No. 808,251. PATENTED DEC. 26, 1905.

C. V. VON NOLLÉ.

DEVICE FOR CONNECTING THE UPPER PARTS OF CARS WITH WHEEL FRAMES.

APPLICATION FILED MAY 10, 1905.

Fig. 1.

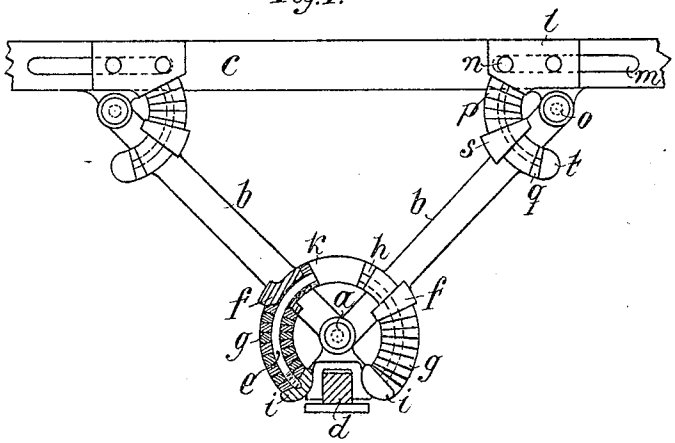


Fig. 2.

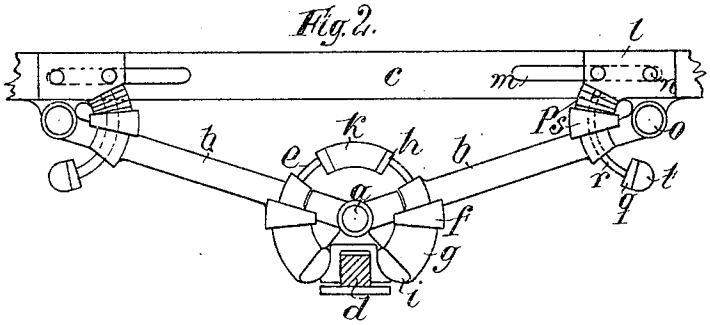
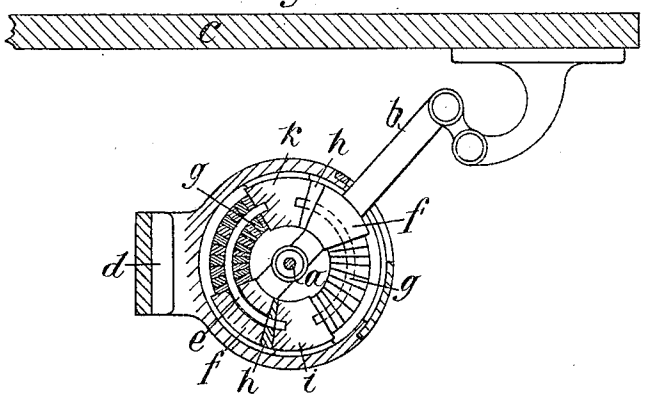


Fig. 3.



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UNITED STATES PATENT OFFICE.

CONSTANTIN VLADIMIROVITCH VON NOLLÉ, OF ODESSA, RUSSIA.

DEVICE FOR CONNECTING THE UPPER PARTS OF CARS WITH WHEEL-FRAMES.

No. 808,251. Specification of Letters Patent. Patented Dec. 26, 1905.

Application filed May 10, 1905. Serial No. 259,307.

To all whom it may concern:

Be it known that I, CONSTANTIN VLADIMIROVITCH VON NOLLÉ, a subject of the Emperor of Russia, and a resident of Odessa, Russia, have invented certain new and useful Improvements in Devices for Connecting the Upper Parts of Cars with Wheel-Frames, of which the following is a specification.

This invention relates to a device for connecting the body of carriages of every description with their wheel-frames, without diminishing the elasticity or resiliency of the body on the frame.

The peculiar feature of the invention consists therein that the upper frame of the carriage does not rest, as hitherto, immediately and without any intermediate link or parts on an elastic material carried by the lower frame or on spiral or plate springs or is suspended on the free ends of the latter, but is suspended on the ends of rigid or stiff one or two armed levers turning on horizontal pivots of the underframe and of which each rests against an elastic pad or cushion at one side or the other or on both sides of a pivot, the distance of this supporting or resting point from that pivot being smaller than the distance of the working point of the load from that pivot.

