A. HARVEY & M. R. THURBER.

Thill-Coupling.

No. 205,958. **Patented July 16, 1878.**

Fig 1.

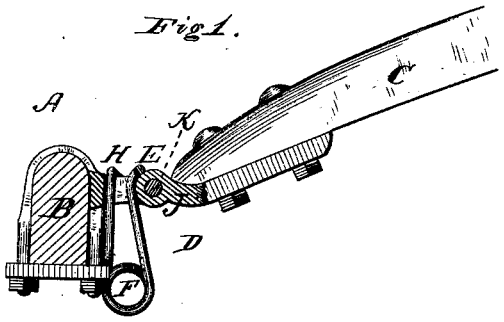
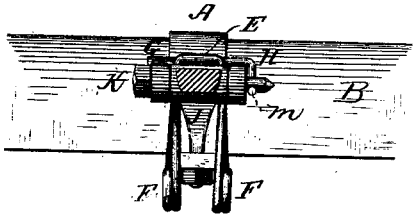


Fig 2.



WITNESSES

Harry King

W. C. Jordinston

INVENTORS

Albert Harvey,

Milton R. Thurber,

By Hill Freeman & Mein ATTORNEYS

UNITED STATES PATENT OFFICE.

ALFRED HARVEY, OF SCRANTON, AND MILTON R. THURBER, OF NICHOLSON, PENNSYLVANIA.

IMPROVEMENT IN THILL-COUPLINGS.

Specification forming part of Letters Patent No. **205,958**, dated July 16, 1878; application filed April 29, 1878.

To all whom it may concern:

Be it known that we, ALFRED HARVEY, of Scranton, in the county of Luzerne and State of Pennsylvania, and MILTON R. THURBER, of Nicholson, in the county of Wyoming and State of Pennsylvania, have invented certain new and Improved Thill-Couplings; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a thill-coupling, partly in section, showing the application of our improvement; and Fig. 2 is a front elevation of the same.

Similar letters of reference in the several figures denote the same parts.

Our invention has for its object to provide a thill-coupling with an anti-rattling device, which shall serve at the same time to lock the coupling-bolt in place, and prevent the thills from suddenly dropping down upon the ground when the horse is removed from between them.

To this end it consists in a strong metal spring so connected to the coupling that one part shall bear against the eye on the end of the thill, to prevent rattling, and another part shall bear upon the pivotal locking-bolt outside the coupling, to hold said bolt from working out.

It further consists in the peculiar form of spring employed for accomplishing these results, and the manner of its application, as we will now proceed to describe.

In the accompanying drawings, A represents an ordinary thill-coupling applied to a section, B, of a carriage-axle, and to a section of a shaft, C. D is the elastic locking device, consisting of a strong metal spring, bent in the form of a loop, E, whose sides contain one or more coils, F, and again bent so that its ends G H shall extend up in rear of the loop E. When applied to the coupling the device is inserted from below between the jaws of the coupling-clip with the loop E bearing firmly against the rear side of the eye J, and the ends G H caught or bent over the jaws of the clip.

To prevent the loop E from dropping down it is bent forward somewhat over the eye J, while the ends G H, being caught over the clip-jaws, prevent them also from dropping out of place. By this means the force of the springs formed by the coils F is exerted to press the loop E firmly against the eye J, to prevent the rattling thereof on its bolt, and also to assist in preventing the thills from dropping suddenly down when the horse is removed from them.

K is the bolt by which the thill is secured to the clip, and to avoid the use of a nut and nut-lock to hold it in place it is provided with a lateral recess, *m*, in the under side of its threaded end, into which the long end H of the spring is extended outside the clip, as shown. This forms an effectual lock to prevent the bolt from working out of place, because the force of the spring tends to hold the arm H constantly within the notch.

Having thus described our invention, what we claim as new is—

1. An attachment for thill-couplings, consisting of a strong spring connected to the coupling, so that one part shall bear against the eye on the end of the thill to prevent rattling of the joint, and another part press against the pivotal locking-bolt, outside the coupling, to prevent said bolt from working out, substantially as described.

2. In a thill-coupling, the metal spring, consisting of the loop E, coils F, and ends G H, combined with the pivotal locking-bolt K, having the lateral recess *m*, substantially as described, for the purpose specified.

ALFRED HARVEY.
MILTON R. THURBER.

Witnesses:
JNO. SCRAGG,
W. M. FINN.