

(No Model.)

G. A. FENN.
THILL COUPLING.

No. 544,910.

Patented Aug. 20, 1895.

Fig. 1.

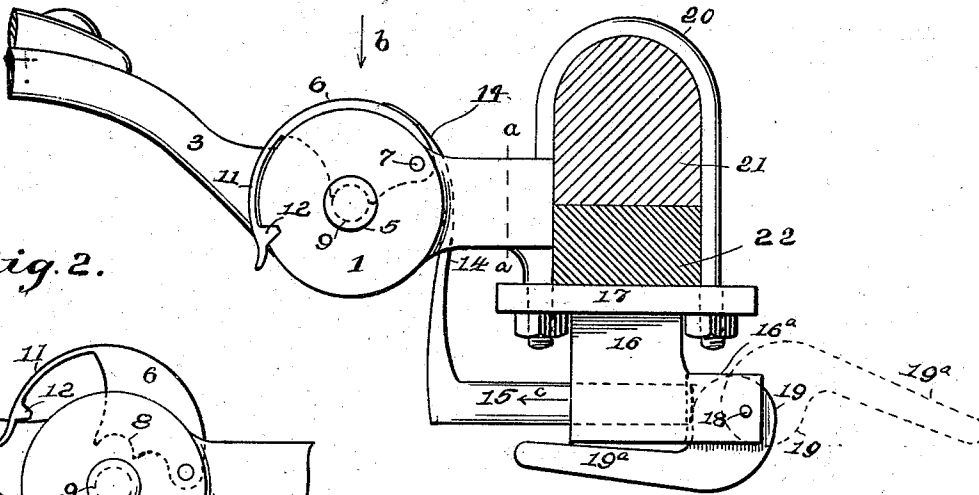


Fig. 2.

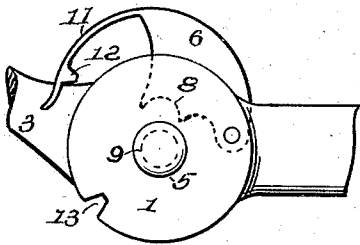


Fig. 3.

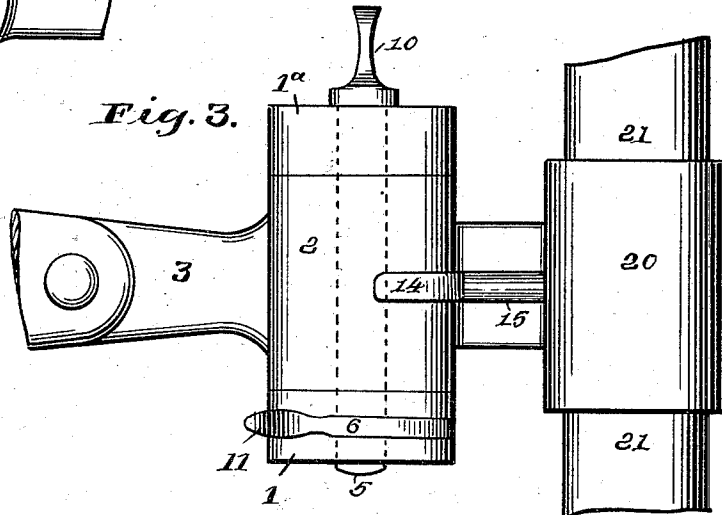


Fig. 4.

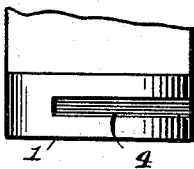
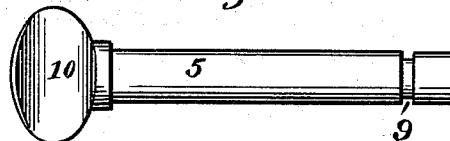


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE A. FENN, OF WATERTOWN, CONNECTICUT.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 544,910, dated August 20, 1895.

Application filed June 4, 1895. Serial No. 551,628. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. FENN, a citizen of the United States, and a resident of Watertown, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a specification.

My invention relates to thill-couplings; and it consists of an improved locking-latch for the draw-bolt and an improved antirattler device for the draw-head of the shaft-iron, all of which improvements will be more fully set forth in the following specification, and such features as I believe to be new and novel particularly pointed out in the claims.

