(No Model.)

B. L. KILGOUR.

SAFETY BRAKE FOR STREET CARS.

No. 573,516. Patented Dec. 22, 1896.

Fig. 1.

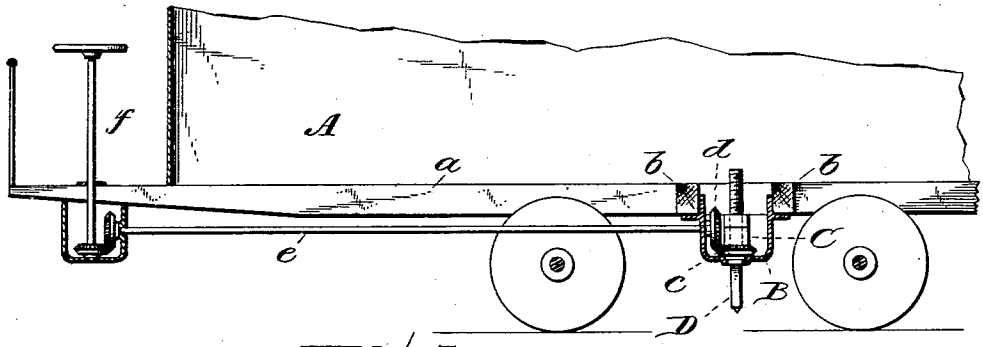


Fig. 3.

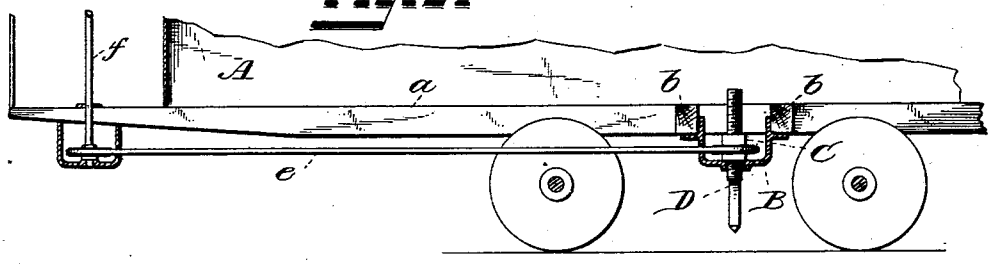


Fig. 4.

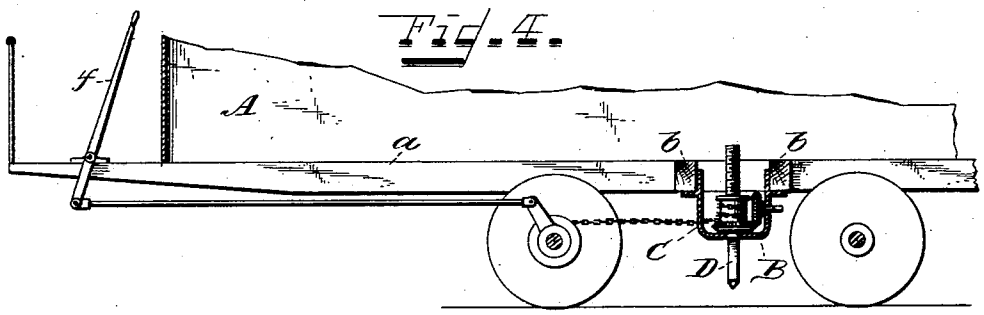


Fig. 5.

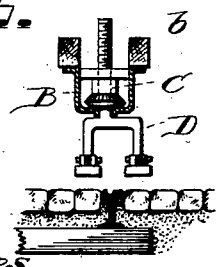


Fig. 2.

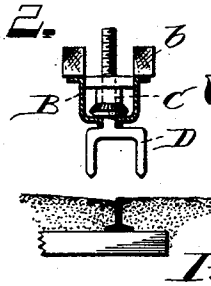
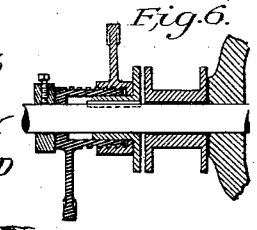


Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

BAYARD L. KILGOUR, OF CINCINNATI, OHIO.

SAFETY-BRAKE FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 573,516, dated December 22, 1896.

Application filed July 29, 1895. Renewed November 21, 1896. Serial No. 613,048. (No model.)

To all whom it may concern:

Be it known that I, BAYARD L. KILGOUR, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Safety-Brakes for Street-Cars, of which the following is a specification.

