

C. G. HOLSTEN.

Improvement in Transient-Bolts for Vehicles.

No. 114,821.

Patented May 16, 1871.

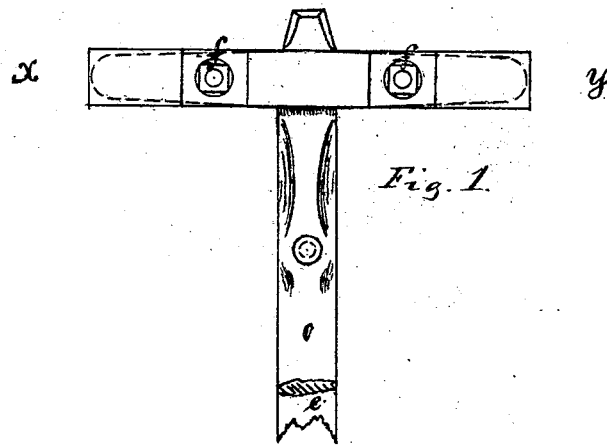


Fig. 1.

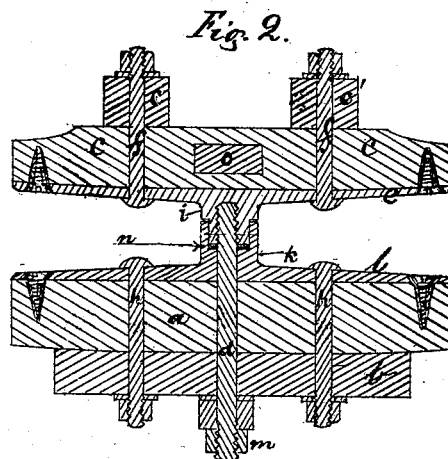


Fig. 2.

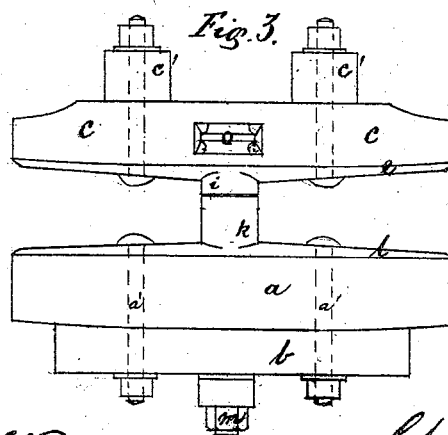


Fig. 3.

Witnesses:

Francis Gardner

Mauritz Anderson

Inventor:

Charles Gustaf Holsten

by his attorney, Abram Andrus

# United States Patent Office.

CHARL GUSTAF HOLSTEN, OF OREBRO, SWEDEN.

Letters Patent No. 114,821, dated May 16, 1871.

## IMPROVEMENT IN TRANSIENT-BOLTS FOR VEHICLES.

The Schedule referred to in these Letters Patent and making part of the same.

I, CHARL GUSTAF HOLSTEN, of Orebro, in the Kingdom of Sweden, have invented certain Improvements in "Transient-Bolts" for Carriages, of which the following is a specification.

### *Nature and Objects of my Invention.*

The nature of my invention relates to certain improvements on transient-bolts for carriages and similar vehicles for the purpose of strengthening and preserving said transient-bolts, as well as strengthening the timbers to which the transient-bolts are attached in a manner as will now be fully shown and described.

#### *On the drawing—*

Figure 1 is a ground plan;

Figure 2 is a central longitudinal section over the line X Y taken on fig. 1; and

Figure 3 is a front view of my invention.

Similar letters refer to similar parts wherever they occur in the drawing.

*a* is the axle-tree, to which is securely held the axle *b*, by means of the bolts *a' a'*, as shown.

*c* is what is generally termed the rocker, on the top of which the springs *c' c'* rest in the usual manner.

A plate, *e*, is firmly secured to the under side of the rocker *c* by means of the bolts *f f* projecting through the rocker and springs *c' c'*, and held in place by nuts or their equivalents, as shown in the different view on the drawing.

In the middle of the plate *e* is a projecting hub, *i*, into which the transient-bolt *d* is screwed.

On the upper side of the axle-tree *a* is another plate, *l*, secured by means of the bolts *h h* projecting through said axle-tree and the axle *b*, and held in place by means of nuts on the under side of the axle *b*, as shown.

The plate *l* has, in the middle, a hub, *k*, of circular

form, made as a cup or receptacle for the hub *i* attached to the plate *e*.

Between the lower end of the hub *i* and the bottom of the cup *k* I place a leather washer, *n*, thoroughly greased, so as to prevent too great a friction on these parts.

The transient-bolt *d*, after being firmly secured to the hub *i*, as described, projects through the hub *k*, plate *l*, axle-tree *a*, and axle *b*, the whole being held together by means of a lock-nut, *m*, below the axle *b*, as shown.

The cross-bar *o* is mortised through the rocker *c* in a usual manner, as shown in the drawing.

The advantages I gain over common transient-bolts is that I do not project my transient-bolt through the rocker *c* and the mortise for the cross-bar *o*, thereby strengthening the connection of the rocker and cross-bar *o* materially.

I also obtain a strong and durable bearing of the rocker *c* onto the axle-tree *a* with very little friction, as the cup *k* forms a receptacle for the lubricating material that is used.

Having thus fully described the construction and operation of my invention,

I wish to secure by Letters Patent and claim—

The combination of the transient-bolt *d* screwed into the hub *i*, the metallic plates *e* and *l*, hub *i*, and receptacle *k*, and the anti-frictional washer *n*, when all are combined and arranged substantially as herein shown and described.

CHARL GUSTAF HOLSTEN.

Witnesses:

ALBAN ANDREN,  
FRANCIS GARDNER.