No. 670,491. Patented Mar. 26, 1901.

T. J. GIBBONS.

THILL COUPLING.

(Application filed Sept. 21, 1899. Renewed Feb. 18, 1901.)

(No Model.)

Fig. 1.

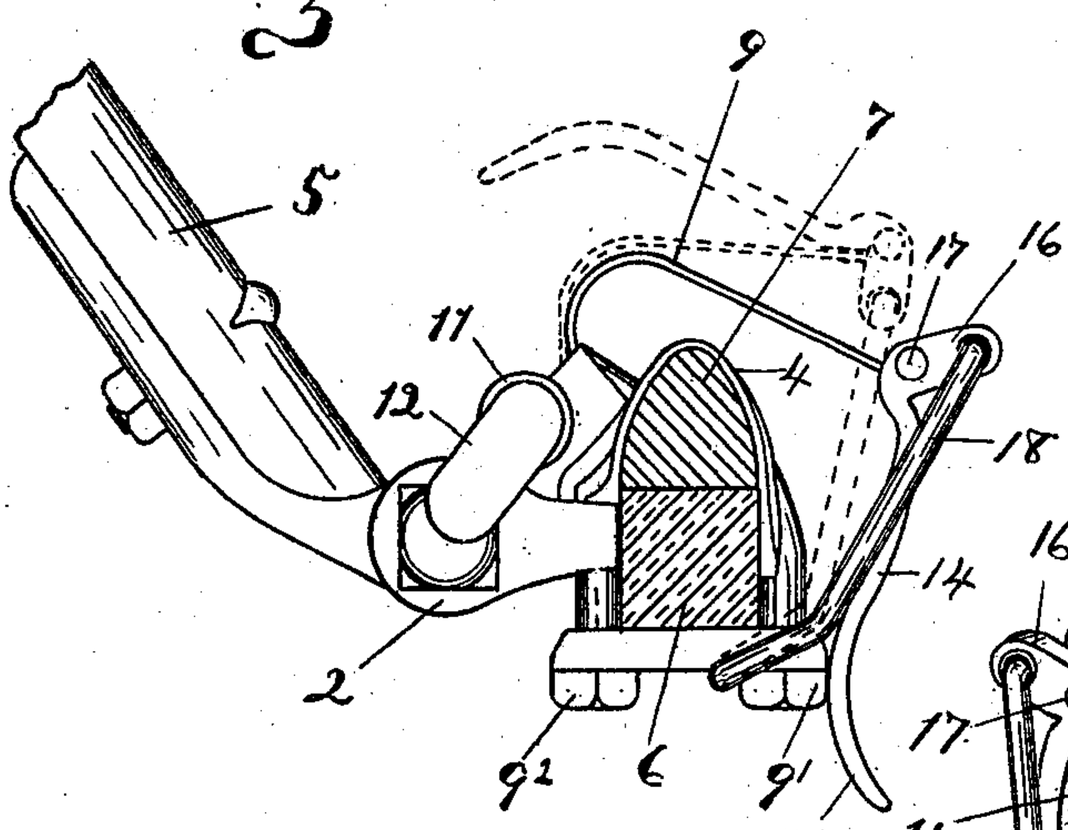


Fig. 3.

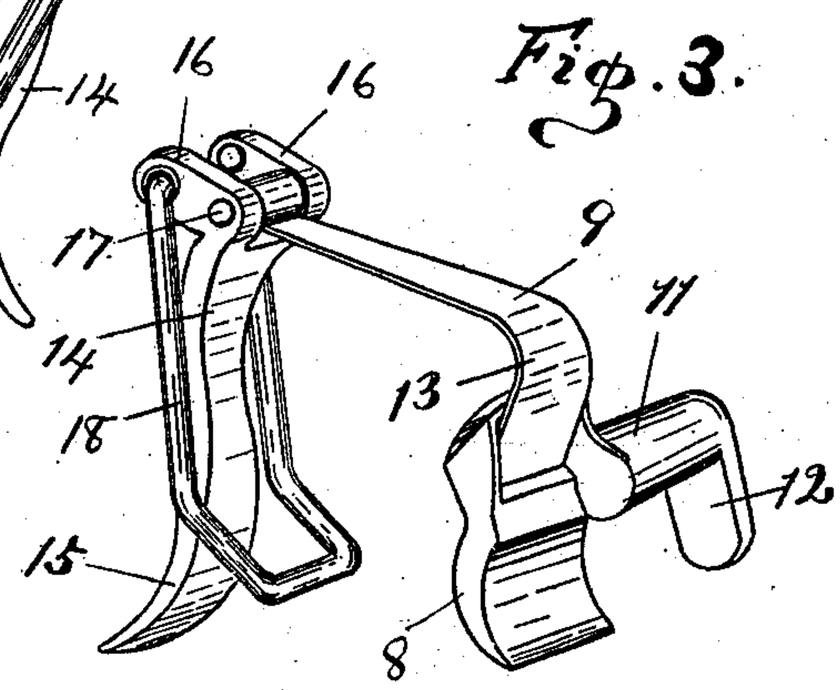


Fig. 2.

