(No Model.)

N. I. WOOLSEY.

THILL COUPLING.

No. 505,691. Patented Sept. 26, 1893.

Fig. 1

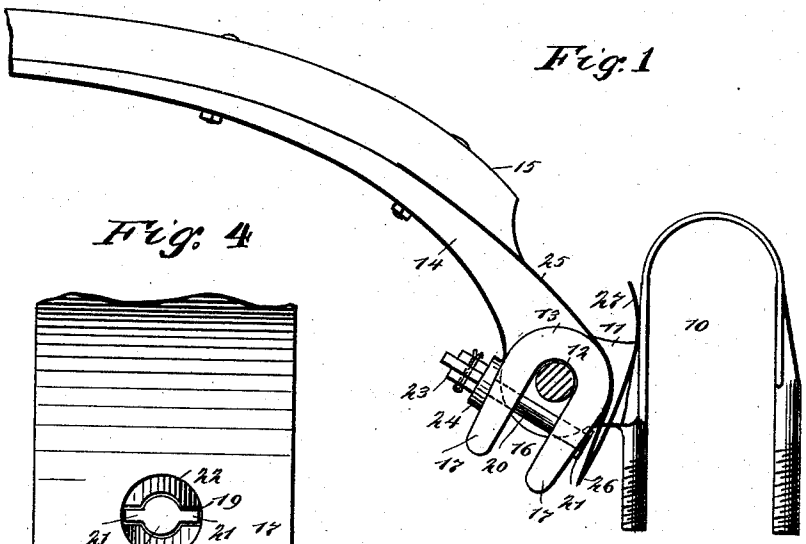


Fig. 4

Fig. 2

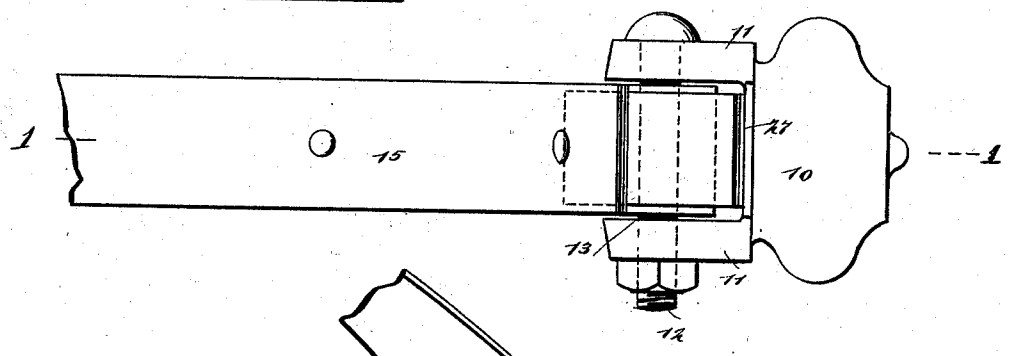
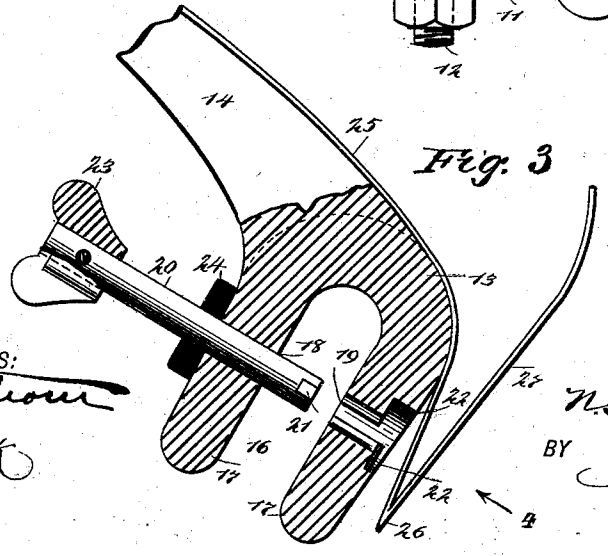


Fig. 3



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NICHOLAS I. WOOLSEY, OF LAWRENCE, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 505,691, dated September 26, 1893.

Application filed February 2, 1893. Serial No. 460,649. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS I. WOOLSEY, of Lawrence, in the county of Queens and State of New York, have invented a new and Improved Thill-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in thill couplings.

The object of my invention is to produce a simple and inexpensive thill coupling of great strength which can be conveniently applied to or removed from the clip of an axle, thus enabling the thills or a pole to be as quickly removed or attached, and also to arrange an anti-rattler in connection with the coupling which will prevent all possible rattling of the coupling.

