

(No Model.)

2 Sheets—Sheet 1.

D. L. WINTERS.
CAR BRAKE.

No. 561,845.

Patented June 9, 1896.

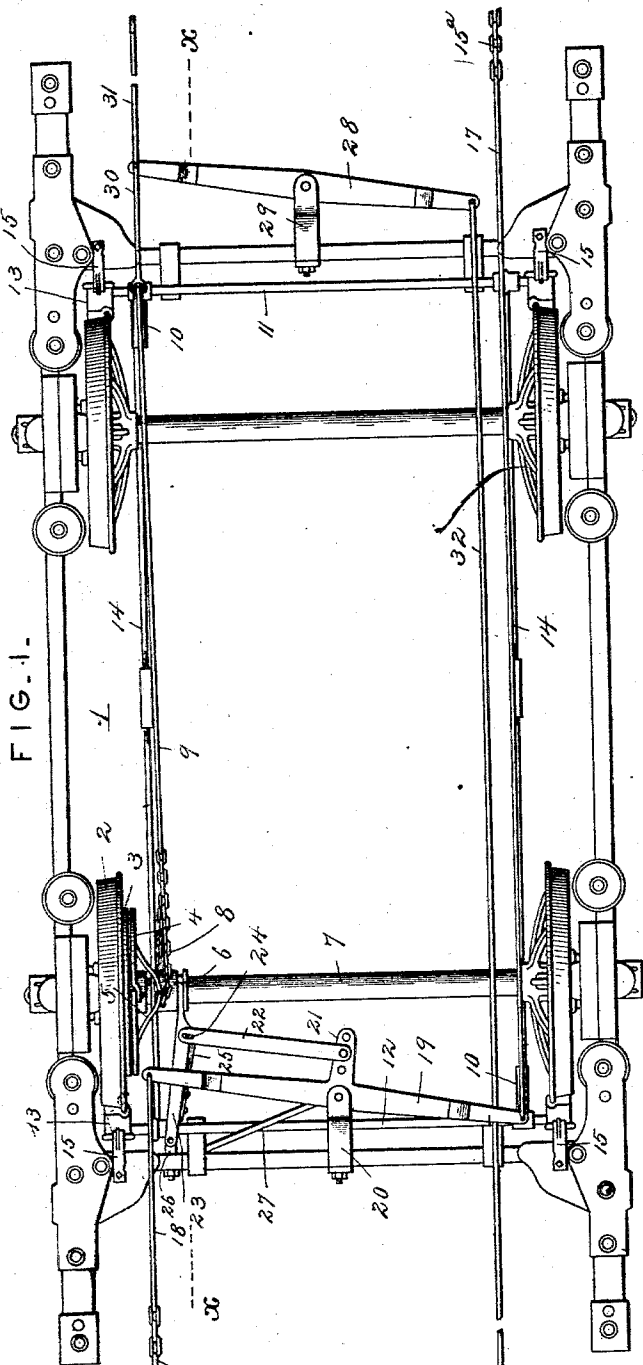


FIG. 1.

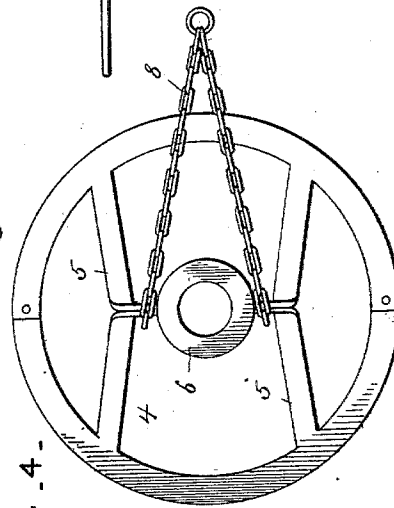


FIG. 4.

FIG. 5.

FIG. 6.

Witnesses

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J. F. Riley

By his Attorneys,

Inventor
David L. Winters.
C. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

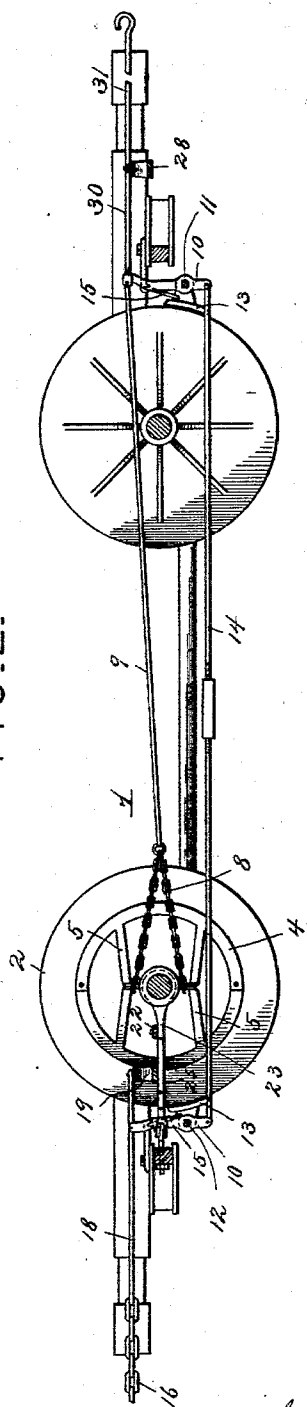


FIG. 7.

