J. C. WANDS.

Car-Brake Attachment.

No. 219,042. Patented Aug. 26, 1879.

Fig. 1.

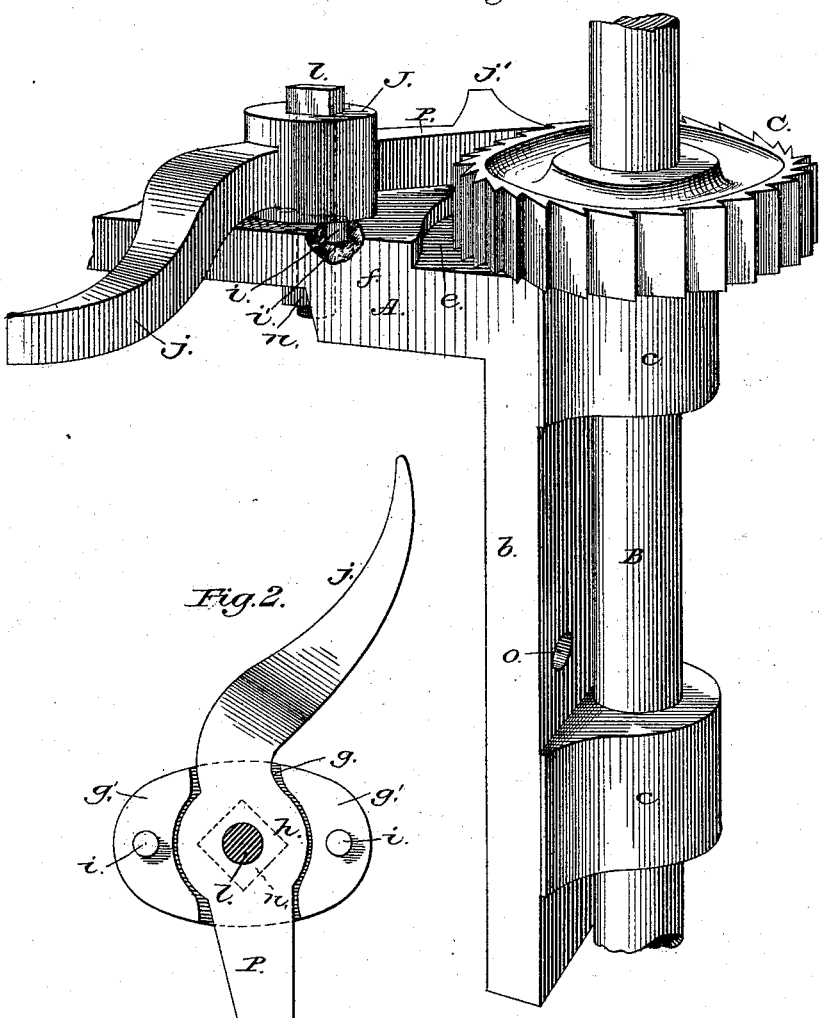

Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN CAR-BRAKE ATTACHMENTS.

Specification forming part of Letters Patent No. **219,042**, dated August 26, 1879; application filed July 22, 1879.

To all whom it may concern:

Be it known that I, J. C. WANDS, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and valuable Improvement in Car-Brake Attachments; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of my invention, and Fig. 2 is a detail view of the under side of the dog and box-bearing.

This invention has relation to improvements in brakes for railway-cars.

The objects of the invention are mainly to devise means whereby the pawl will be held positively to its engagement with the brake-rod ratchet and accurately vibrated into and out of connection therewith, and to allow the rod to rise to a certain extent without raising the ratchet-wheel above and out of engagement with the pawl, whereby, in putting on brakes, the pawl cannot fail to take hold on the ratchet and hold the shoes against the wheel.

The nature of the invention consists in combining with a bearing-plate and a brake-rod having its bearings therein, and carrying a ratchet-wheel secured thereon, a box-bearing on said plate, a pawl or dog vibrating in said box on a pivot extending through it, and prevented by said box from all vertical displacement.

It also consists in a recess formed in the top of said plate, in which the ratchet-wheel is received, the pawl being on the higher part of the plate and engaging the upper part of the ratchet, whereby, as the brake-chain is wound up and the brake-rod is moved up, the ratchet-wheel also rises, but not sufficiently to clear the pawl, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates a strong right-angular metallic plate, having in its longer leg holes *a*, by means of which the said plate is secured to the end of the car, with its horizontal branch resting on the top thereof, and beveled on its under side to correspond to the slope of the roof.

The vertical leg *b* of the bearing-plate is provided with two eyes, *c*, in which is journaled the brake-rod B, connected in the usual way, by a chain, to the brake mechanism under the car, and provided at its upper end with a band-wheel.

C indicates a ratchet-wheel, secured, in the usual or any suitable way, to rod B, and lying partly—say about half its thickness—in a recess, *e*, formed under the said ratchet-wheel in the horizontal branch *f* of the bearing-plate. The inner end of the branch *f*, inside of recess *e*, is higher considerably than the bottom of said recess, and upon it is applied the box-bearing J, having an interior circular bearing, *g*, and two legs, *g'*, each of which is provided with a spur, *i*, that is received in corresponding sockets *i'* of the said branch.

The pawl P has a rounded part, *h*, corresponding to the rounded bearing *g* of box J, and fitting snugly therein, the ends of the pawl beyond said bearing projecting beyond the box, and being provided, respectively, with a foot-rest, *j'*, and a power-arm, *j*, the latter being bent down to correspond to the pitch of the roof.

The box J is placed in position by inserting the pawl therein, and then engaging its spurs *i* in the recesses of the bearing-plate; and the said pawl is pivoted to the bearing and the box secured thereto by a pivot-pin, *l*, passing centrally through the box and rounded part of the pawl, and through the plate, which pin has a nut, *n*, on its lower end. The box fits snugly on the pawl, and allows it to vibrate horizontally, but effectually prevents vertical displacement or vibration. Consequently, when the brakes are on and it is engaged with the ratchet, it cannot be disconnected therefrom casually, nor can it wabble during the "putting on" of the brakes, so as to render its engagement with the ratchet uncertain or unreliable. While the brake-rod is being turned and the chain wound thereon the former rises endwise more or less, and in many instances so high as to be above the pawl. Under these circumstances the locking of the brakes is impossible. This defect I remedy by recessing the ratchet-wheel, as aforesaid, so that under ordinary circumstances the pawl will only engage its upper or middle part; but as the brake-rod rises, the pawl becomes

engaged with the middle or lower part. This result can only be obtained by recessing the ratchet-wheel, fixing the pawl, and allowing the said wheel to rise with the brake-rod.

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

1. The combination, with the angular bearing-plate A, having eyes *c* on its vertical branch, the brake-rod turning in said eyes, and the ratchet-wheel secured on said rod, of the box-bearing J, the pawl vibrating through the said bearing, and the pin *l* and nut *n*, confining the box and pawl to the said bearing-plate, substantially as specified.

2. The combination, with the bearing-plate A, having recess *e*, of the brake-rod B, having ratchet-wheel C seated in said recess, and a horizontally-vibrating pawl, P, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN C. WANDS.

Witnesses:
FRANK J. MASI,
JOHN A. ELLIS.