

N. P. INGALLS.
Thill-Couplings.

No. 158,944.

Patented Jan. 19, 1875.

Fig. 1.

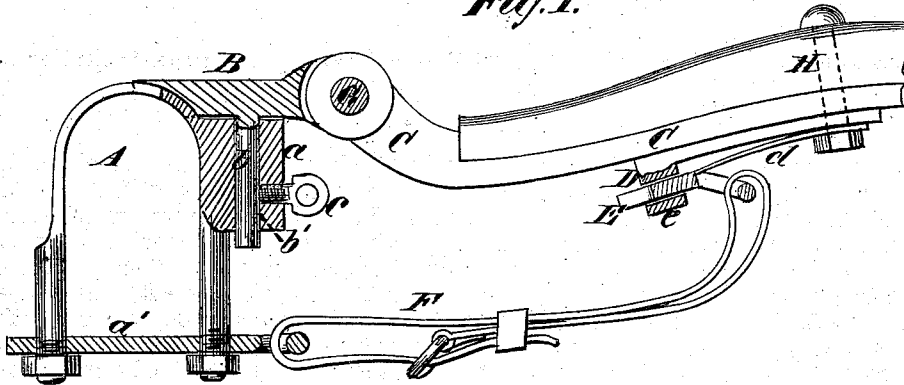
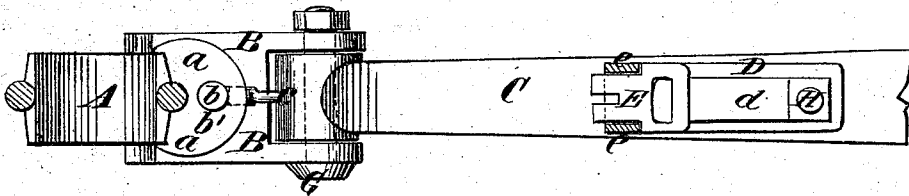


Fig. 2.



Witnesses
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NATHANIEL P. INGALLS, OF ST. PAUL, MINNESOTA.

IMPROVEMENT IN THILL-COUPINGS.

Specification forming part of Letters Patent No. 158,944, dated January 19, 1875; application filed July 6, 1874.

To all whom it may concern:

Be it known that I, NATHANIEL P. INGALLS, of St. Paul, in the county of Ramsey and State of Minnesota, have invented an Improved Thill and Pole Coupling, of which the following is a specification:

The invention consists in a novel and convenient means of attaching and detaching the coupling to and from the clip or other device provided on the axle or other part of the vehicle for the connection of the coupling; and it further consists in a novel means of attaching the safety-strap of a coupling to the shaft or pole of the vehicle, whereby it is rendered very easily detachable.

The principal object of the invention is to facilitate the conversion of a single-pole vehicle into one with thills.

In the accompanying drawing, Figure 1 is a side elevation of the thill or pole coupling, partly in section; Fig. 2, an under view, showing part of the shanks of the clip, the lower plate, and the safety-strap removed.

A is the clip, which may be fastened to any part of the axle of a vehicle. *a* is the projection formed on the clip, into which a hole, *b'*, is cut or drilled for the reception of the shank or projecting pin *b* of the coupling-piece B. The shank is held in position by the set-screw *c* in the projection *a* of the clip A. The coupling-piece B may be held more firmly in allowing the same to overlap the clip on its sides. The pin *b* of the coupling-piece B may project from either side of the same, so as to enter the enlarged portion of the clip from any direction.

Instead of a clip, a metallic bar or plate may be employed, which is provided with a socket and set-screw, and secured to any convenient part of the vehicle.

The metallic end, *D*, of the thill or pole is attached to the coupling-piece B in the usual

manner by a bolt and nut at G. A plate, *D*, provided with a projection, *e*, is fastened to the thill a short distance from its fulcrum. The projection *e* may, however, be formed solid with the metallic part *c* of the thill. A hole is cut into the projection *e* for the reception of the key *E*, furnished on one side with an eye for the safety-strap to pass through, while the other side is provided with a slot to fit the head of the set-screw *c* for removing it from the projection *a* of the clip A. A spring, *d*, is fastened by suitable means to the plate *D*, or to the shaft *C*, or, as represented in the drawing, by the screw *H*, which secures the wooden part of the shaft to the metallic part. The spring *d* holds the key in position when pushed into the hole in the projection of the plate *D* by springing into the eye of the key.

The safety-strap passes from the key *E* to the plate *a'* of the clip A, and through an eye in the plate, and is joined by a buckle.

In detaching the thill or pole from the clip, the safety-strap is first removed by depressing the spring *d* and pulling the key from the hole in the projection *e* of the plate *D*. Then the set-screw *c* is loosened by means of the slot in one end of the key, and the coupling-piece B drawn from its socket in the clip A.

I claim—

1. The combination of the socket *b'* and the pin *b* on the coupling-piece B, substantially as and for the purpose described.

2. The combination of the slotted projection *e* and spring *d*, attached to the shaft, and the key *E*, attached to the safety-strap, substantially as set forth.

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Witnesses:

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