(No Model.)

J. B. M. WINBURN.

THILL COUPLING.

No. 590,507. Patented Sept. 21, 1897.

Fig. 5.

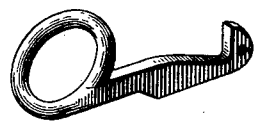


Fig. 1.

Fig. 2.

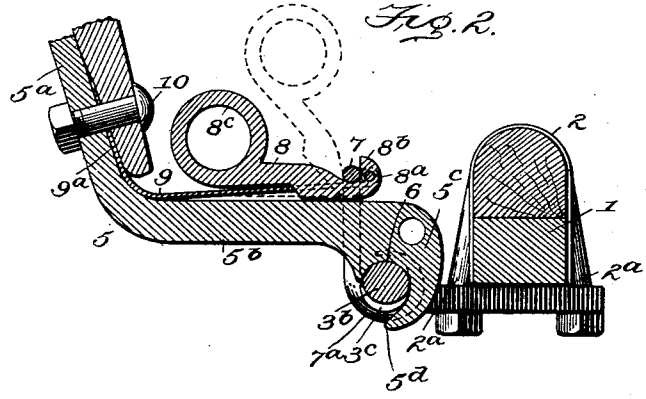


Fig. 3.

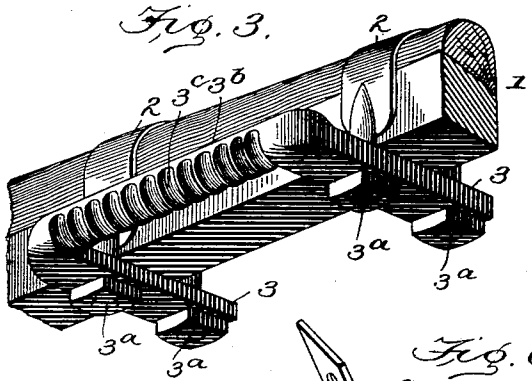


Fig. 4.

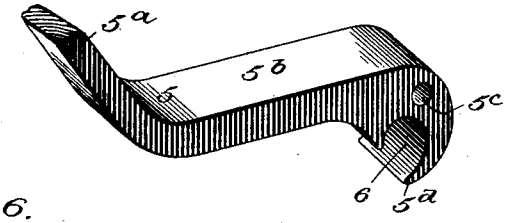
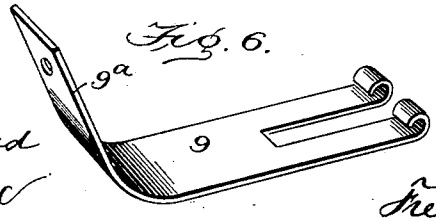


Fig. 6.



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JAMES B. M. WINBURN, OF GAINESVILLE, GEORGIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 590,507, dated September 21, 1897.

Application filed May 18, 1897. Serial No. 637,047. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. M. WINBURN, residing at Gainesville, in the county of Hall and State of Georgia, have invented a new and Improved Thill-Coupling, of which the following is a specification.

My invention, which relates to improvements in shaft-holders, has primarily for its object to provide an antirattler shaft or thill connection of a very simple, economical, and effective nature in which the several parts are so arranged that the shafts can be almost instantly removed when it is desired to change them from a single to a double drive.

Another object of my invention is to provide shaft-holding means adapted to permit the shafts being adjusted laterally on the clip-iron, the shafts being also constructed to connect with axles equipped with the ordinary clip-iron.

My invention also has for its object to provide a thill-coupling having a lock means for holding the shaft in position which can be readily manipulated by hand movement without the aid of any implement and in such a manner that the thills can be detached from the clip-iron without the loosening of nuts or disconnection of any of the parts from such portions to which they are directly connected.

With other objects in view, which will be hereinafter referred to, the invention consists in a shaft holder or coupling embodying the peculiar combination and novel arrangement of parts such as will be first described in detail and then specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved coupling, the shaft being shown connected to the axle. Fig. 2 is a longitudinal section of the same, the lock lever and spring being shown moved to a releasing position in dotted lines. Fig. 3 is a perspective view, seen from beneath, of a portion of the axle with the clip-iron attached. Fig. 4 is a view of the thill-iron end of the shaft; and Figs. 5 and 6 illustrate, respectively, the lock-lever and the lock-spring, hereinafter referred to.

Referring to the accompanying drawings, in which like numerals indicate corresponding parts in all the figures, 1 indicates the axle, and 2 2 a pair of clip-irons which are spaced apart on the axle a suitable distance and have their threaded ends 2^a 2^a passed through the apertures 3^a in the rearwardly-extending side arms of the ⊏-shaped clip-bar 3, the longitudinal member 3^b of which is made circular in cross-section and has on its under face a series of transverse corrugations or grooves 3^c, the purpose of which will presently appear.

