L. WOOD.

TRACK-CLEARERS FOR STREET-CARS.

No. 195,738. Patented Oct. 2, 1877.

Fig. 1.

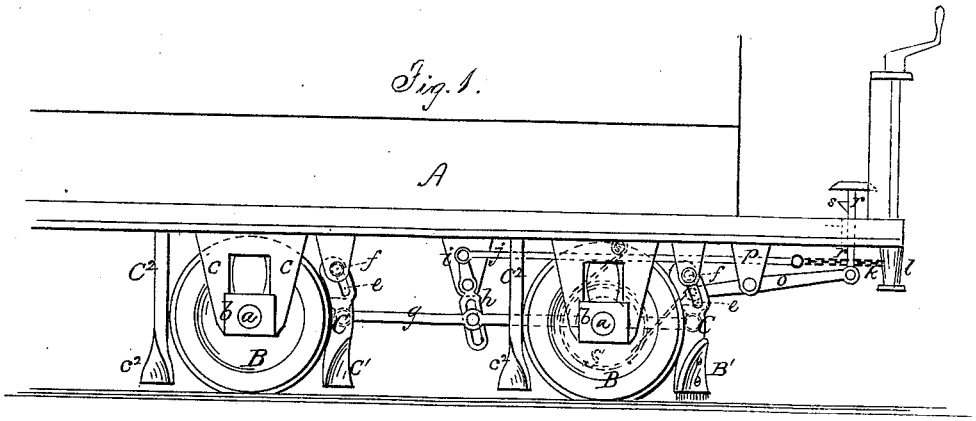


Fig. 2.

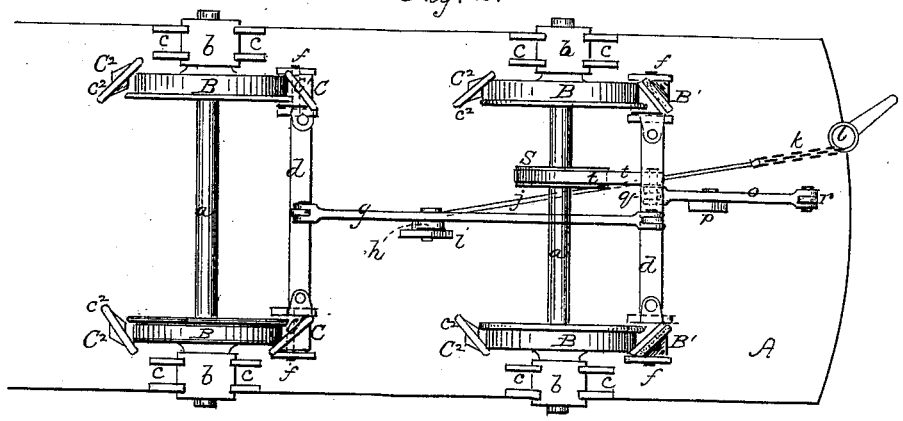


Fig. 3.

Fig. 4.

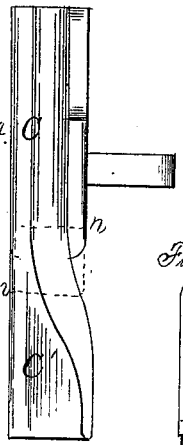


Fig. 5

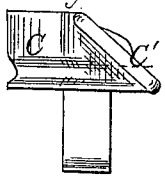
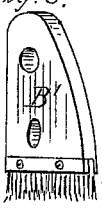


Fig. 6.



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UNITED STATES PATENT OFFICE.

LOFTIS WOOD, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN TRACK-CLEARERS FOR STREET-CARS.

Specification forming part of Letters Patent No. **195,738**, dated October 2, 1877; application filed May 10, 1877.

To all whom it may concern:

Be it known that I, LOFTIS WOOD, of Brooklyn, Kings county, State of New York, have invented certain Improvements in Street-Cars, of which the following is a specification:

My invention relates to street-cars; and consists in a novel construction, combination, and arrangement of parts; and has for its objects to improve the operation and facilitate the manipulation of the track-clearers or wheel-guards when applied to such cars, as will be fully hereinafter set forth.

In the drawings, Figure 1 is a side view of the wheels and lower part of a car provided with my improvements. Fig. 2 is a view underneath the car. Figs. 3, 4, and 5 are different views of the brake block or shoes; and Fig. 6 represents a brush which may be attached to the lower part of the guard of the brake-shoe, as shown in Figs. 1 and 2.

