(No Model.)

F. HAND.

THILL COUPLING.

No. 285,409. Patented Sept. 25, 1883.

Fig. 1.

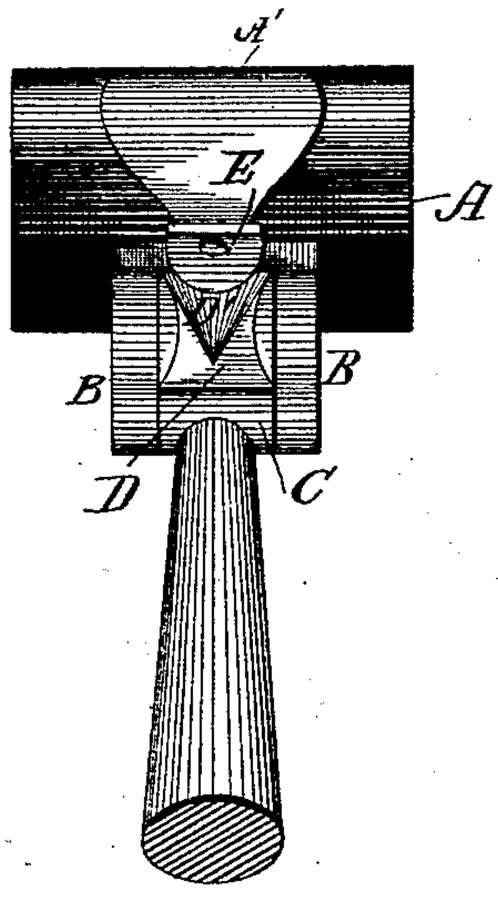
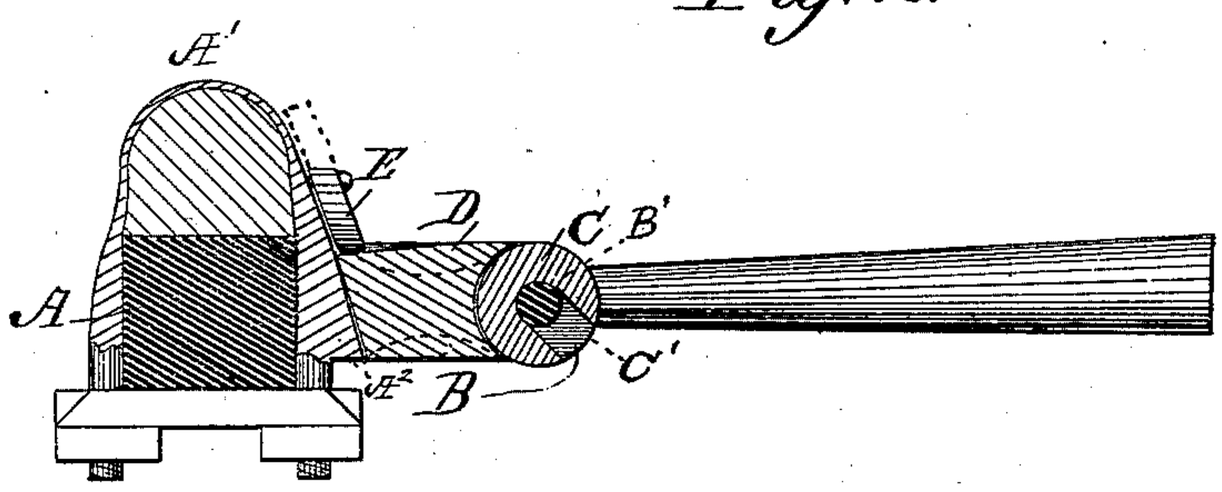


Fig. 2.



WITNESSES:

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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 285,409, dated September 25, 1883.

Application filed October 18, 1882. (No model.)

To all whom it may concern:

Be it known that I, FURMAN HAND, of Pontiac, in the county of Livingston and State of Illinois, have invented a new and useful Improvement in Thill-Couplings, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention consists in the peculiar construction and arrangement of the clip provided with jaws, and a wedging-shoulder formed between the jaws, a plug placed between the thill-head and the wedging-shoulder and held in position thereby, and an automatic button arranged to bear on the rear end of the plug, all of which will be hereinafter fully described, and more particularly described in the claim.

In the drawings, Figure 1 is a perspective view, and Fig. 2 is a longitudinal section, of a coupling constructed and arranged according to my invention.

A is the axle of the vehicle to which my coupling is applied, and A′ is the clip put over the axle. The front side of the clip is gradually increased in thickness from a point near its top downward, so as to provide a wedging-shoulder, A^2, as shown clearly in Fig. 2.

