

UNITED STATES PATENT OFFICE.

JAMES B. NEWELL, OF RED WING, MINNESOTA.

COMBINED THILL-COUPLING AND ANTIRATTLER.

SPECIFICATION forming part of Letters Patent No. 524,604, dated August 14, 1894.

Application filed March 3, 1894. Serial No. 502,173. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. NEWELL, a citizen of the United States, residing at Red Wing, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Thill-Couplings and Antirattlers Combined, of which the following is a specification.

This invention relates to combined thill couplings and anti-rattlers, and consists in the construction, combination, and arrangement of parts, as hereinafter shown and described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the coupling, with the axle to which it is attached in cross section, and Fig. 2 is a plan view of the same. Fig. 3 is a side view with the coupling disconnected. Fig. 4 is a perspective view of the thill shank or head, detached. Fig. 5 is a perspective view of the anti-rattler screw pin, detached. Fig. 6 is a perspective view of one side of the clamp plate, illustrating the construction more fully.

A' represents a section of the axle, and A² a clip clamped to the axle by plate A³ and nuts A⁴ in the usual manner.

A⁵ A⁶ are two ears or wings projecting from the sides of the clip A² and having sockets *a'* (see Fig. 3) for the reception of the studs *b' b*² on the head B' of the thill shank, as shown.

D' D² are two side arms or plates pivoted to the outer sides of the ears or wings A⁵ A⁶ by a cross pin *e* and provided with curved recesses *d'*, which fit down over the studs *b' b*², as shown. By this simple arrangement the thill head and its shank are supported pivotally in place, and while the thill is free to move up and down on the studs *b' b*² as centers, it cannot be removed without lifting the side plates D' D². The plates D' D² are connected by a cross bar D³ to which a pawl or dog E is pivoted, as shown, this pawl or dog projecting backward and resting by its point *g'* on a shoulder *g*² on the clip A', as shown. The center line of the cross bar D³ is in the rear of the center line of the studs *b' b*², or between the studs and the clip A', so that any upward movement of the thill shank head tends to throw the point *g'* of the pawl or dog E downward more firmly in contact with the shoulder *g*², and thus effectually

"locks" the parts together unless the pawl be first lifted above the clip A'.

The vehicle will never be placed in a position to cause the pawl to become accidentally thrown upward. Hence the thill shank will be securely held in place by the dog or pawl without the intervention of any other fastenings. In order however to prevent any looseness or rattling between the parts, the pawl or dog E will be held positively downward by a cap screw F, whose lower end will be tapped into the projecting end of the clip bar A³. By setting this cap screw downward the side plates D' D² may be clamped down upon the studs *b' b*² with the necessary tension to prevent looseness or rattling between the parts.

The curved recesses *a'* in the ears A⁵ A⁶ trend backward and upward, as shown in Figs. 1 and 2, so that the tendency of the studs *b' b*² is to draw downward when put under strain, and thus decrease the liability to rise and increasing the "grip" of the thills in the coupling.

When the thills are to be detached it is only necessary to remove the cap screw F, when one is employed, throw the pawl E upward free from the clip A', and raise the side arms D' D² as shown in Fig. 3, when the thill shanks may be easily removed, as will be readily understood.

Upon the side plates D' D² shoulders *h' h*² are formed (see Fig. 6, which clearly shows one of them in place), to project down into the cavities *a'* and rest upon the studs *b' b*² to increase the bearing surface and receive the upward thrust, or strains, of the thills.

The studs *b' b*² will preferably be formed by a steel pin "shrunk" into the thill shank head, although an ordinary bolt may be employed.

The head of the cap screw may be in the form of a thumb plate, or arranged to be actuated by a screw driver, if preferred.

Having thus described my invention, what I claim as new is—

1. In a combined thill coupling and anti-rattler, a clip attached to the axle and provided with ears having sockets opening upward and adapted to receive studs upon the thill shank, side plates pivoted to said ears and with open slots fitting down over said

studs within said sockets, and a pawl pivoted to said side plates and resting by its free end upon a shoulder upon said clip, substantially as and for the purpose set forth.

- 5 2. In a combined thill coupling and anti-rattler, a clip attached to the axle and provided with ears having sockets opening upward, and adapted to receive studs upon the thill shank, side plates pivoted to said ears
10 and with open slots fitting down over said studs within said sockets, and a pawl pivoted to said side plates and resting by its free end upon a shoulder upon said clip, and means for clamping said pawl in place upon said
15 clip and its ears, substantially as and for the purpose set forth.

3. In a combined thill coupling and anti-

rattler, a clip attached to the axle, ears upon said clip and provided with backwardly trending sockets open at the top and adapted to 20 support the studs of the thill shank head, side plates pivoted to said clip ears and with sockets opening downward and adapted to fit over said thill shank head studs, and with shoulders h' h^2 , to increase the bearing sur- 25 face, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES B. NEWELL.

Witnesses:

E. H. DRUSE,

JNO. MAYER.