A A represent the body of the car; B B, the wheels; *a a*, the axles; *b b*, the axle-boxes, supported between jaws *c c*, as usual. C C are the brake shoes or blocks, which are slotted, as shown at *e*, Fig. 1. Through the slot *a* pin *f* passes. *d d* are the brake-beams, which are connected by the bar *g*. *h* is a lever pivoted on the hanger *i*. The lower extremity is slotted to receive a pin from the middle of the bar *g*. *j* is the brake-rod pinned to the upper end of the lever *h*. *k* is the chain connecting it with the lower extremity of the brake-drum *l*.

Reference to Figs. 3, 4, and 5 will render the construction of the brake block or shoe clear. The dotted lines *m n* show the shape of the lower end of the ordinary brake shoe or block. I cast to this old form a guard, C^1, shown in the drawing as commencing from the line *m n*, Figs. 3 or 4. This guard, which, when cast with the brake-block, forms a continuation of the same, is of the shape shown, and it is slightly twisted, so as to bring its outer face at an angle to the line of the track horizontally, as shown at Figs. 2 and 5, thus rendering it deflecting.

When in normal position, as shown in Fig. 1, the lower extremity of the deflecting-guard is about an inch and a half or two inches above the track.

It is evident that instead of the guard being formed in one piece with the brake-block, it may be separate and bolted thereto.

By making the outer face of the guard deflecting, as shown, obstacles on the track with which it comes in contact are more easily thrown off from the track; but the guard need not necessarily be made with a deflecting-face. The guard also affords a ready and convenient support for a track-brush, B′, Fig. 6, which may be bolted thereto, as shown.

Thus far the deflecting-guard has been described as forming a part of the brake-shoe, or as being attached thereto; but it may be independent thereof, and form the lower portion c^2 of bar C^2, depending from underneath the car.

In passing switches, frogs, or other irregularities on the track, or when the car jumps the track, it will be expedient to elevate the guard, so as to allow it to clear the obstacles or stones which might injure the brake by its coming in contact with them.

To accomplish this I employ a lever, *o*, pivoted to a hanger, *p*, underneath the car. One end of this lever is pinned to the brake-beam at *q*, as shown, and to the other extremity is pin-jointed a vertical rod, *r*, which passes through a hole in the platform of the car, and is provided with a foot-piece, as shown, and a projection, *s*, by which, when it is forced down, it may be retained in that position. By using another lever pivoted at a point nearer the middle of the car than the lever *o* is, the rear brake may be raised simultaneously with the front brakes.

To raise the brakes they must be "off," and therefore I employ a supplemental brake, consisting of the grooved pulley S, secured to the front axle of the car, and the band *t*, one end of which is fastened to the bottom of the car, and the other end to the brake-beam *d* at *q*, so that as the beam is raised the band is drawn tightly around the pulley, and acts as an efficient brake. This brake may also be brought into action should the wheel-brakes be rendered useless through any accident. When it is desired merely to elevate the brakes and their guards without bringing into action the band-brakes S *t*, the rod *r* need not be depressed to its fullest extent, when the band will not be tightened sufficiently to act as a brake.

The mechanism for raising the track-clearer need not necessarily be a part of the car-brake mechanism, as the clearers or guards may be

secured to a bar extending across the car similarly to the brake-beam, which bar may be elevated by the mechanism, already described, for raising the latter. When the clearers or guards are thus made separate from the brake mechanism the supplemental brake may be employed or not. If used it may be operated by the lever *o*, substantially as already described.

The brake-shoes have been shown as applied to a car in which one end is always the forward end, and therefore the brakes on the rear wheels are situated on the side of the wheels toward the front wheels; but on cars which run either way the brake would be on the outer side of the wheels.

I claim—

1. A rail-clearer or wheel-guard secured rigidly to the brake shoe or block, or formed thereon, the same being capable of a vertical motion, and operated by mechanism, substantially as described, whereby it may be elevated from the track, constructed and operating substantially in the manner described and specified.

2. A brake-block provided with guide-slots *e*, in combination with supporting-pins *f*, allowing it to be raised or lowered, constructed and operating substantially as described and specified.

3. The combination, with a brake capable of being raised and lowered, and the mechanism for raising and lowering the same, substantially as specified, of a supplemental brake, S *t*, constructed and operating substantially in the manner described and specified.

4. In a street-car, the combination, with the shoe-brake provided with a track-clearer, of the band-brake brought into action simultaneously with the raising of the shoe-brake, in the manner and by mechanism substantially as described and specified.

5. The combination, with a brake-shoe provided with a deflecting-guard, as described, of a track-brush attached directly to said guard, substantially in the manner described and specified.

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