

(No Model.)

G. F. RENOUF.

CAR BRAKE.

No. 279,018.

Patented June 5, 1883.

Fig. 1.

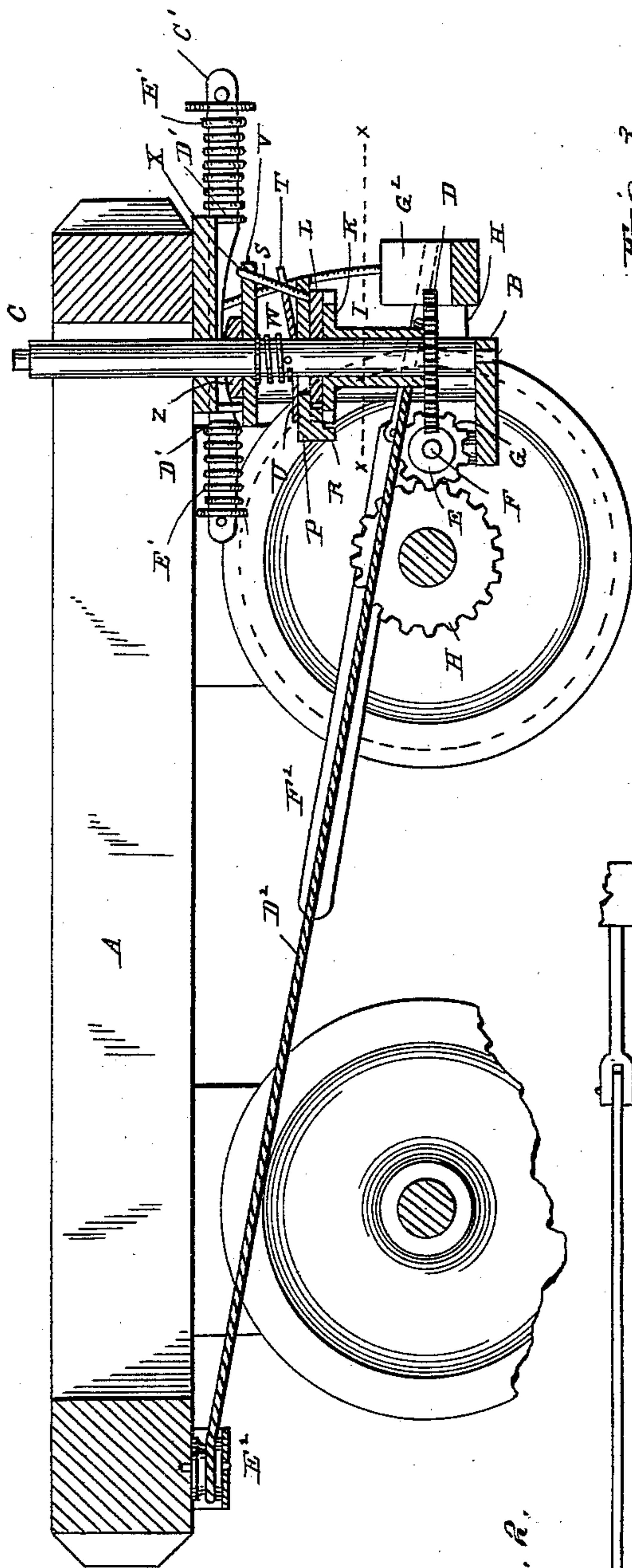


Fig. 3.