B B are two parallel jaws projected forward from the clip, and have affixed between their forward or outer ends the stationary bolt B′, on which the head C of the shaft or pole is adapted to be placed. The jaws B B are widest in their vertical depth, and are adapted to receive between them the plug D hereinafter more fully described. The space between the jaws is open at its upper side, so that the plug may readily be slipped therein, and is also open at the lower side, so that a suitable instrument may be thrust upward against the under side of the plug, and the latter thereby pushed upward when it is desired to remove it.

D is the retaining and anti-rattling plug. Its forward end is made concave to fit the curvature of the hook C, while its rear end is beveled, and adapted to fit snugly against the inclined face of the wedging-shoulder A^2. The plug is made of a vertical depth equal to the width of the jaws B, so that when inserted between the latter it will not project above nor below them. On the upper side, and near the rear end thereof, I form a concave recess, D′, adapted to receive the lower end of the gravity-button E, pivoted to the clip above the line of the upper edges of the jaws B. The button E is arranged so that its lower edge drops to a point below the upper edges of the jaws. It is made approximately in a semicircle, and it is so arranged that it may be turned outward clear of the jaws B. Its upper edge being straight, it may be turned up, as indicated in dotted lines, Fig. 2, and be entirely out of the way when removing or inserting the plug D. After the plug has been placed between the jaws the gravity-button will drop into the recess and lock the plug in place. The plug is made to fit so snugly that it requires pressure to push it entirely down to its proper place. The curved form of the button causes it to act as a cam to press the plug into place. To remove the plug the button is turned up, and the plug may then be pressed upward by any suitable instrument, and be taken from its position between the jaws.

In putting the plug in position the concavity of its front end is first placed against the head C of the poles. The rear end is then dropped against the wedging-shoulder and the button turned down. The entire operation is quickly and efficiently done. The jaws B prevent the plug from slipping sidewise, the concave form of the front end of the plug resting against the hook, and the action of the wedging-shoulder and of the gravity-button prevents the rear end from being moved up or down. A very substantial and convenient fastening is thus provided. There is also a constant bracing or tightening action by the plug by means of the wedging-shoulder, whereby all wear is taken up and rattling prevented.

Another feature of my invention is its adaptability to lock the thill or pole when the latter is formed with a hook-shaped head, as shown. In this case the plug has a vertical depth equal to the width of the jaws. The diameter of the pole-head is also of the same length as the width of said jaws. The plug is then made of a length equal to the distance between the bolt B′ and the clip A′. The formation of the concavity in the front end of the plug makes the latter fit approximately around one-half of the circumference of the pole-head.

The pole-head is provided with a radial opening, *c′*, which is extended downward and forward, and gives the hook shape, as shown.

The point of the hook thus formed, when placed on the bolt B′, extends in front of a vertical line drawn downward from the center of said bolt. The end of the plug extends nearly half around the periphery of head C, and it will be readily seen that the pole could not be displaced from the bolt.

I have furnished a coupling strong and durable, free from rattling, and easily and quickly connected or disconnected.

In this device the slot C′ is formed on a line at an acute angle (preferably at about an angle of forty-five degrees) to a line drawn from the center of thill head or hook to the point of the thill resting on the ground. The point of the hook will then extend forward under the bolt B′, and will so hold the thill that the latter can be removed from said bolt only by a movement backward and upward.

The plug D has, as hereinbefore described, a vertical thickness at its forward end about equal to the diameter of the thill-hook. It also has a length equal to or slightly longer than the distance between the bolt B′ and the clip A. Being made concave in its forward end, it fits closely around the rear side of the thill-hook, and the upper and lower points thereof extend to a vertical line drawn at the rear side of the said bolt, which line is near to or approximately coincident with the vertical diameter of the thill-hook.

It will be seen that when the plug is in place it is impossible to remove the thills, even when the outer ends of the latter rest on the ground. The thill can only be removed by first removing the plug, after which the hook is readily lifted off the bolt B′.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The shaft or pole coupling hereinbefore described, consisting of the clip A′, the jaws B B, projected forward from the clip, and having their adjacent sides arranged in vertical parallel planes, the draft-bolt B′ held in the forward ends of the jaws, the pole hook or head, the wedging-shoulder A^2, formed on the clip and extended downward between the rear ends of the jaws, the plug D, having its forward end made concave, and adapted to fit upon and extend approximately half around the rear side of the pole head or hook, and having its rear end resting against the wedging-shoulder, the said plug being placed between the jaws and held from lateral displacement thereby, and the gravity-button E, pivoted to the clip and above the rear end of the plug, as set forth.

FURMAN HAND.

Witnesses:
WM. B. FYFE,
J. KECK.