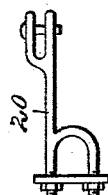
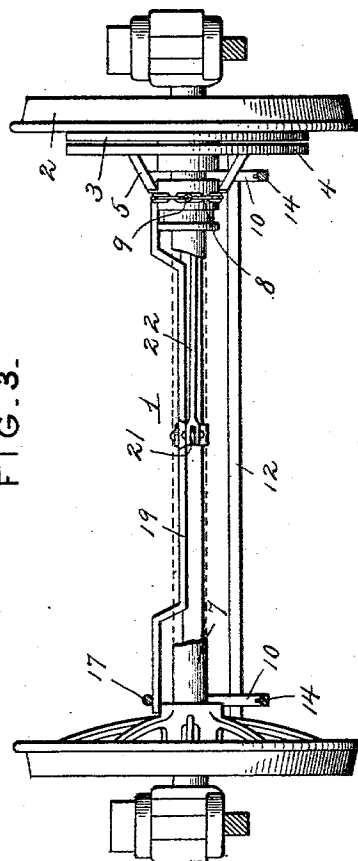


FIG. 8.



FIG. 3.



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UNITED STATES PATENT OFFICE.

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ROBERT F. LYTLE AND HERBERT J. MCCLUNG, OF PUEBLO, COLORADO.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 561,845, dated June 9, 1896.

Application filed November 15, 1895. Serial No. 569,111. (No model.)

To all whom it may concern:

Be it known that I, DAVID LEON WINTERS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Car-Brake, of which the following is a specification.

The invention relates to improvements in car-brakes.

The object of the present invention is to improve the construction of that class of car-brakes which are applied to motor-cars, more especially the construction shown and described in Patent No. 532,621, granted me January 15, 1895, and to enable the brake to be readily applied from either end of a motor-car.

A further object of the invention is to provide such a brake mechanism which, when applied, will simultaneously apply the brakes of trailers and be capable of being connected at either end of the motor-car with the brake mechanism of the trailers.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a plan view of a brake constructed in accordance with this invention and shown applied to a motor-car truck. Fig. 2 is a longitudinal sectional view of the same on line *xx* of Fig. 1. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view of the friction-clutch. Fig. 5 is a detail view of the T-shaped brake-lever. Fig. 6 is a detail view of the forked shifting bar. Figs. 7 and 8 are detail views of the fulcrums of the T-shaped lever and the forked shifter.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a motor-car truck which is designed to have a motor mechanism centrally mounted on it in the usual manner, and the truck and the motor mechanism may be of any desired construction.

One of the car-wheels, preferably the wheel 2, is provided with a friction ring or plate 3, which may be formed integral with the car-wheel or be secured thereto, and which is en-

gaged by a friction-clutch 4, but the latter may operate against the face of the wheel, if preferred.

The friction-clutch 4, which may be varied in form and construction and may, if desirable, consist of a solid disk to bear directly against the wheel, is preferably circular and is connected by arms 5 with a drum 6, and the latter is slidably arranged on the axle and is adapted to be moved longitudinally thereof to carry the friction-clutch into and out of engagement with the car-wheel. The drum is connected by eyebolts with ends of chains 8, which have their outer ends connected with a brake-rod 9, and when the drum rotates with the axle in either direction by reason of the friction-clutch being in engagement with the car-wheel the chains will be wound around the drum drawing on the brake-rod and applying the brakes. The eyebolts, which connect the chains to the drum, pass through the arms 5 at points close to the drum.

The brake-rod 9 is connected with the upper end of the lever 10 with one of a pair of brake-beams 11 and 12, which are provided with brake-shoes 13, engaging the car-wheels in the usual manner. The brake-beams are connected by equalizing-rods 14 and are suspended from the truck by hangers 15.

The brake is applied from either end of the car by brake-shafts (not shown) of the ordinary construction, connected by chains 15 and 16 with connecting-rods 17 and 18, having their inner ends secured to the outer terminals of opposite arms of a transversely-disposed T-shaped brake-lever 19. The T-shaped brake-lever 19 is fulcrumed at its center on a bearing-bracket 20, and it has its central arm 21 of less length than the side arms and connected by a bar 22 with an oscillating or shifting bar 23. The ends of the bar 22 are bifurcated. One end is adjustably connected with the arm 21 of the T-shaped brake-shaft, said arm being perforated to permit the adjustment of the bar 22 to vary the power of the brake mechanism, and the diameter of the drum may also be varied in order to obtain the desired power for the application of the brake. The other arm of the bar 22 is slotted at 24, and the bar 22 and the lever 23 have a limited movement independent of each

