

(No Model)

3 Sheets—Sheet 1.

H. W. D. DUNLOP.
CAR OR CARRIAGE.

No. 569,094.

Patented Oct. 6, 1896.

Fig.1.

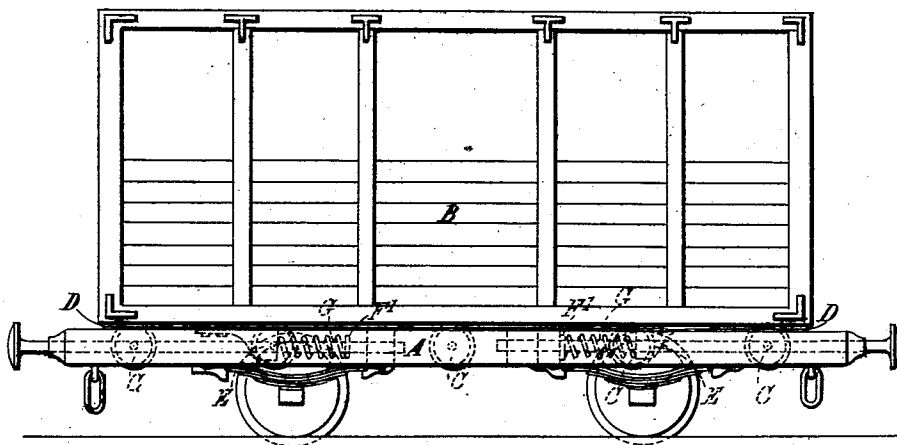
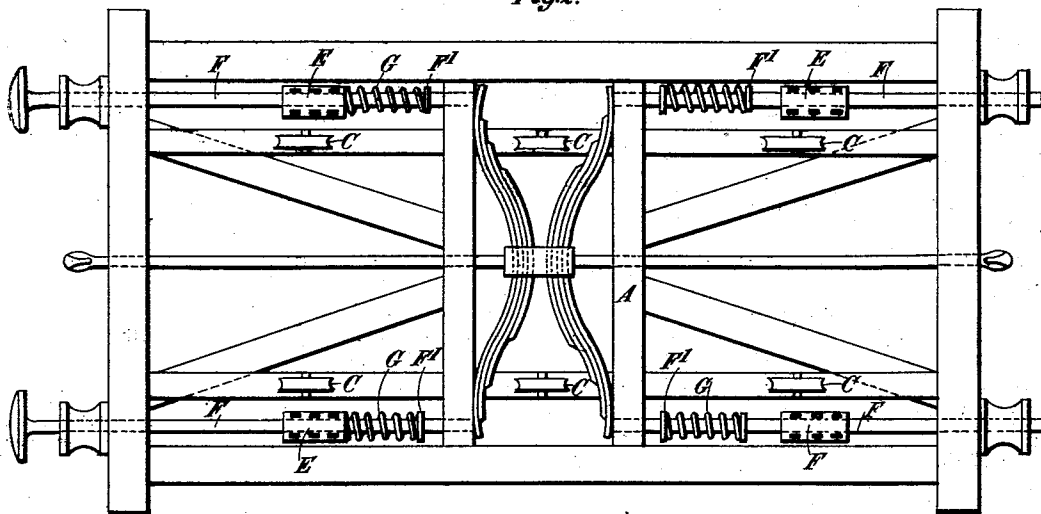


Fig.2.



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Henry W. D. Dunlop.
By James L. Norris
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(No Model.)

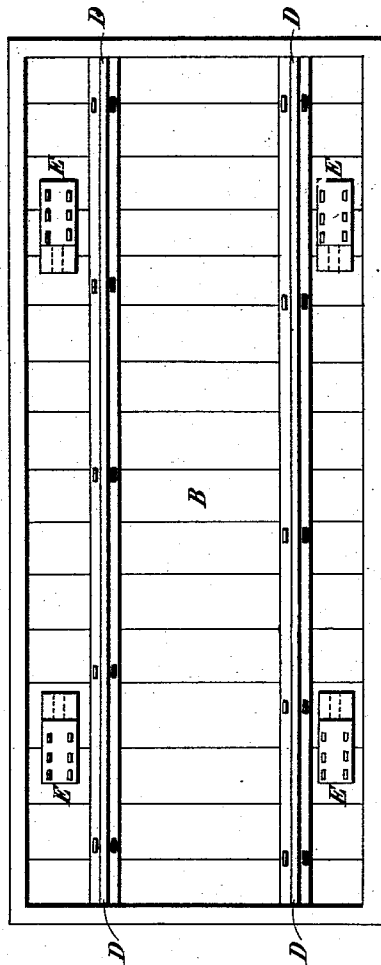
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Fig. 3.



