(No Model.)

G. E. SMITH.

THILL COUPLING.

No. 304,140. Patented Aug. 26, 1884.

Fig. 1.

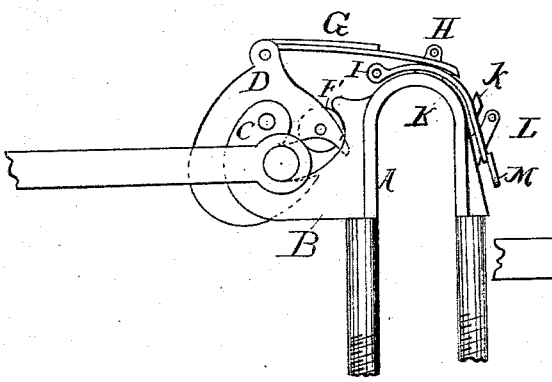


Fig. 2.

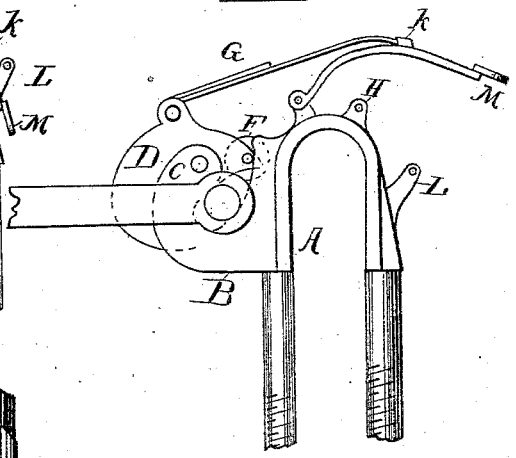


Fig. 3.

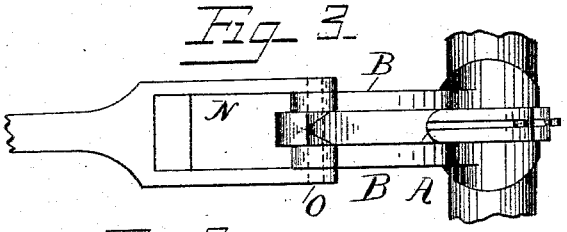


Fig. 5.

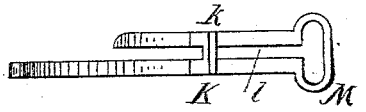


Fig. 6.

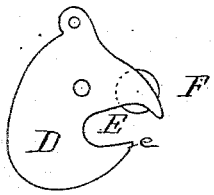
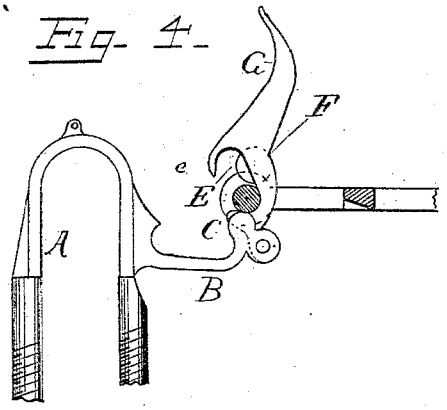


Fig. 4.



Witnesses.
G. H. Brown.
Philip Hawley

Inventor.
George E. Smith
Per Wallace A. Bartlett
His attorney.

UNITED STATES PATENT OFFICE.

GEORGE E. SMITH, OF RACINE, WISCONSIN, ASSIGNOR OF ONE-HALF TO A. C. BUELL, OF EVANSTON, ILLINOIS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 304,140, dated August 26, 1884.

Application filed January 23, 1884. (No model.)

To all whom it may concern.

Be it known that I, GEORGE E. SMITH, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Pole and Thill Couplings and Horse-Detaching Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to pole and thill couplings, and is especially intended for use as a horse-detaching device which may be used in case of accident or runaway.

The object of the invention is to produce a cheap yet durable coupling, by which, without the aid of wrench or nuts, a pole or thills may be quickly attached to or removed from a vehicle, and, while giving a secure fastening, placing the same under the control of the driver without leaving his seat.

