

(No Model.)

F. P. JOHNSON.
THILL COUPLING.

No. 346,659.

Patented Aug. 3, 1886.

Fig. 1.

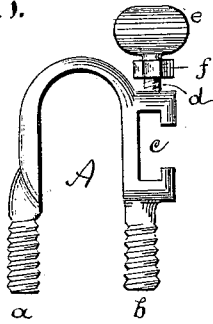


Fig. 3.

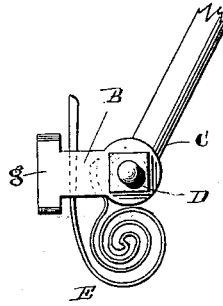


Fig. 2.

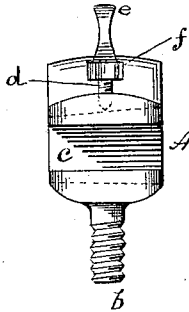


Fig. 4.

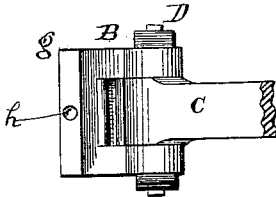
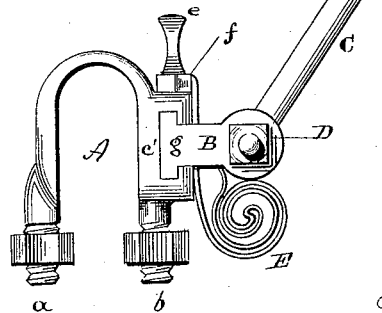


Fig. 5.



WITNESSES:

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FRANK P. JOHNSON, OF EYER'S GROVE, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 346,659, dated August 3, 1886.

Application filed June 2, 1886. Serial No. 203,907. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. JOHNSON, of Eyer's Grove, in the county of Columbia and State of Pennsylvania, have invented a new and Improved Thill-Coupling, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of the clip employed in connection with my improved thill-coupling. Fig. 2 is a front elevation of the same. Fig. 3 is a side elevation of the detachable portion of the thill-coupling. Fig. 4 is a plan view of the detachable portion of the thill-coupling. Fig. 5 shows the two parts of the thill-coupling in position for use.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of my invention is to provide a simple, safe, and secure thill-coupling which will permit of readily detaching the thills from the carriage, and will at the same time be free from rattling and from the danger of accidental loosening.

My invention consists of a clip having in one arm thereof a T-shaped slot and provided with a set-screw having a polygonal boss, and in a fork for receiving the thill-iron provided with a T-shaped head fitted to the slot of the clip and adapted to be held by the set-screw, and in the combination therewith of a spring of peculiar form which answers the double purpose of preventing the rattling of the thills and of engaging the polygonal boss of the set-screw, so as to prevent it from becoming accidentally loosened.

The clip A is provided with two arms, *a* *b*, having threaded ends of the usual form. The arm *b* is thickened and provided with a T-shaped slot, *c*, and with a set-screw, *d*, entering the upper portion of the thickened part of the clip and arranged to project into the T-shaped slot. The screw *d* is provided with a thumb-piece, *e*, and with a polygonal boss, *f*, which projects slightly beyond the front of the clip. The fork B, in which is pivoted the thill-iron C on the bolt D, is provided with a

T-shaped head, *g*, which is fitted to the T-shaped slot *c*, and provided with a cavity, *h*, in its upper surface to receive the set-screw *d*. In the space between the boss of the thill-iron C and the head *g* of the fork B is inserted a spring, E, formed of a flat bar of steel, doubled near the middle of its length and coiled into a volute, with one end of the steel bar extending through the space and upward beyond the T-shaped head in position to engage the polygonal boss *f* of the set-screw *d* and prevent the set-screw from being turned accidentally. The other end of the steel bar is curved slightly and adapted to fit partly around the boss of the thill-iron C. The ends of the spring E push in opposite directions, so that the pressure of the curved end of the spring upon the boss of the thill-iron prevents the rattling of the iron on the bolt.

When the T-head *g* of the fork B is in its place in the T-shaped slot *c* of the clip A, it is retained therein by the entrance of the screw *d* into the cavity *h* in the top of the head *g*. When it is desired to remove the thills from the carriage, the screws *d* are loosened and the thills are removed laterally through a sufficient distance to withdraw the T-heads *g* from the slots *c*.

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

The combination of the clip A, provided with a T-shaped slot, *c*, the set-screw *d*, having the polygonal boss *f*, the fork B, provided with the T-shaped head *g*, having the cavity *h* formed therein, and the spring E, inserted between the thill-iron and the T-shaped head *g*, with one end resting or bearing upon the boss *f* of the set-screw and its other end bearing upon the boss of the thill-iron, and adapted to prevent the thill-iron from rattling and retaining the set-screw against accidental turning.

FRANK P. JOHNSON.

Witnesses:

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FRANKLIN DOLLMAN.