It is well known that in running carriages into a carriage house a great deal of unnecessary space is taken up by the thills, and my coupling is especially intended to facilitate the quick removal of the thills so that a great many carriages may be conveniently packed in a comparatively small space.

To this end, my invention consists in certain features of construction and combinations of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section of the coupling on the line 1—1 in Fig. 2. Fig. 2 is a plan view of the coupling. Fig. 3 is an enlarged detail sectional view of the thill iron knuckle, the locking pin for fastening the knuckle to the coupling bolt, and the anti-rattling spring which is applied to the thill iron; and Fig. 4 is a broken end view of the thill iron knuckle.

The coupling is used in connection with the ordinary axle clip 10, which has forwardly-extending parallel lugs 11 adapted to receive the coupling bolt 12, these parts being of the usual kind. The coupling bolt serves as the pivot for the thill iron knuckle 13 which is formed on the rear end of the thill iron 14, and the latter is adapted to be bolted in the customary manner to the under side of the thill 15. The knuckle 13 is provided with a slot 16 rounded at the top to fit the bolt 12, and it leads from the upper portion of the knuckle downward to its lower end, so as to permit the knuckle to be easily placed upon the bolt, and the knuckle is elongated downward to form jaws 17, one on each side of the slot 16. The jaws are provided with a transverse bore 18 extending at right angles to the bolt 12 and having keyways 19 in its side walls, the bore being adapted to receive the locking pin 20, and the keyways being adapted to permit the passage through the jaws 17 of the lugs 21 on one end and opposite sides of the pin or key 20. The rear jaw 17 is provided with inclined grooves or recesses 22 which open from the bore 18 and which are adapted to receive the lugs 21 on the pin 20. The front end of the pin is provided with a head 23 adapted to be grasped between the thumb and finger when the pin is inserted or moved in the bore of the knuckle. On the front jaw 17 and on its outer side, is a cushion 24, which encircles the pin 20 and forms an abutment for the inner end of the head 23 and is adapted to yield sufficiently to permit the lugs 21 to slide up the inclined bottoms of the grooves 22. When the knuckle is to be fastened to the coupling bolt, it is first placed upon the bolt, the pin 20 is thrust through the bore 18 of the knuckle jaws the lugs 21 sliding through the keyways 19, and the pin is then turned, thus causing the lugs 21 to slide up the inclined bottoms of the grooves 22, and the pin and knuckle are both locked in place.

On top of the thill iron 14 is a spring 25 which is held between the thill iron and the thill and which follows the curve of the knuckle, the spring extending downward behind the knuckle to a point near the lower end of the latter, and it is then bent abruptly upward, as shown at 26, the free end portion 27 of the spring extending above the top of the knuckle so as to strike the clip 10.

When the thills are dropped there will be no tension on the spring 25, and consequently after removing the pins 20 of the two thill knuckles, the thills may be easily lifted from the bolt 12. When, however, the thills are raised, the thill iron assumes the position shown in Fig. 1, and the free end 27 of the spring strikes against the clip 10, thus pressing the opposite portion of the spring forward

and downward upon the knuckle 13 and forcing the latter into close contact with the bolt 12 and rattling is prevented. The pressure of the spring is sufficient to hold the knuckle firmly in place, and when the thills are raised the knuckle would not be accidentally displaced even though the pin 20 should be lost, and for this reason the coupling may be used without the pin, but it is desirable to use the latter as an additional safe-guard against an accident of any kind such as might occur by the breaking of a spring.

It will be understood that the thills can only be attached and removed when the free ends of the thills are down, and the tension is removed from the anti-rattling springs.

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

1. The combination with the axle clip and coupling bolt carried by the clip, of the thill iron having a knuckle with a downwardly extending slot to receive the coupling bolt, and an anti-rattling spring held on the back portion of the thill iron and having an upwardly extending free end to abut with the axle clip, substantially as described.

2. The combination with the axle clip and the coupling bolt carried thereby, of the thill iron having a head with downwardly extending parallel jaws adapted to receive the coupling bolt between them, the said jaws being transversely bored and having cam grooves at one end of the bore, and a fastening pin extending through the bore of the jaws, the pin having end lugs to enter the cam grooves, substantially as described.

NICHOLAS I. WOOLSEY.

Witnesses:
ANDREW J. WOOLSEY,
FRANK D. MOUNT.