The special features of novelty of my invention will be hereinafter pointed out and claimed.

In the drawings, Figure 1 is a side elevation of my clip with safety-coupling attached. Fig. 2 is a reverse elevation of same, the coupling partly opened. Fig. 3 is a plan of the same. Fig. 4 is a side elevation of a modification, hereinafter explained. Fig. 5 is a plan of the safety detaching-lever. Fig. 6 is an elevation of the pivoted eccentric.

A indicates the clip, which is secured to the axle in usual manner. This clip has projecting arms B B, which have hooks C at their outer ends. These hooks receive the eye of the pole or thills, as hereinafter explained. An eccentric piece, D, is pivoted between the arms B B, (or it may be made of two side plates and pivoted to a single arm on the clip, thus reversing the construction.) The eccentric piece D has a notch or opening, E, at one side, and is so pivoted that when the eccentric is swung to its closed position one side of this notch shall coincide with the hooks C, while the other side of the notch serves to inclose a bolt passed through the hooks, as shown in Fig. 1. A slit or recess in the eccentric piece D serves as a receptacle for a piece of rubber, leather, or similar material, which should be secured to the piece D by a pin or rivet. This piece F thus forms a bearing on the eye-bolt of the thills and prevents rattling. An arm, G, is hinged or otherwise attached to eccentric D, as shown in the drawings. This arm has a slot or loop in its free end, which loop passes over lug H on the clip when the eccentric is closed, and may be secured by a small wooden pin passing through the top of said lug. This pin must not be so strong that it cannot be readily broken. A lever, K, is pivoted to lug I of the clip, so as to lie under the end of arm G when both are closed down on the clip. Lever K has a perforation, *l*, which closes over lug L on the clip, and also has a loop, M, for the attachment of a strap or cord leading up and into the carriage or to other point in proximity to the hand of the driver. The lever K has a projection, *k*, as shown, a little back from the end of arm G, when said arm is closed down over lever K. This projection may be a little undercut. When the free end of lever K is lifted by a pull on the strap or other power applied to loop M, the arm G is first lifted from engagement with lug H. The further movement of lever K brings the projection *k* against the end of arm G, and by its thrust rotates the eccentric D on its pivot. The lower edge, *e*, of notch or recess E in the eccentric serves to lift the bolt or cross-bar O of the pole-eye N out of engagement with hooks C, and any forward pull on the pole or thills will then turn the eccentric, and the eye will be released therefrom as well as from the hooks.

The modification shown in Fig. 4 is not intended for use as a safety detaching apparatus, but shows the application of the eccentric with a single permanent attachment to a clip for permanent coupling. In this case the arm G locks over the lug H on the clip, as in the device before described. The notch E in the piece D is made oblong, and the anti-rattling piece F is applied, as before described, to bear on the cross-pin of the eye N.

I claim—

1. The combination, with an axle-clip having projecting arms provided with hooks, of a notched eccentric piece pivoted to said arms, the side of the notch coinciding with the hooks, as described, and mechanism, sub-

stantially as described, whereby the eccentric may be turned, all substantially as shown and set forth.

2. The combination, with the clip having extended arms and hooks, as described, of the eccentric piece D, notched, as described, and pivoted to said arms, and arm G, pivoted to said eccentric piece, and adapted to hook over lug H, substantially as described.

3. The combination, with a clip having hooks and eccentric detaching apparatus, substantially as described, of the arm G, extending from said eccentric over a lug on the clip, the lever K pivoted to the clip so as to lie under said arm, said lever being provided with a projection, *k*, to engage the end of arm G, and thus operate the eccentric, substantially as set forth.

4. The combination, with the clip, its hooked arms, and the eccentric piece pivoted to said arms, of the packing F, secured in said eccentric, as described, in position to bear on the pin and prevent rattling, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. SMITH.

Witnesses:
JNO. W. KNIGHT,
CHARLES H. LEE.