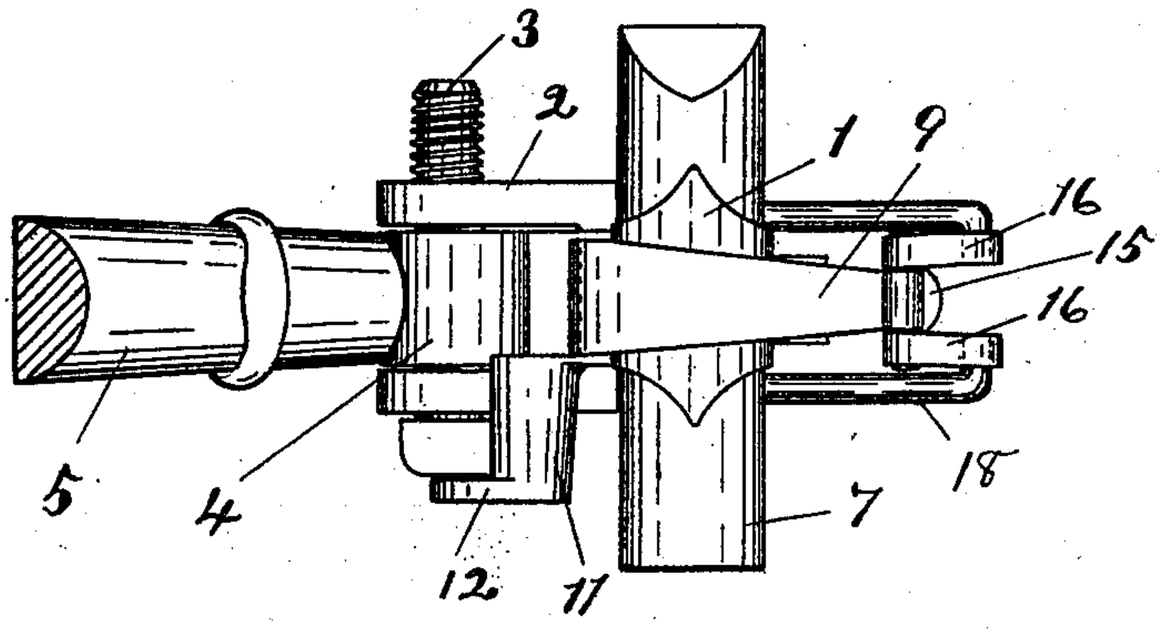
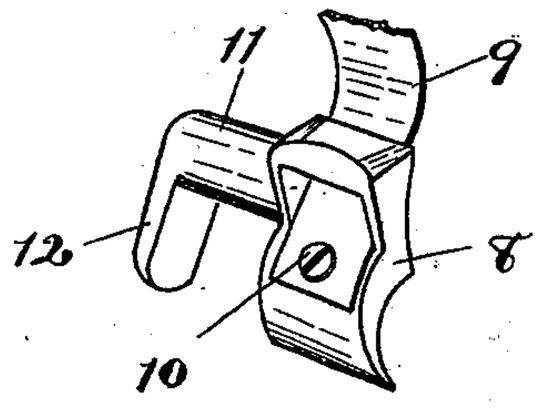


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS J. GIBBONS, OF LIGONIER, INDIANA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 670,491, dated March 26, 1901.

Application filed September 21, 1899. Renewed February 18, 1901. Serial No. 47,863. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. GIBBONS, a citizen of the United States, residing at Ligonier, in the county of Noble, in the State of Indiana, have invented certain new and useful Improvements in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in thill-couplings.

The object of my invention is to provide a cheap, simple, convenient, and reliable quick-shift antirattling thill-coupling so constructed and arranged as to be readily placed in position for use or detachable therefrom without necessitating the removal of the shackle-bolt, adapted to fit any ordinary vehicle-shackle without modification or the employment of additional parts, and also so constructed that even the accidental breaking of the clamping-spring will not cause a displacement thereof when in use.

