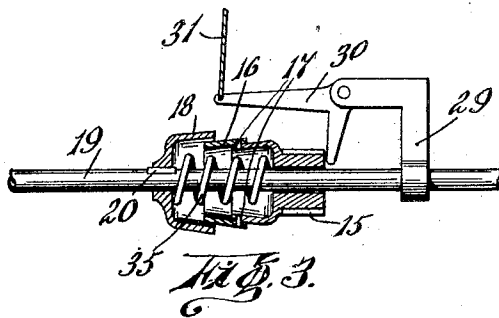
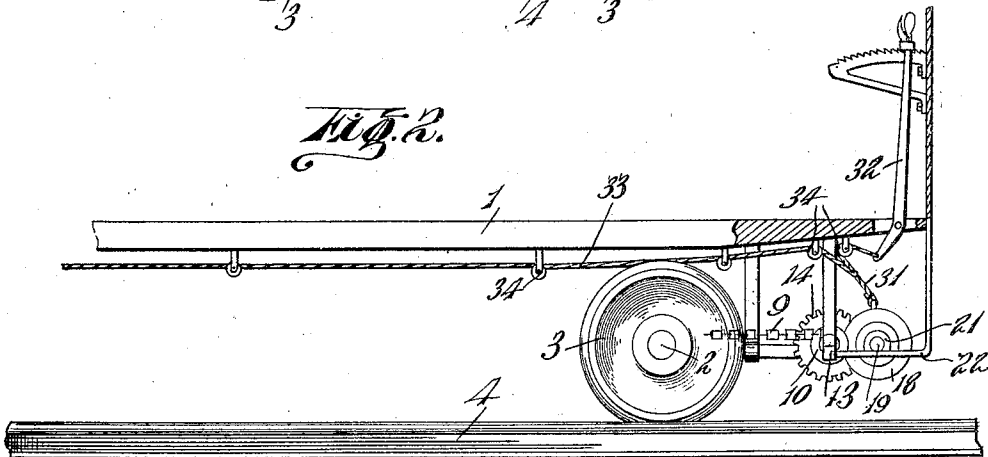
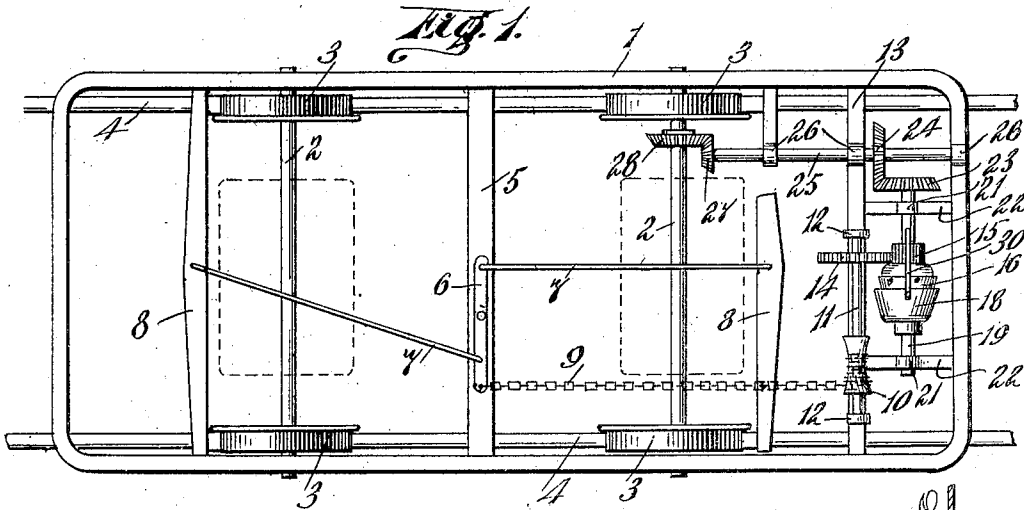


No. 836,362.

PATENTED NOV. 20, 1906.

N. BOUCHARD.
BRAKING MECHANISM.
APPLICATION FILED APR. 6, 1906.



Witnesses:

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NOËL BOUCHARD, OF LONGUE POINTE, QUEBEC, CANADA.

BRAKING MECHANISM.

No. 836,362.

Specification of Letters Patent.

Patented Nov. 20, 1906.

Application filed April 6, 1906. Serial No. 310,232.

To all whom it may concern:

Be it known that I, NOËL BOUCHARD, a subject of the King of Great Britain, residing at Longue Pointe, county of Laval, Province of Quebec, Canada, have invented certain new and useful Improvements in Braking Mechanism; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to car-braking mechanism.

The object of my invention is to provide a simple and easily-operated means for utilizing the power of the rotating axles of a car for applying brakes to the wheels.

A further object is to provide a removable cone-section whereby the parts receiving the most wear may be readily renewed; and my invention consists of the construction, combination, and arrangement of parts as herein illustrated, described, and claimed.

In the accompanying drawings, forming part of this application, I have illustrated one form of embodiment of my invention, in which drawings similar reference characters designate corresponding parts, and in which—

Figure 1 is a plan view of the chassis of a car. Fig. 2 is a side elevation, partly broken away to show the construction of the front end; and Fig. 3 is a vertical section through the friction-cones of my invention, the operating-lever and supporting bracket and shaft being shown in elevation.