4 indicates the shaft, and 5 the shaft iron or coupling member, which has the usual upwardly-extending curved portion 5^a, connected to the under side of the shaft, and a rearwardly-extending horizontal member 5^b, the rear end of which terminates in a head 5^c, having a concavity or seat 6, and the lower portion of which head terminates in a forwardly-extending lip 5^d, whereby to provide for a positive bearing or grip on the clip member 3 when the shaft is coupled thereto, as shown in Figs. 1 and 2. The upper rear end of the head 5^c has a transverse aperture, whereby the shafts can be connected to buggy or wagon axles not having a clip-iron, as shown.

7 indicates a bail which has eye portions 7^a of a somewhat larger diameter than the clip members 3^b, whereby to move freely sidewise thereon, such eyes, however, when the parts are in a coupled position, being seated in any pair of the grooves 3^c in the bottom of such member 3^b to hold the shaft from moving laterally when it is secured in position.

Referring now more particularly to Fig. 2, it will be seen the bail 7 forms a lock to hold the shaft-iron securely on the clip member 3^b, and it (the bail) in turn is held in its locking position by means of a lock-lever 8, which is pivotally secured at 8^a in the free rear end of a stout flat spring 9, the tension of which is upward, such spring having its front 9^a held clamped between the shaft-iron and shaft and held secure by the bolt 10.

The lever 8 has its rear end terminating in a cam-like portion 8^a, which terminates in a lock-lug 8^b, the front end of such lever having a finger hold or ring 8^c.

From the foregoing description, taken in connection with the drawings, the advantages and complete operation of my invention will be readily understood.

When the parts are in their connected relation, as shown in Figs. 1 and 2, the tension of the spring 9 holds the lug of the lever up

over the rear end of the lock-bail and also pulls the eyes of such bail tightly in the corrugations or grooves in the bottom of the clip member 3^b, and thereby securely locks the shaft to the axle.

When it is desired to remove the shaft, it is only necessary to insert the finger in the ring 8^b and pull the lever back, as indicated in dotted lines in Fig. 2, its cam end forming a fulcrum, while its seat portion pushes the bail back over the lock-lug. When the bail and lock-lever are thus disconnected, the head end of the shaft-iron can be easily lifted from engagement with the clip member.

To again connect the shaft, the rear end of the shaft-iron is slipped through the bail and into the clip member 3^b. The lever 7 is turned to a vertical or rearwardly-inclined position, so the bail can be slipped into the lock-lug. By then forcing the lever down the several parts will again assume a locked position.

My invention is exceedingly simple in its nature, can be easily manipulated, and the parts connected to the axle and the parts connected to the shaft require no disconnection when it is desired to join the shaft to or remove the same from the axle, thereby making it impossible for any of the parts becoming loose and lost, they being therefore always in position for instant use.

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

1. A thill-coupling, comprising an axle clip-iron, a shaft having its iron terminating in an undercut head having a seat to engage the upper face of the iron, a straddle-member bail pivotally held on the clip-iron, adapted to swing over the shaft-iron and a lock device held on the shaft-iron to engage such bail and hold it to its locking position as specified.

2. As an improvement in antirattler thill-couplings, the combination with the axle clip-iron, the shaft-iron adapted to be pivotally held and movable laterally thereon, a bail for holding the shaft-iron down on the clip-iron, said bail having endwise movement on the said clip-iron when at an unlocked position, a locking means carried on the shaft-iron to engage such bail and hold it in a locked engagement with such shaft-iron, and from endwise movement on said clip-iron, and the shaft-iron in a locked engagement with the clip-iron, substantially as shown and for the purposes described.

3. As an improvement in thill-couplings, the combination with the clip-iron having transverse corrugations on its under face and the shaft-iron having a socket on its under face to engage the upper face of the clip-iron, of a bail having eye portions movable laterally on the clip-iron when the bail is in an unlocked position, said bail being held on the said iron to swing over the end of the shaft-iron, and a lock device carried on the shaft adapted to engage the bail and pull same up, whereby to cause its eyes to engage the transverse corrugations and thereby lock the shaft from endwise movement on the clip-iron as set forth.

4. The combination with the U-shaped axle clip-iron, its shaft-engaging member having transverse grooves or corrugations and the bail having eye portions engaging the corrugated member of such clip, of the shaft-iron having a head provided with a socket to seat on the smooth face of the clip-iron, a flat spring held on such shaft-iron, a cam-lever pivotally held in the free end of the spring having a lock-lug, a cam portion at its pivotal end, said lug adapted to engage the crossbar of the clip-iron bail and lock it in engagement with the shaft-iron and with the corrugated face of the clip-iron, as specified.

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