To enable others to fully understand my invention, reference is had to the accompanying drawings, in which—

Figure 1 represents a vertical side elevation of the thill-coupling and clip, the latter embracing a vertical section of the axle, showing my improved locking-latch for the draw-bolt in closed position and the antirattler device for the shaft-iron draw-head in operative position. Fig. 2 is a detail side elevation and broken section of one of the thill-coupling ears with the draw-bolt locking-latch in a raised position, said ear broken through line *a* of Fig. 1. Fig. 3 is an upper plan view looking in the direction of arrow *b* of Fig. 1 of the coupling, showing my improved latch for the draw-bolt and the antirattling device for the draw-head. Fig. 4 is a detail view of one of the ears of the coupling and a broken view of the base or frame of said coupling, showing the slot in the ear for the draw-bolt latch. Fig. 5 is a detail view of the draw-bolt, showing the groove near the end thereof for the locking-latch to engage with.

Its construction and operation are as follows: My improvements are applicable, with some slight changes, to ordinary thill-couplings. Therefore the coupling shown is an ordinary thill-coupling, consisting of the ears 1¹, and draw-head 2 connected to the thill-iron 3. In the ear 1, I cut the slot 4 and deep enough to open into the hole in the center of the ears for the draw-bolt 5. Into this slot 4 is placed the locking-latch 6, pivotally supported on the pin 7 back of such ear. The latch 6 has the semicircular groove 8 to engage with the

annular groove 9 of the bolt 5, Fig. 5, by which means such bolt is securely locked against withdrawal from the coupling. I prefer also for an easy manipulation of such bolt, when necessary to withdraw it, to provide the opposite end with the thumb-screw head 10. The latch 6 consists of a deep metal plate terminating at its free end in the spring-arm 11, carrying the locking-catch 12 to register with the angular notch 13 of the ear, as seen at Figs. 1 and 2. This arrangement effectually prevents the accidental displacement of the locking-latch through any jolting or jarring to which the coupling is always subjected. To connect the latch all that is necessary is to simply press down upon the upper edge of the main body, when the spring-finger or free end will open outward and ride over the exterior surface of the coupling-ear until the catch 12 drops into its notch and the attachment is complete, as shown at Fig. 1. In the meantime the groove 8 of said latch will have engaged with the groove or recess of the bolt.

The antirattling device for the draw-head 2 consists of the long curved taper spring-finger 14. (See Figs. 1 and 3.) The base or heavier part of the spring is made integral with the round body portion or shank 15, which shank is inserted in a round hole formed through the projection 16 of the bar 17, which projection may be made integral with such bar, as shown, or it may be attached thereto in any suitable manner most convenient for the manufacture. Projecting rearward from the projection 16 are two ears, one of which 16^a is shown, and between such ears is pivotally hung on the pin 18 the cam 19, having the handle portion 19^a. When, therefore, the cam-handle 19^a is thrown around against the bar 17, as shown at Fig. 1, causing the cam-face 19 to engage with the free end of the shank 15, forcing such shank forward in the direction of arrow *b*, so that the spring-finger 14 will frictionally engage with the outer surface of the draw-head 2, there being sufficient resiliency in such finger to always maintain a frictional engagement with such head, all that is required to detach the draw-head and remove the thills is simply to reverse the cam, as shown by dotted position, which operation will release the tension of

the spring-finger 14, then lift the spring-finger 11 and release the catch 12 from its notch in the coupling-ear, then throw the locking-lever 6 back, when the bolt 5 can be withdrawn and the draw-head instantly released. 5 The projection can, if required, be mounted on the top of the clip 20, which clip embraces skein 21 and axle 22.

As the diameter and length of the draw- 10 head between the ears are made of uniform size throughout the country for the ordinary thill-couplings, no change of structure is needed in applying my improvement.

Having thus described my invention, what 15 I claim as new, and desire to secure by Letters Patent, is—

1. In a thill coupling, the bolt 5 having the annular groove 9, coupling ear 1 having slot 4; pivotally supported latch 6 having groove 20 8 to register with the groove of said bolt, com-

bined with the thin spring finger 11 projecting from the free end of said latch and carrying the lock-catch 12 adapted to engage with the notch 13 of the coupling ear, and thus lock said latch in position, as set forth. 25

2. The herein described improvement in thill couplings, consisting of the anti-rattler spring finger 14 having a shank 15, projection 16 having a hole therethrough to operatively admit said shank, handle cam 19 pivotally 30 supported on said projection and adapted to engage with the free end of said shank, for the purpose described and set forth.

Signed at Watertown, in the county of Litchfield and State of Connecticut, this 24th 35 day of May, A. D. 1895.

GEORGE A. FENN.

Witnesses:

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FRANK D. MONELL.