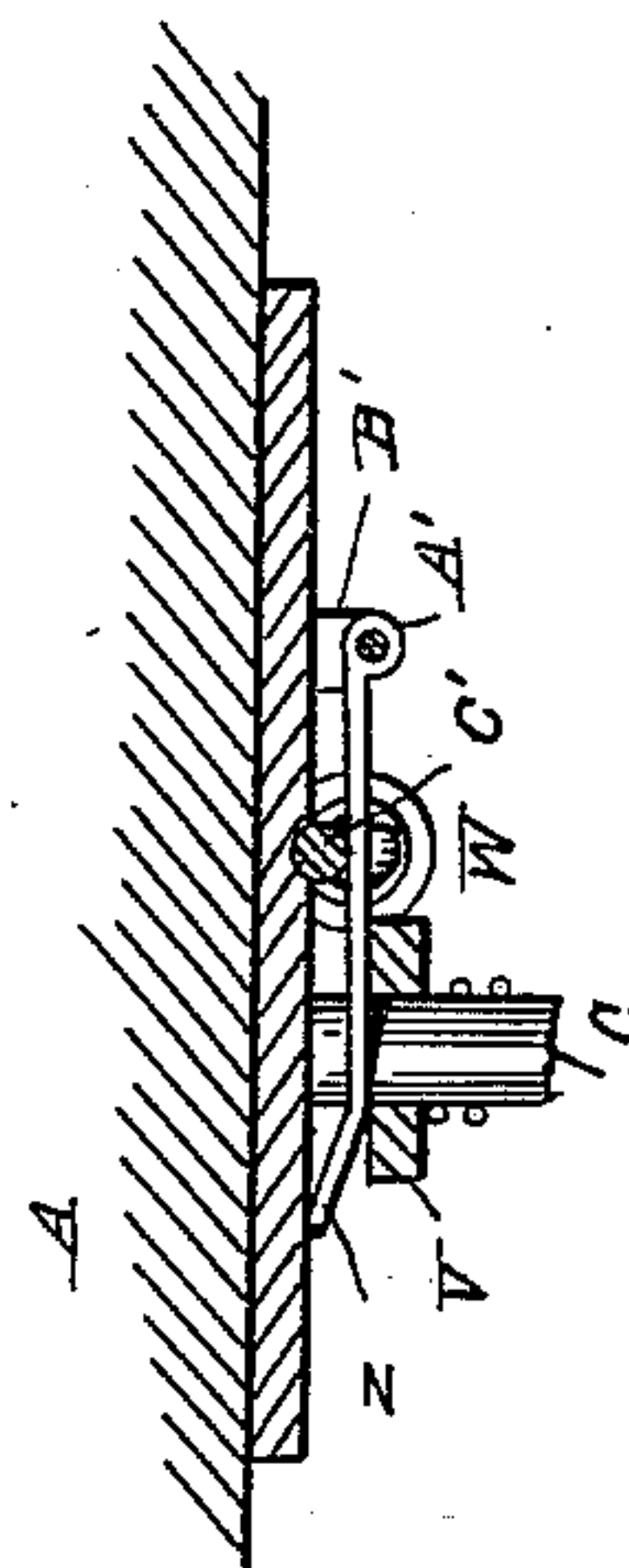