other. A spring 25 has one end secured to the inner edge of the oscillating or shifting bar 23, and its other end is free and engages the slotted end of the bar 22 and is arranged in the bifurcation thereof, whereby when the brake is applied the bar 22 first engages a spring and yieldingly forces the friction-clutch in engagement with the car-wheel until the full power of the operating mechanism is felt. This spring may be made of any desired strength to cause the friction-clutch to engage the car-wheel gradually and with increasing force, and it serves to cushion the parts and to prevent injury to them. The outer end of the oscillating or shifting bar 23 is pivoted to an eyebolt or bearing 26, and the inner end of the bar 23 is forked and is received in an annular groove of the drum 6. When the T-shaped lever is operated by either of the rods 17 or 18, the drum will be reciprocated to carry the friction-clutch into engagement with the car-wheel 2. The bearing bracket or arm 20, which fulcrums the lever 19, is preferably supported by a brace 27, having one end secured to the arm or bearing-bracket by the fulcruming pivot or bolt and its other end secured to the frame of the truck.

In order to enable the brake mechanism to be connected at either end of the motor-car with the brake mechanism of a trailer, a transverse lever 28 is centrally fulcrumed on the bracket-arm 29, and has one end connected with the brake-rod 9 by a short rod 30, whereby when the brake-rod 9 is drawn in the direction of the drum the transverse lever 28 will be operated. The transverse lever 28 is connected with the inner ends of rods 31 and 32, extending from the transverse lever 28 in opposite directions and preferably terminating in hooks to enable them to be readily detachably connected with the brake-rod of a trailer by a chain or the like.

It will be seen that the brake is simple and comparatively inexpensive in construction, that it is especially adapted for motor-cars, and that as soon as the friction-clutch is thrown in engagement with the car-wheel the brake will be automatically applied. It will also be apparent that the brake can be operated from either end of a motor-car and that it is adapted to operate the brake mechanism of a trailer when either end of the motor-car is coupled to the latter.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any advantages of the invention.

What I claim is—

1. In a car-brake, the combination of a drum designed to be slidably mounted on an axle and provided with a clutch arranged to engage a car-wheel, a longitudinally-disposed oscillating bar pivoted at its outer end and connected at its inner end with the drum, a transversely-disposed bar 22 slotted at one end and connected at that point with the os-

cillating bar, whereby the two parts have a limited movement independent of each other, a spring disposed longitudinally of the oscillating bar, secured at one end to the same and having its other end engaging the bar 22, and the lever connected with the latter, substantially as described.

2. In a car-brake, the combination of a drum designed to be slidably mounted on an axle and carrying a clutch for engaging a car-wheel, a brake-rod, flexible connections between the brake-rod and the drum, a T-shaped lever having its central arm connected with the drum and adapted to oscillate the same, and rods extending from the opposite arms of the T-shaped lever in opposite directions to the ends of the car and provided at their outer terminals with chains adapted to be connected with brake-shafts, whereby the brake may be applied from either end of a car, substantially as described.

3. In a car-brake, the combination of a drum designed to be slidably mounted on an axle and provided with a clutch arranged to engage a car-wheel, a longitudinally-disposed oscillating bar pivoted at its outer end and connected at its inner end with the drum, a transversely-disposed bar 22 slotted at one end and connected at that point with the oscillating bar, whereby the two parts have a limited movement independent of each other, a spring disposed longitudinally of the oscillating bar, secured at one end to the same and having its other end engaging the bar 22, a brake-rod flexibly connected with the drum, a transverse lever 28 fulcrumed intermediate of its ends and connected at one end with the said brake-rod, and the rods 31 and 32 extending from the ends of the transverse lever 28 in opposite directions to the ends of the car to enable a motor-car to be connected at either end with the brake mechanism of a trailer, substantially as described.

4. In a car-brake, the combination of a drum designed to be slidably mounted on an axle and provided with a clutch arranged to engage a car-wheel, a longitudinally-disposed oscillating bar pivoted at its outer end and connected at its inner end with the drum, a transversely-disposed bar 22 slotted at one end and connected at that point with the oscillating bar, whereby the two parts have a limited movement independent of each other, a spring disposed longitudinally of the oscillating bar, secured at one end to the same and having its other end engaging the bar 22, a T-shaped lever 19 centrally fulcrumed and having its central arm connected to the adjacent end of the bar 22, the other arms of the T-shaped lever being disposed transversely of the car, the rods 17 and 18 extending in opposite directions from the outer ends of the T-shaped lever and provided at their outer terminals at the ends of the car with chains adapted to be connected with brake-shafts, a brake-rod flexibly connected with the drum or transverse lever 28, fulcrumed

intermediate of its ends and connected with
the brake-rod, and the rods 31 and 32 extend-
ing from the ends of the transverse lever 28
to the ends of the car to enable the same to
5 be connected with the brake mechanism of a
trailer, substantially as described.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in
the presence of two witnesses.

DAVID LEON WINTERS.

Witnesses:

A. G. LYONS,

C. A. GRAY.