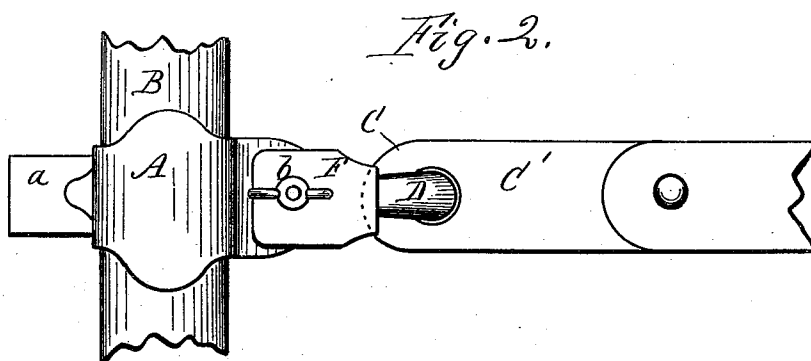
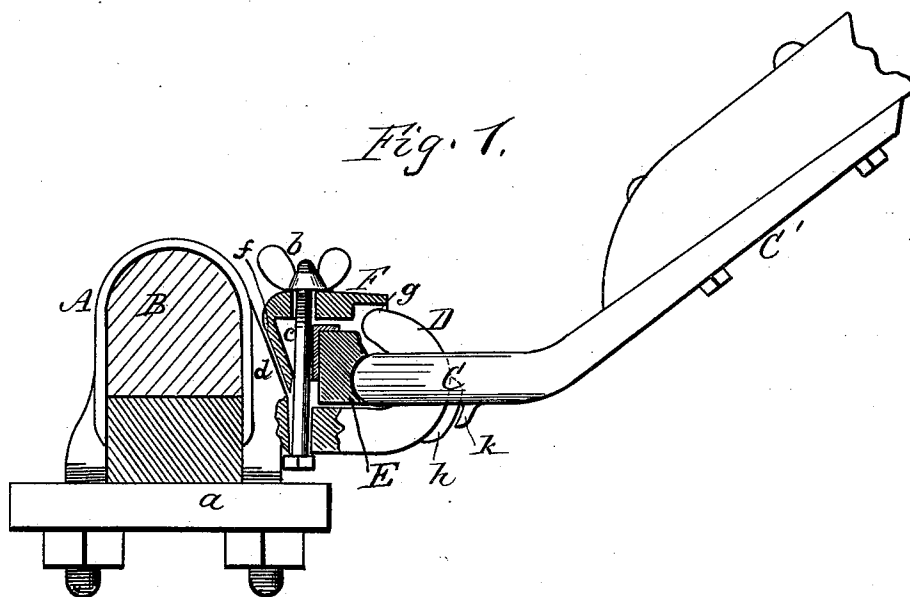


(No Model.)

G. H. ALLEN.
THILL COUPLING.

No. 469,926.

Patented Mar. 1, 1892.



Witnesses

P. Alevstich
Geo. R. Davis

Geo. H. Allen, ^{Inventor}
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UNITED STATES PATENT OFFICE.

GEORGE H. ALLEN, OF BROCKPORT, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 469,926, dated March 1, 1892.

Application filed August 20, 1891. Serial No. 403,151. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. ALLEN, of Brockport, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Thill-Couplings, of which the following is a specification.

My improvement relates to hook-and-eye couplings, in which a hook is formed on the clip and an eye on the thill-iron, which are fitted together, the same facilitating the application and removal of the thills.

The invention consists in the construction and arrangement of parts hereinafter described and claimed.

In the drawings accompanying this application, Figure 1 is a longitudinal vertical section of the coupling, and Fig. 2 is a plan view.

A indicates the clip, and B the axle, connected by the ordinary cross-bar *a*. The clip is provided with a hook D for the connection of the thill-eye; but, if desired, the hook may be formed on the end of the cross-bar *a*. On the inner face of the clip back of the hook is an incline *d*, widest at the bottom, as shown in Fig. 1.

C is the thill-eye forming a part of the ordinary thill-iron C', said thill-eye resting in the hook, as shown. To connect the thills with the axle they are raised to nearly a vertical position and then lowered again, and in the latter position they cannot be disconnected.

E is a rubber or other packing bearing against the thill-eye, and F is a case in which the packing is located and held. The case has an incline *f* on its back, which rests against the incline *d* on the face of the clip. It also has a thin hood or shell *g* in front, which extends over and covers the top of the hook, and thus forms a shield to prevent entrance of dirt.

c is a screw-bolt having a solid head on the under side bearing against the bottom of the base of the hook, said screw-bolt extending up through a hole in the shank of the hook and through a corresponding hole in the case F and provided at the top with a thumb-nut *b*, bearing on the top of the case. The hole in the shank of the hook through which the

bolt passes is made flaring or enlarged, so that as the case is forced forward by turning down the nut the bolt can move forward with it.

By the construction above described the packing can be forced forward at any time to tighten the coupling by simply turning down the thumb-nut. In so doing the incline *f* on the back of the case rides down on the corresponding incline *d* of the clip and the case with the packing is forced bodily outward, thereby presenting a square contact of the packing against the thill-eye, which is not the case where it is simply forced down vertically, the packing thus having a tendency to cramp. The enlarged hole in which the bolt rests allows the latter to move forward with the case.

The construction above described is specially applicable to a hook-and-eye coupling. By being pressed bodily outward with but slight vertical movement the rubber packing is made to fit squarely against the back of the eye, which presents but small surface for its contact, whereas if it were brought down on top or on the upper side it could not be made to bear effectively on the eye, owing to the necessary backward projection of the hook over the eye. The projecting shell *g* of the case is also essential to cover the top of the hook, thereby excluding dirt, preventing the catching of any extraneous matter on the hook, and presenting a good finish.

h is a lug on the outer face of the hook D, and *k* is a corresponding bearing on the under side of the thill-eye C. The lug is made concentric with the hook and the bearing rests in contact therewith. The position of these parts is such that when the thills are in their normal position the bearing rides outside the lug and tends to hold the eye in firm contact with the hook, thus preventing rattling and undue wear on the packing by loose action; but when the thills are raised to the upright position to disengage them from the axle the lug and bearing separate, thus allowing the loose movement necessary to disengage the parts.

Having described my invention, I do not

claim, broadly, a hook and eye; neither do I claim, broadly, a packing forced up to place by a screw.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a hook-and-eye coupling, the combination, with the clip A, provided with the inclined face *d*, of the case F, provided with the inclined back *f*, resting in contact with the incline *d*, and having a projecting shell *g*, covering the top of the hook, the packing E, held by said case, and the screw-bolt *c* and nut *b*, said screw-bolt resting loosely in a hole in the hook and case, whereby the packing is forced bodily against the back of the eye beneath the hook with but slight vertical movement, as herein shown and described.

2. In a thill-coupling consisting of a hook and-eye and a packing in the rear to press the eye to place, the combination, with the hook D and thill-eye C, of the lug *h* on the hook and the bearing *k* on the thill-eye, resting in contact and serving to prevent undue reacting pressure of the eye on the packing, as herein shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE H. ALLEN.

Witnesses:

JOHN R. WHITNEY,
C. M. BURLINGAME.