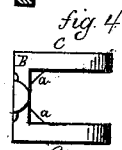
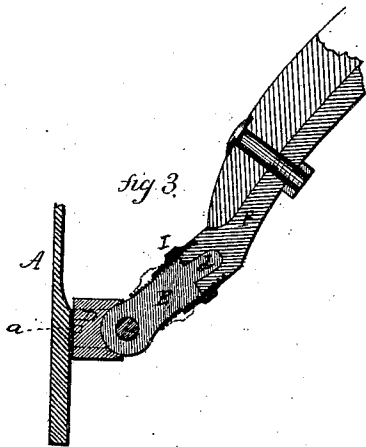
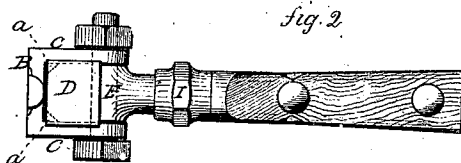
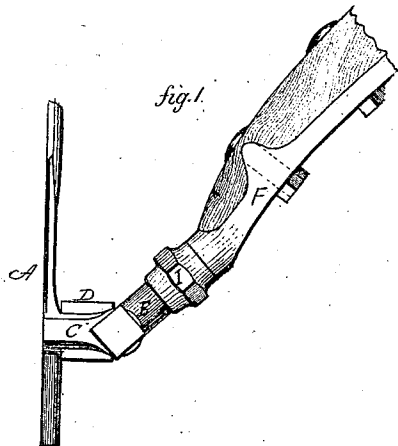


F. B. MORSE.  
Thill Coupling

No. 109,927.

Patented Dec. 6, 1870.



Witnesses  
J. H. Sumnerway  
a. J. Tibbitts

Francis B. Morse  
Inventor  
By his Attorney  
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# United States Patent Office.

FRANCIS B. MORSE, OF PLANTSVILLE, CONNECTICUT, ASSIGNOR TO HIMSELF AND H. D. SMITH & CO., OF SAME PLACE.

Letters Patent No. 109,927, dated December 6, 1870.

## IMPROVEMENT IN THILL-COUPINGS.

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

To all whom it may concern:

Be it known that I, FRANCIS B. MORSE, of Plantsville, in the county of Hartford and State of Connecticut, have invented a new Improvement in Carriage-Shackles; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1, a side view;

Figure 2, a top view;

Figure 3, a central section; and in

Figure 4, a top view of the shackle, the thill-iron removed.

This invention relates to an improvement in device for attaching the thill or pole of carriages to axles, known to the trade as carriage-shackles, the object being, first, to secure the anti-rattling pad in position; and secondly, a device for shifting for either pole or shafts without removing the eye from the shackle.

My invention consists—

First, in forming a rib in each angle of the shackle, which imbeds itself into the India-rubber pad, thereby securing the pad, to prevent its accidental removal.

Second, in making the thill-iron and eye in two parts, with a threaded sleeve, to secure the two parts together, and allow the thill-irons to be detached without removing the eye from the shackle.

A is the clip, upon which the base B and its two ears, C C, of the shackle, are formed in any known manner.

The eye is inserted between the ears, leaving a space to be filled by the anti-rattling pad D, usually formed of India rubber.

The working of the eye causes the pad to work out from its seat, to avoid which I form in each angle of the shackle a rib, *a*, which imbeds itself into the pad D, as seen in figs. 2 and 3, and thus prevents the displacement of the pad.

To remove the shafts or pole from the carriage, to change one for the other, or for any other purpose, it

is necessary to drive out the bolt which secures the eye in the shackle and forms its pivot, and this is accomplished with considerable difficulty in consequence of the pressure of the pad against the eye.

To make the shafts or pole detachable, I form the thill-iron, which has heretofore been formed in a single piece, terminating in the eye, in two parts, E and F, E being the eye proper; and F the thill-iron, the thill-iron being the same whether for shafts or pole; and I cut a thread on the meeting end of both parts, onto which an internally-threaded sleeve, I, is turned, say first onto the eye E, as denoted in broken lines, fig. 3, then set the thill-iron in position, and run the sleeve I onto the thill-iron, as denoted in figs. 1, 2, and 3, coupling the two parts together. Whenever it is desired to remove the shaft or pole, run the sleeve I down onto the eye until the iron F is freed, when it may be removed and others attached or replaced when desired.

In order to take the strain from the thread of the screw, which in some cases is desirable, I form a stud *d* on the eye, as seen in fig. 3, making the shoulder on the eye, and the corresponding surface on the iron, at an angle across the threads, and the stud at right angles to the said shoulder. In consequence of this angular position of the stud, the strain upon the thill-iron is brought upon the stud, which it must displace before the strain can come upon the thread, the parts fitting closely together to give a combined strength far in excess of the thread alone.

I claim as my invention—

1. A carriage-shackle in which the ribs *aa* are constructed and arranged in internal angles to be imbedded into the pad D, in the manner and for the purpose specified.

2. The thill-iron F and eye E, combined with and united by the sleeve I, with or without the inclined stud *d*, substantially as herein set forth.

F. B. MORSE.

Witnesses:

A. J. TIBBITS,  
J. H. SHUMWAY.