Referring to the drawings, 1 designates a frame having axles 2 and supporting-wheels 3 running upon a track 4, all of ordinary construction. Disposed across the frame 1 is a transverse brace 5, supporting a pivoted lever 6, to the ends of which lever are connected the brake-rods 7, extending to the brake-beams 8, all of which are of ordinary construction. Extending forwardly from one end of the pivoted lever 6 is a flexible member 9, which is secured on a winding-drum 10. The drum 10 is supported on a shaft 11, disposed in bearings 12 on a brace 13. Secured on one end of the shaft 11 is a gear 14, in mesh with a cone-pinion 15. Removably secured to the pinion 15 is a cone-section 16, suitable rivets or bolts 17 being used to make this connection.

The object of having the section 16 removable is that it is subjected to the most wear; and one of the objects of this invention is to

provide means for readily renewing this worn part.

Disposed adjacent the cone-section 16 and with which it is adapted to contact is a cone 18, secured on a shaft 19, as by means of the spline 20. Suitable bearings 21 support the shaft 19, which bearings are carried by the longitudinal braces 22.

For the purpose of actuating the shaft 19 there is provided on one end thereof a bevel-gear 23, in mesh with a bevel-gear 24, secured on a longitudinally-extending shaft 25, which shaft is carried in bearings 26. Secured to the rear end of the shaft 25 is a pinion 27, in mesh with the gear 28, secured on the front axle 2 of the car. When the car is in motion, it will be evident that the shaft 19 will be constantly rotated.

Secured adjacent the pinion 15, which is slidably mounted on the shaft 19, is a bracket 29, to which is pivotally secured a bell-crank lever 30, the lower arm of which is adapted to abut against the pinion 15 and to slide the same on the shaft 19. Secured to the other arm of the bell-crank lever is a flexible member 31, connected to the lower end of a brake-lever 32 of ordinary construction. Secured to said latter arm of the bell-crank lever and extending to the opposite end of the car is a flexible member 33, which may be run over rollers 34 to reduce the friction and to permit the gear being braked from the opposite or rear end.

For the purpose of normally maintaining the cones 16 and 18 out of contact, a suitable helical spring 35 is disposed intermediate of said cones and around the shaft 19.

In the operation of the device to apply the brakes to the car the bell-crank lever 30 is actuated to slide the pinion 15 toward the left-hand side of Fig. 3, and thus to throw the cone-section 16 into contact with the cone 18, causing rotation of the pinion 15. This pinion being in mesh with the gear 14, rotation of the shaft 11 is caused, with the ultimate result that the drum 10 is rotated, causing the flexible member 9 to be wound thereon and actuating the lever 6 on its pivot, so that the brake-beams are moved and the brakes applied to the wheels 3.

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

1. In a car-braking mechanism, a driven shaft, a cone secured on the shaft, a pinion loosely disposed on the shaft, a cone remov-

ably secured to the pinion and adapted to engage the fixed cone, a second shaft driven from the pinion, a drum on the second shaft, means normally maintaining the cones out of contact, and means for causing contact of the cones.

2. In a car-braking mechanism, a driven shaft, a cone secured on the shaft, a cone-pinion loosely disposed on the shaft, a cone-section removably secured to the pinion and adapted to engage the fixed cone, a second shaft, a gear on the second shaft in mesh with the pinion, a drum on the second shaft, means normally maintaining the cones out of contact, and means operable from either end of the car for causing contact of the cones.

3. In a car-braking mechanism, a driven shaft, a cone secured on the shaft, a cone-pinion loosely disposed on the shaft, a cone-section removably secured to the pinion and adapted to engage the fixed cone, a second shaft, a gear on the second shaft in mesh with the pinion, a drum on the second shaft, a spring adapted to normally maintain the cones out of contact, and means operable from either end of the car for causing contact of the cones.

4. In a car-braking mechanism, the combination comprising a driven shaft, a cone secured on the shaft, a pinion loosely disposed on the shaft, a removable cone-section secured to the pinion and adapted to engage the fixed cone, a second shaft driven from the pinion, a drum on the second shaft, a bracket secured adjacent the pinion, a bell-crank lever pivoted to the bracket and adapted

ed to contact with the pinion, and a flexible member connected to the bell-crank lever.

5. In a car-braking mechanism, the combination comprising a driven shaft, a cone secured on the shaft, a pinion loosely disposed on the shaft, a removable cone-section secured to the pinion and adapted to engage the fixed cone, a second shaft driven from the pinion, a drum on the second shaft, a bracket secured adjacent the pinion, a bell-crank lever pivoted to the bracket and adapted to contact with the pinion, and a plurality of flexible members connected to the bell-crank lever.

6. In a car having axles, wheels on the axles, a pivoted lever, rods connected to the lever, a brake-beam connected to the rods, the combination comprising a gear on one of the axles, a shaft disposed adjacent the gear, a pinion on the end of the shaft in mesh with the gear, a gear on the shaft, a second shaft adapted to be driven by the gear on the first shaft, a clutch on the second shaft, means normally maintaining the clutch out of engagement, means for causing engagement of the clutch, a third shaft driven from the second shaft, a drum on the third shaft, and a flexible member secured to the drum and the pivoted lever.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

NOËL BOUCHARD

Witnesses:

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