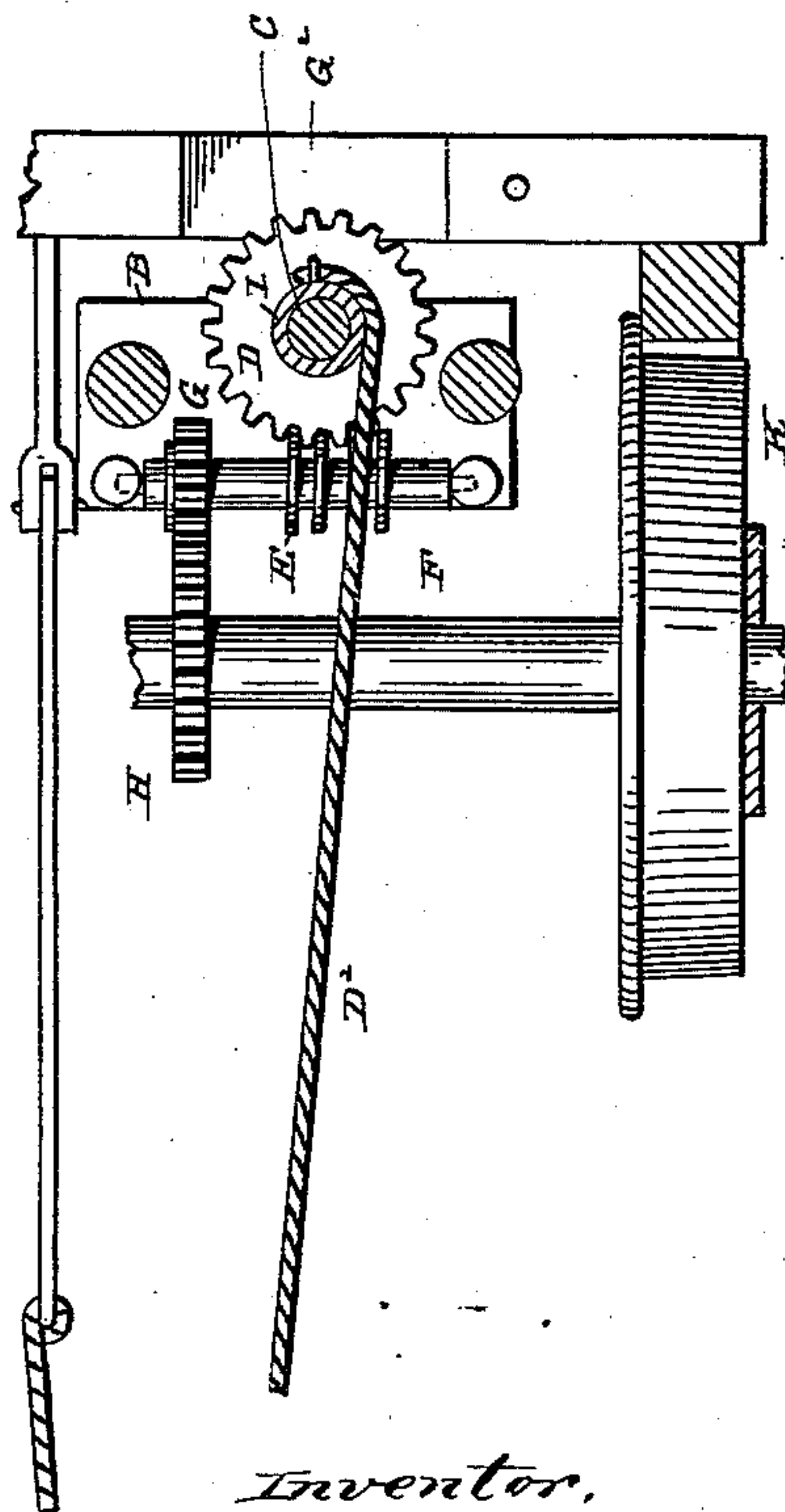