My invention relates to that class of brakes known as "safety" or "emergency" brakes, and it is designed more especially for street-cars such as are propelled by either electricity, cable, or other motive power; and the object of my said invention is to provide a device to be used in conjunction with the ordinary brake which is simple and cheap in construction and adapted to brake on the ground and immediately stop a car going at any rate of speed either on a downgrade or level or a slippery icy track, and thereby prevent accidents and loss of life and property.

My invention consists in the arrangement and combination of parts, the novelty of which will be hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, in which similar letters of reference indicate similar parts, Figure 1 is a side elevation of so much of a street-car as is necessary to show my invention, showing the brake applied thereto. Fig. 2 is a sectional end elevation of same. Figs. 3 and 4 are side elevations showing modified constructions in the means for operating the brake. Fig. 5 is an end elevation showing the ends of the brake-fork provided with shoes to be used in paved streets. Fig. 6 is a detail view of the friction-clutch partly shown in Fig. 4.

A designates the car-body, and *a* the usual timbers or braces provided on the under side of the car-floor.

b are cross-bars or braces running transversely across the under side of the car-floor and directly in the center of same. To these braces *b*, on one side of the car, midway between the wheels of the truck, is mounted the supporting-casing B, which may be constructed of cast-iron or any other suitable material. The box or nut C is journaled in this casing B and is provided with a central screw-threaded bore for the reception of the upper end of the brake D. This brake D consists, preferably, of a forked rod made of forged material, so as to give it the necessary strength, the upper end of which is formed into a screw-threaded shaft and is adapted to work in the threaded bore of the box C.

While I have shown the brake D provided with a forked lower end adapted to straddle the rail, I do not wish to limit myself to this, as the lower end of same might be made and operate just as well if it only had one prong, and, if desired, the brake might be put on both sides of the car instead of one side, as shown in the drawings.

The brake D is adapted to be raised or lowered by the revolution of the box or nut C, and this may be effected in different ways. In Fig. 1 I have shown the box C as forming the hub of a miter-gear *c*, which meshes with a gear *d*, mounted on a shaft *e*, which runs to the car-platform and is geared to the brake hand-wheel rod *f*. This arrangement is my preferred construction, and all of its movements are positive and very strong and durable.

In Fig. 3 I have shown the box C formed with a sprocket-wheel and a sprocket-chain connecting it with a sprocket-wheel on the hand-wheel rod *f*. This is probably the cheapest construction that could be used, but is not so durable as that described in Fig. 1.

In Figs. 4 and 6 I have shown the box C formed in the shape of a drum, having a chain secured thereto, the other end of which is secured to a drum on the car-axle and is provided with a friction-clutch and a connecting-lever running to the car-platform for operating the said clutch. When the clutch is thrown into gear, the drum revolves with the axle and winds up the chain, thus winding drum-nut C and running the brake up or down.

When it is intended to use the brake on paved streets, such as asphalt or granite blocks, the ends of the fork are provided with steel shoes *g*, as shown in Fig. 5.

The operation of my brake is very simple. The operator by simply turning the brake-wheel rapidly feeds the brake D down into the ground or against the paved street, the said brake acting as a lever to raise the car after it touches the ground or pavement and thereby receive its full weight and insure a complete and immediate stop.

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

1. The combination with a car-body, of a supporting-casing carried thereby, a box or nut provided with a threaded bore mounted thereon, a longitudinally-movable brake provided with a threaded shank which passes through the threaded bore of said box or nut, and means for revolving the nut to raise or lower the brake, substantially as described.

2. The combination with a supporting-casing connected to the body of the car, of a brake consisting of a forked rod adapted to straddle the rail, the upper end of which is provided with a screw-threaded shank, a box provided with a screw-threaded opening through which said shank passes, and means for revolving said box to raise or lower the brake, substantially as described.

3. In a safety-brake, the combination with a car-body, of a supporting-casing connected thereto, a box or nut provided with a screw-threaded bore mounted therein, a forked rod provided with a vertical screw-threaded shank adapted to pass through the bore of said box or nut, shoes provided on the ends of said fork, and means for revolving the said box or nut to raise and lower the brake, substantially as described.

4. In a safety-brake, the combination with a car-body, of a supporting-casing secured thereto, a box or nut journaled in said casing provided with a screw-threaded bore, a brake consisting of a forked rod provided with a screw-threaded shank adapted to pass through the bore in said box or nut, a gear connected with said box, and an intermeshing gear mounted on a shaft geared to the brake-handle rod, substantially as described.

In witness whereof I have hereunto set my hand and affixed my seal this 12th day of July, A. D. 1895.

BAYARD L. KILGOUR. [L. S.]

Witnesses:
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