turns easily, allowing sufficient space at the top between the frame and upper strap for the springing of beams and trucks. At the ends of frame F are holes, in which shaft or spindle E rests and turns. Shaft E has journals at each end, with a shoulder at the bottom end. The journal at the top is of sufficient length to allow the shaft first to enter the hole in the end of frame at the top and then drop into its place in the lower hole at the end of the frame. On shaft or spindle E is fastened gear-wheel B, which rests upon the lower shoulder. Above it, on shaft E, is fastened pulley-wheel C, its hub resting on and joining the hub of gear-wheel B. Around these two hubs the coupling-iron D fits, and turns freely. This coupling-iron is put on the shaft E before wheel C is put on and fastened. Without any other connection frame F, with its occupants B, C, D, and E, swings easily back and forth between axle O and

beams P P, and is supported in its position by straps or frame attached to truck-beams P P. On car-axle O is fastened or constructed in one or more parts worm, groove, or thread A, which operates upon gear-wheel B. This worm, groove, or thread may be constructed and wrought when the axle is made. Rod L connects with, and is bolted to, pulley-wheel C on left-hand side, and when the brake is off rests as shown in Fig. 2. Rod L connects with top end of lever N, which is bolted to the left-hand brake-beam at or near its center. Rod M connects the lower end of lever N to right-hand brake-beam. Rod H connects coupler D to angular iron I, and rod K connects the end of foot-lever J to the upper end of angular iron I, which is fastened to the lower edge and end of car at the side of bumper-block R. Foot-lever J may be placed upon the platform or top of the car. Ratchet Q holds the lever J in position when the brakes are on.

Whether the car is moving to the right or left, soon as lever J is set in ratchet Q, it causes frame F to be drawn forward, bringing the gear B in contact with worm A, which turns gear-wheel B around until the terminus-tooth passes through the worm A, and rests and bears on the outside or end of the worm. This movement also causes pulley C to turn at the same time, and winds upon its face rod L, the same relative distance as wheel B turns in proportion to their diameter. The rod L is drawn forward, and, by the means of lever N, creates a leverage on both the right and left hand brakes. The tension of the brake is regulated by the size of gearing or length of rods. The brakes are loosened by releasing lever J from its connection with ratchet Q. The strain of the brakes and rods on pulley-wheel C causes frame F to be drawn back, thereby disconnecting wheel B from worm A, and the wheels B and C then assume their natural position, as shown in plan, Fig. 2.

This invention is best adapted for use upon box freight-cars, which are now in general use on railways. By connecting rods from one brake to another they may be controlled and managed from the locomotive of the train, by steam or hand power.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The pivoted horizontal angular frame F S and stationary horizontal arms G, attached to the car-frame P, for supporting the drum C and segment B, whereby the cogged segment is made to engage horizontally with a worm, A, upon the axle O, substantially as and for the purposes described.

2. In combination with cord or rod H, the yoke D, situated between the drum C and segment-wheel B, so constructed as to permit the

axle E to turn within it, substantially as described.

3. The combination of the horizontal angular pivoted frame F S and stationary horizontal arms G, drum C, segment-wheel B, and yoke D, suspended by the vertical axis E in the frame F, all constructed and adapted to operate substantially as and for the purposes described.

Witnesses:

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