On the drawings are illustrated two constructions based on this process.

Figure 1 shows a side view of a construction without any load on the carriage and Fig. 2 with a loaded carriage and the body of the carriage suspended on one-armed levers, while in the construction shown in Fig. 3 two-armed levers are used.

Similar letters refer to similar parts throughout the several views.

In both cases the stiff levers *b*, intended to receive the frame *c* of the carriage-body, turn on pivots *a*, which are rigidly fastened in the wheel-frame *d* of the carriage. Each of these levers *b* passes over a segment-piece *e*, arranged concentrically with its pivot *a* and of a circular cross-section, which segment rises out of the middle of a disk *i*, rigidly fastened to the underframe of the carriage, while its upper end is journaled in the middle of a tie or band *k*, which is likewise held by the underframe, or said band forming the connecting-piece between two guiding-segments. The part *f* of the lever which passes over the guiding-piece *e* forms a circular eye, the surface of which facing the disk *i* is of the diameter of that disk, and the opposite surface is similar to that of the band *k*. Both faces of this eye *f* and also those of the disk *i* and of the band *k* lie in planes directed radially toward the center of the pivot. Over the part of the guiding-segment *e* lying between the band *k* and the eye *f* of the lever *a* is pushed a disk *h*, of an elastic material, preferably india-rubber, and over the part between the eye and the disk *i* is placed a sufficiently-large number of likewise elastic disks *g*, so that when there is no pressure or load on the lever *a* the space between the said parts is completely filled up and there is a slight pressure on the disks, Fig. 1. When the upper part of the carriage is loaded, these disks *g* are further compressed, Fig. 2, and form a cushion which weakens all the shocks transmitted from the underframe of the carriage to the upper frame, the efficiency of which cushion depends on the elasticity of the india-rubber used or the tension of the spiral springs used instead of the latter and can by selecting a suitable material always be adapted to the requirements. The thus-formed elastic cushion is used with one-armed as well as two-armed levers and applied in both cases in places lying between the axis of rotation and the working point of the load. In the case of two-armed levers, especially if the carriage is heavily loaded, two cushions can be put in, one on one side and the other on the other side of pivot *a* and at the same distance from it, Fig. 2. The suspension of the load on the upper ends of the lever is effected in the usual manner; but also in this case one of the above-described elastic or spring devices may be used to obtain also at this point a spring action. At a certain distance from the bolt *o*, which unites the lever *b* with a shoe *l*, adjusted, by means of cross-bolts *n*, in holes *m* along the frame *c* of the carriage-body, there is placed an india-rubber cushion *p* between the shoe and the lever *b*, provided at this point with a circular eye *s*, which cushion is held by the segment-piece *r* and is compressed when the frame *c* is loaded, while an elastic disk *q* is placed before a band *t*, fastened to the end of the segment-piece *r*, against which disk presses the lever *b* when the frame is loaded.

This invention is in the first place intended to connect the upper frame with the wheel-frame of vehicles used for transporting light loads on bad roads; but it can also be used for all other vehicles whenever it is desirable or necessary to reduce all shocks to which the underframe is subjected, and consequently,

besides for automobiles and other heavy vehicles, also for sledges, for stretchers and ambulance-carts for the sick and wounded, for beds and so on used on ships and railway-cars and will be found to be superior to the constructions now in use for such cases.

What I claim as my invention, and desire to secure by United States Letters Patent, is—

1. The combination with a vehicle-body and truck or wheel frame, of an inclined lever or arm pivotally connected to said wheel-frame, and to said vehicle, springs tending to yieldingly hold said lever or arm in an inclined position and a segment-piece supporting said springs.

2. The combination with a vehicle-body and truck or wheel frame, of an inclined lever or arm pivotally connected to said wheel-frame and to said vehicle, a segment-piece on the frame, a guiding-eye connected to the lever and having sliding movement on the segment-piece and springs on the segment-piece upon which the eye rests.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CONSTANTIN VLADIMIROVITCH VON NOLLÉ.

Witnesses:

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EUGÈNE DE MOLTCHANOFF.