Fig. 2.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

GEORGE F. RENOUF, OF BATTLE CREEK, MICHIGAN.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 279,018, dated June 5, 1883.

Application filed March 16, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. RENOUF, of Battle Creek, in the county of Calhoun, and in the State of Michigan, have invented certain  
5 new and useful Improvements in Railway-Car Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference  
10 marked thereon, making a part of this specification.

This invention relates to certain improvements in car-brakes; and it has for its objects to use the momentum of the cars for applying  
15 the brakes to the wheels, as more fully hereinafter specified. These objects are attained by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical  
20 sectional view of a car-truck, showing my invention applied thereto. Fig. 2 is a horizontal sectional view on the line *xx* of Fig. 1; and Fig. 3, a detached sectional view of a portion of my apparatus, showing the mechanism for shifting  
25 ing the parts so as to apply the brakes.

The letter A indicates the truck of the car, which is of the usual construction and mounted on wheels in the usual manner. Near one end the truck is provided with a depending frame,  
30 B, in which is journaled in suitable bearings a vertical shaft, C, which has near its lower end a cog-wheel, D, with which intermeshes a worm, E, on a horizontal shaft, F, journaled in bearings in short standards secured to the  
35 lower part of the frame B. The said shaft is provided with a pinion, G, which intermeshes with a cog-wheel, H, mounted upon one of the axles of the truck. Upon the said shaft C is mounted a loose sleeve, I, which at its upper  
40 end is provided with a notched disk, K. Above said disk, and secured to the shaft, is a disk, L, of equal diameter, which is notched or slotted on its edge, as shown in Fig. 1 of the drawings, and above said disk is arranged a  
45 slotted plate or slide, P, which sets loosely around the vertical shaft. The said plate or slide is provided with a lug, R, on its lower side, and diametrically on the opposite upper side with an inclined pin, S, which passes  
50 through a slot, T, in a plate, U, rigidly secured to the shaft C.

The letter V indicates a plate mounted loosely on the said shaft above the plate U, and adapted to move vertically on said shaft, being held  
upward normally by a spiral spring, W, en- 55  
circling the said shaft. The said plate V is provided with an aperture, X, which sets over the inclined pin S, before mentioned.

The letter Z indicates a flat spring secured to a short metallic bar, A', fastened between  
60 dependent lugs B', attached to the frame B. The said spring is provided with an opening, through which the vertical shaft passes, in such manner as to permit its free end to bear against the plate V. 65

The letter C' indicates a slide having its lower side beveled from the ends toward the center. The said slide is adapted to work in guides D', and is provided with spiral springs E', by means of which it is held in and returned  
70 to a normal position. The beveled edge of the said slide sets over the top of the spring Z in such manner that when moved in either direction it will depress the spring for the purpose hereinafter mentioned. The slide C forms a  
75 part of or is connected to the draw-head, so that the backward movement of the latter, when the engine slows up and the cars come together, will apply the brakes. The slide C' has rings at the ends, by means of which it may  
80 be connected to the chains of the brake-levers in order to be operated by hand. From the loose sleeve on the vertical shaft extends a rope or chain, D<sup>2</sup>, back over a pulley, E<sup>2</sup>, at the opposite end of the truck, the said chain  
85 or rope being connected to a rod, F<sup>2</sup>, secured to the swinging beam G<sup>2</sup>, carrying the brake-shoes H<sup>2</sup>, which bear against the wheels.

The operation of my invention is as follows: When it is desired to apply the brakes by hand, 90  
a brake-lever is turned so as to draw upon the beveled slide. The beveled edge of the slide is brought to bear upon the flat spring, depressing the plate upon which it bears. The said plate causes the slotted plate to move diamet- 95  
rically by bearing upon the inclined spring, engaging the lug on the said slotted plate with one of the notches on the loose sleeve, causing it to rotate with the vertical shaft, which is put  
in motion by the gearing before mentioned. 100  
This causes the chain to wind upon the sleeve and tighten the brakes upon the wheels; but



when the apparatus acts as a momentum-brake the pushing in of the draw-head, to which the slide C' is connected or of which it forms part, applies the brake.

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

10 1. The combination, with the truck of a car, of the dependent frame, having journaled therein a vertical shaft, the gearing for rotating said shaft, the loose sleeve mounted on said shaft and connected to the brake-beam by a rope or chain, and the mechanism for throwing the  
15 said sleeve into and out of gear with the shaft, substantially as and for the purpose specified.

2. The combination, with the vertical shaft and the gearing for rotating the same, of the

loose sleeve having a notched plate at its upper end, the guide-plate secured to the shaft, the slotted plate having a lug at its lower side 20 and an inclined pin on its upperside, the slotted guide-plate and the vertically-reciprocating plate having an aperture setting over the pin, the spiral spring and flat spring, and the slide beveled at its lower edge, the whole constructed and arranged to operate substantially as 25 specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 29th day of January, 1883.

GEO. F. RENOUF.

Witnesses:

MARTIN METCALF,  
FRANK G. REYNOLDS.