D. C. BREED.

Thill-Coupling.

No. 45,812 Patented Jan. 10. 1865.

Fig. 1.

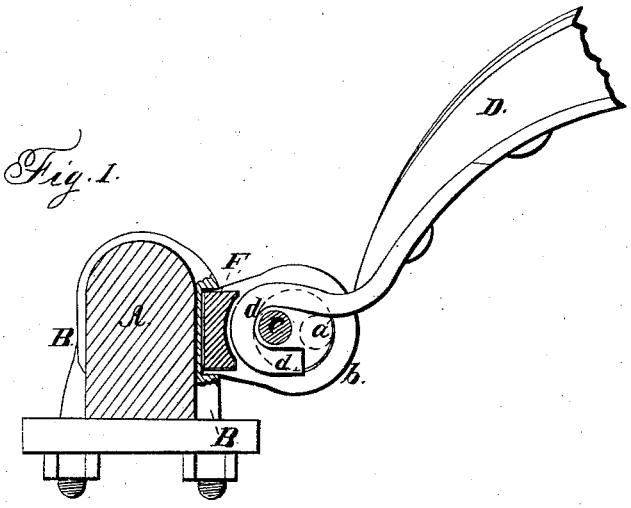


Fig. 2.

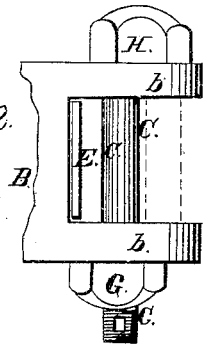


Fig. 4.

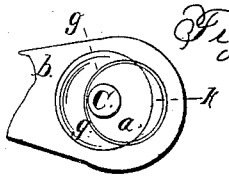


Fig. 3.

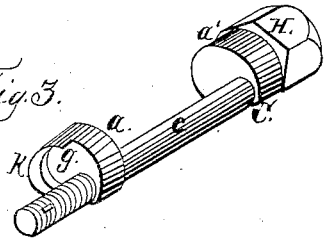
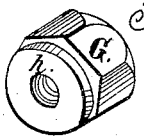


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

D. C. BREED, OF LYNDONVILLE, NEW YORK.

IMPROVEMENT IN COUPLING-THILLS FOR CARRIAGES.

Specification forming part of Letters Patent No. 45,812, dated January 10, 1865.

To all whom it may concern:

Be it known that I, D. C. BREED, of Lyndonville, in the county of Orleans and State of New York, have invented a new and useful Improvement in Coupling-Thills to Carriages; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a central vertical section of the coupling, together with the axle to which it is connected; Fig. 2, a plan of the jaws of the coupling, the eccentric bolt, and the packing, the thill-ho k being removed from place; Fig. 3, a perspective view of the eccentric bolt attached; Fig. 4, a side elevation of one of the jaws of the coupling with the eccentric bolt in place, and showing more particularly the depression or socket therein in which fits the nut to keep the eccentric bolt from turning; Fig. 5, a perspective view of the nut that fits in the end of the eccentric bolt.

Like letters of reference indicate corresponding parts in all the figures.

The object of my improvement is to secure the coupling against rattling; and the invention consists, essentially, in the employment of an eccentric coupling-bolt in connection with the jaws and packing of the coupling in such a manner as to firmly press the thill-hook back against the packing; also, in securing the coupling-bolt against turning, when in place, by means of a depression in the same and the jaw, into which fits the nut.

As represented in the drawings, A is the ordinary axle; B, the coupling or clip; C, the coupling-bolt, and D the thill. The coupling-bolt is made eccentric by means of two circular eccentrics or cams *a a*, situated, at such a distance apart as to correspond in position with the jaws *b b* of the coupling or clip, which jaws, instead of being provided merely with the ordinary holes of just size to receive the bolt proper, *c*, have said holes enlarged, so as to receive the cams *a a*. Thus arranged, it will be perceived that when the cams are in place in the jaws and are turned the bolt proper, *c*, being situated on one side of the cams, will become eccentric, occupying either the position of the black or red lines in Figs. 1 and 2, according as the bolt is turned.

The thill-iron *d*, instead of being made a closed eye or socket, as usual, through which the coupling-bolt passes, is merely an open hook, as clearly represented in Fig. 1, so that it can be readily hooked to or unhooked from the bolt *c* without removing the latter from the jaws. When this hook is thrown back by the eccentric, it is pressed closely against a packing, E, of rubber, leather, or other suitable material, situated within a recess or bed, *f*, of the coupling or clip, and projecting sufficiently outward for the purpose.

When the bolt proper, *c*, is thrown back, as indicated by black lines, it is held by means of a nut, G, screwing on one end, the opposite end having a head, H. The end of the screw may, if desired, project sufficiently beyond the nut to form an eye, having a leather passing through to prevent the nut from dropping off if it becomes loose; but since the nut cannot be screwed sufficiently tight to prevent the bolt from working around, I form in the outside of the jaws and in the cam *a*, situated therein, concentric with the bolt proper, *c*, when thrown back, a circular depression or bed, *g*, Figs. 4 and 3, into which screws a corresponding circular rim, *h*, of the nut *g*. In forming the depression *g* in the side of the cam *a* it is obvious that a flange, *k*, will be formed on one edge of said cam, and as this flange is eccentric with the depression *g*, and projects out beyond the rim *h* of the nut, it is manifest that the bolt cannot be turned around from its position until the nut is at least partially unscrewed.

The operation of this device is obvious. The nut G being loosened or removed, the bolt proper, *c*, is turned outward, or in the position indicated by red lines, Figs. 1 and 2, so as to separate the greatest extent from body of the coupling or clip. The thill-hook *d* is then inserted, and then by means of a wrench or other suitable instrument the bolt is thrown back into the opposite position, (indicated by black lines,) thereby pressing the hook *d* firmly and closely against the packing E. This position of the bolt brings the depression *g* in the jaw and the cam in coincidence, and the nut G is then screwed in place, and retains the position of the bolt beyond the peradventure of displacement.

This coupling is most effective in preventing rattling, as the hook of the thill is always kept pressed against the bolt. When the packing becomes worn or inoperative, it is easily re-

placed. By this arrangement I can couple the parts much more expeditiously than in ordinary arrangements, for in the latter the bolt has to be withdrawn in order to admit the closed eye or socket of the thill iron, while in mine it is only necessary to hook the iron without removing the bolt. In addition to this, it will be perceived that when the hook *d* is in place the coupling-bolt C cannot lose out of the coupling if the nut comes off, from the fact that the cams *a a* rest on both sides against the edges of the hook, as clearly shown in Fig. 1; and the hook *d* can only be removed from the coupling by depressing the outer end of the thills greatly below the natural position when the horse is therein. The advantage is obvious, for the coupling-bolt cannot come out in any position while the thill-hook is in place, while in ordinary arrangements there is nothing to retain the coupling-bolt if its nut comes off.

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

1. The eccentric bolt *c*, provided with the cams *a a*, in combination with the jaws *b b*, thill-hook *d*, and packing E, substantially as and for the purpose herein set forth.

2. Securing the eccentric bolt in place when thrown back by means of the depression *g*, formed partially in the jaw and partly in the cam *a*, into which depression fits the rim *h* of the nut G, the whole arranged and operating substantially as and for the purpose herein specified.

D. C. BREED.

Witnesses:
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A. T. SMITH.