

(No Model.)

C. L. DALTON.

THILL COUPLING.

No. 317,520.

Patented May 12, 1885.

Fig. 1.

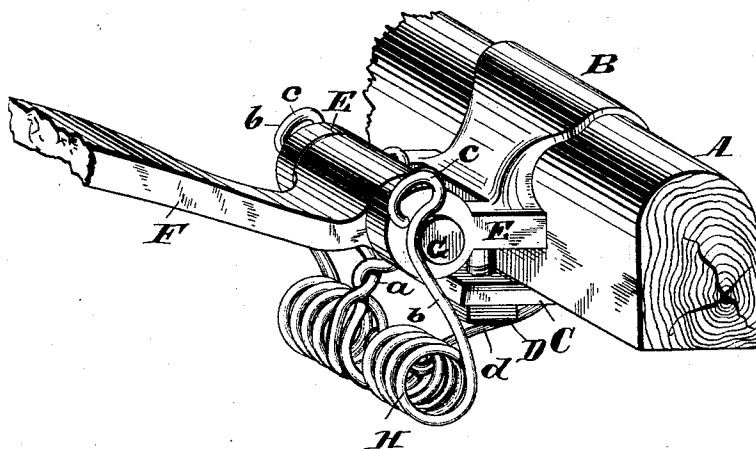


Fig. 2.

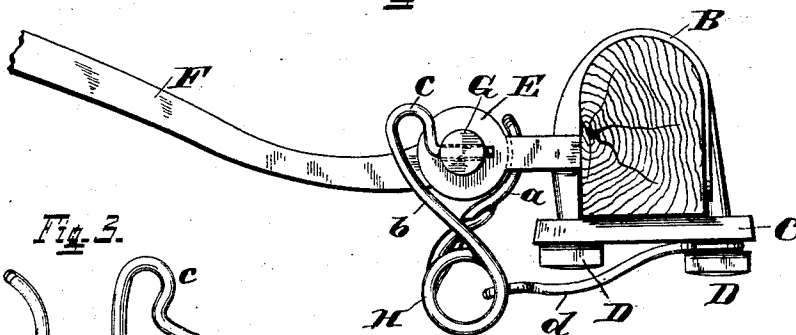


Fig. 3.

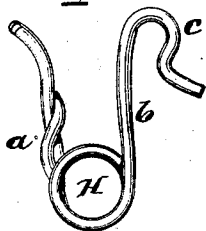


Fig. 4.



Attest
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By Sten & Beck his Attys.

UNITED STATES PATENT OFFICE.

CLARENCE L. DALTON, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO
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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 317,520, dated May 12, 1885.

Application filed February 11, 1885. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE L. DALTON, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in thill-couplings of that class known as "anti-rattling couplings;" and the object of my invention is to simplify the construction of such couplings, as well as to increase their efficiency and durability.

The invention will be herein set forth, and fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved thill-coupling. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of my improved locking and anti-rattling spring detached from the thill-coupling. Fig. 4 is a front elevation of the coupling-pin.

The same letters of reference are used to indicate identical parts in all the figures.

A is the usual front axle-bar of a vehicle, and B the coupling-clip secured upon the same by means of the clamp-bar C and nuts D, in the usual or any suitable manner. From the front side of the clip project perforated bearing-ears E, between which is slipped and snugly fits the eye of the thill-iron F.

G is the coupling-pin inserted through the perforations in the lugs E and the eye of the thill-iron F.

So far the construction may be that of any ordinary thill-coupling, except that the coupling-pin G is not a headed bolt secured by a nut, as is usual, but its ends project somewhat from the ears E, and, as shown in Fig. 1, may have peripheral grooves, one at each end, just outside of the ears E, to receive the forward upturned ends of a spring, H, to be presently described, which ends of the spring press backward against the coupling-pin and engage with the grooves therein to prevent the accidental working out or withdrawal of the coup-

ling-pin, thus forming a lock for the pin. The spring H is preferably a single piece of wire, formed into reverse coils, with an upturned and twisted backward extension, *a*, that partially embraces and bears against the eye of the thill-iron, as shown, and with outer upturned ends, *b*, that bear against the forward sides of the coupling-pin G and engage with the peripheral grooves, as before described. For convenience in disengaging these ends *b* from the pin G when it is desired to remove the same the upper ends of the arms *b* may be formed into loops *c*, for the more ready grasping and pressing back of the springs.

To additionally support the springs H, if desired, I employ a rod or wire, *d*, whose forward end, formed into a loop, embraces two or more of the coils of the spring H, and whose rear end, formed into an eye, is clamped between one of the nuts D and the bar C upon one of the legs of the clip.

As an equivalent construction, if preferred, instead of the peripheral grooves in the coupling-pin G, perforations into or through the coupling-pin, as seen in Fig. 2, may be used, into which perforations the free ends of the arms *b* are inserted to prevent the accidental working out or displacement of the coupling-pin and to form a positive lock, as will be readily understood.

It will be seen from this construction that by the use of a single spring made to bear forward upon the eye of the coupling-iron and to bear backward upon the ends of the coupling-pin, with which it is directly engaged to form a lock, all wear in the coupling will be at once taken up and rattling will be prevented, and at the same time a positive lock for the pin is produced by the same instrumentality that prevents the rattling.

I do not wish to limit myself to the precise form or shape of spring employed, as this may be varied without departing from my invention.

Having thus fully described my invention, I claim—

1. The combination, in a thill-coupling, of a removable headless coupling-pin and a double bearing-spring, one end of which presses

forward against the eye of the thill-iron, and the other ends of which press back directly against the coupling-pin and at the same time engage with it to form a lock for the same.

- 5 2. The combination, in a thill-coupling, of a removable headless coupling-pin and a double bearing reversed coiled spring, the inner upturned end of which presses forward against the eye of the thill-iron, and the other upturned
10 ends of which press back directly against the coupling-pin to lock the same, and which have their extremities formed into grasping-loops, substantially as described.

3. The combination, in a thill-coupling, of a removable headless coupling-pin and a double bearing-spring supported by a tie or brace rod, substantially as described. 15

4. The combination and arrangement of the thill-iron F, clip B, with its perforated ears E, headless coupling-pin G, spring H, and support 20 d, the parts constructed and relatively arranged in the manner and for the purpose specified.

CLARENCE L. DALTON.

Witnesses:

OTTO RICHTER,
ED. W. RECTOR.