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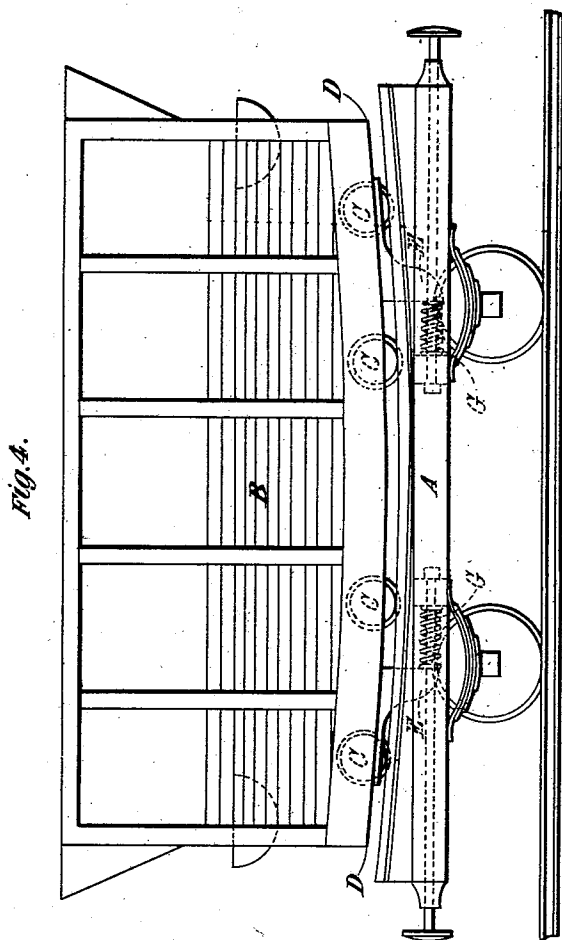
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H. W. D. DUNLOP.
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No. 569,094.

Patented Oct. 6, 1896.



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UNITED STATES PATENT OFFICE.

HENRY WALLACE DOVETON DUNLOP, OF LUCAN, IRELAND, ASSIGNOR
TO THE DUNLOP'S PATENT TRUCK COMPANY, LIMITED, OF DUBLIN,
IRELAND.

CAR OR CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 569,094, dated October 6, 1896.

Application filed March 9, 1896. Serial No. 582,463. (No model.) Patented in England July 27, 1893, No. 14,449.

To all whom it may concern:

Be it known that I, HENRY WALLACE DOVETON DUNLOP, civil engineer, a subject of the Queen of Great Britain, residing at Viewmount, Lucan, in the county of Dublin, Ireland, have invented certain new and useful Improvements in Cars or Carriages, (for which I have obtained a patent in Great Britain, No. 14,449, bearing date July 27, 1893,) of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in cars and carriages.

The object of the invention is to provide a means of preventing the shock occasioned by violent stopping or starting of cars, wagons, trucks, or any kind of carriages.

In order that the said invention may be clearly understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein—

Figure 1 is a side elevation of a railway-vehicle fitted with improvements according to this invention. Fig. 2 is a plan of the under frame, and Fig. 3 an under side view of the body thereof. Fig. 4 is a diagrammatic view of a cattle-truck, illustrating a slight modification hereinafter described.

Like reference-letters indicate corresponding parts throughout the drawings.

Instead of building cars, trucks, carriages, and other vehicles as one structure, I separate them into two—the lower portion or under frame A and the upper portion or body B, and I make the body B to slide or oscillate longitudinally on the under frame A. To enable this to be done, I mount grooved wheels C on the top of the under frame and I place on the bottom of the body longitudinal rails D, which fit and run in the grooves of the wheels C, or, vice versa, the rails may be on the top of the under frame and the grooved wheels on the bottom of the body. The result of this arrangement is that the body can slide or oscillate on the under frame. On the bottom of the body I fit jaws E, which fit over the buffer-rods F, and on each buffer-rod I fix a collar F', and bearing on these collars and encircling the buffer-rods are placed coil-

springs G. When the vehicle receives a shock, such shock is not transmitted to the body, but the latter slides or rolls on and relatively to the under frame, and after it has moved through a short distance the jaws E come in contact with the coil-springs G and compress them, and if the motion imparted by the shock is not then stopped the collars F' will then be moved to cause the buffer-rods to act on the buffer-springs, by which, finally, the body B is brought to rest. Retardation of the movement of the body B is by these means effected slowly and no disagreeable shock is produced.

In the modification illustrated by Fig. 4 I have shown a cattle-truck in which the under frame is fitted with curved rails that are higher at the ends than at the middle, and in which the bottom of the body is curved to suit the curved rails. By this construction gravity is utilized for assisting the return of the body to the central or normal position after each departure therefrom caused by shock. The body is also controlled by springs similar to those described with reference to Figs. 1 to 3.

What I claim is—

1. In a vehicle, the combination of a wheeled under frame, a body mounted on said under frame and capable of a certain amount of free longitudinal movement thereon, and springs to limit the movement of the body, said springs only coming into action when the body has moved some distance from its central position, substantially as described.

2. In a vehicle, the combination of a wheeled under frame, curved rails thereon, a body capable of movement on said rails and so arranged that gravity tends to restore the body to its normal central position whenever it is moved therefrom, and springs to limit the extent of movement of the body from the central position, substantially as described.

In testimony whereof I have hereunto set my hand this 23d day of January, 1896.

HENRY WALLACE DOVETON DUNLOP.

Witnesses:

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J. MACKENZIE,
STEPHEN H. MACKENZIE.