My improvement consists of a concavo-convex jaw having approximately the same curvature as that of the draft-eye, between which and the shackle it snugly fits when in position, a clamping-spring rigidly fixed to the upper end of this jaw and having its upper end pivotally connected to the inner end of a proper cam-lever of common form, a pendent pivotally-mounted yoke adapted to be readily and securely hooked over the adjacent clip-nut beneath the vehicle-axle and whose upper end forms a fulcrum for said lever in giving the said spring its desired holding tension, and a lateral fixed or integral lug on said jaw adapted to normally bear against the head of the shackle-bolt for the purpose of securing the same in position.

The principal novel feature of my invention is the construction and relative arrangement of its operative parts whereby it cannot drop out of its position and holding engagement with the shackle-bolt by the sudden breaking of the said clamping-spring when in use.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the several views, Figure 1 is a side view of my improvement in position for use, showing the relative arrangement of the operative parts. Fig. 2 is a plan view of the same. Fig. 3 is a perspective detail of my invention detached from its operative position. Fig. 4 is a detail of the locking-jaw, showing the manner of securing the adjacent end of the clamping-spring.

The clip 1, of common form, has an integral shackle 2, as usual, and a draft-bolt 3, all of common form and arrangement and secured to the axle, having the usual metal portion 6 and wood portion 7, in the usual manner, by cross-plates and the clip-nuts $9'$ and 9^2. To this draft-bolt 3 the draft-eye 4 of the thill 5 is secured in the usual manner, Fig. 2.

My improvement when in position for use is arranged above instead of below the clip and clamps the eye of the thill in the manner hereinafter described.

Referring now particularly to Figs. 3 and 4, the jaw 8 has its forward or lower portion made concavo-convex and tapering to a thin edge, as shown. The upper end of the jaw has a lateral opening to admit the forward end of the clamping-spring 9, which is then rigidly secured to the rear convex face of the jaw by a proper holding-screw or in other proper manner. The jaw 8 is provided upon one side thereof with a fixed or integral arm 11, having an integral lug 12 arranged at right angles therewith for the purpose hereinafter described. The spring-plate 9 is sharply bent, as shown at 13, and, projecting rearwardly, has its rear end pivotally mounted in the cam-lever 14, consisting of a curved handle 15, provided upon its upper end with a pair of rearwardly-projecting ears or lugs 16. The forward ends of these lugs 16 are laterally perforated to receive the pin or rivet 17, on which the rear end of the said spring 9 is pivoted. The rear ends of the lugs 16 are also laterally apertured to receive the bent ends of the pendent yoke 18, which is adapted to form a holding engagement with the adjacent clip-nut $9'$, as shown in Fig. 1. When the yoke is thus engaged, its upper ends form a fulcrum for the lever 14 in rigidly securing my improvement in position.

The manner of employing my device thus

described is, briefly stated, as follows: To place my improvement in position for use, the operator first inserts the tapering jaw 8 in the space between the rear face of the draft-eye and the shackle. The handle 15 of the lever 14 is then thrown forward into nearly a horizontal position, as shown in dotted outline in Fig. 1, thereby practically lengthening the downward extension or projection of the yoke 18 the length of the said lugs 16. The operator is then able to readily slip the lower or free end of said yoke over the said nut 9′ to its holding position. He then throws the said lever rearward and downward into the locked position shown in full lines in Fig. 1. This movement of the lever wedges the jaw 8 more firmly in position and by forcing the rear end of the spring 9 downward gives it a tension which forces the said jaw firmly against the draft-eye 4, which thus makes it a perfect antirattler. When it is employed as a quick shifter, the nut which is usually employed on the screw-threaded end of the bolt 3 is omitted, as shown in Fig. 2, the bolt being securely held in place by the lug 12 of the arm 11, which firmly presses against the head thereof. When it is desired to detach the thill 5, the operator elevates the lever 14 to the position shown in dotted lines in Fig. 1, which thereby relieves the tension of the said spring 9 and loosens the yoke 18, after which the operator can readily slip the free end of said yoke off of the nut 9′ and remove my improvement. He can then pull the bolt 3 out of the draft-eye, as the nut on the said bolt is preferably omitted. My improvement is thus both an antirattler and a quick shifter.

It is obvious that as my invention is arranged above the clip instead of below it if the spring 9 were to break by frost or other accident, thereby entirely relieving its tension, the jaw 8 would not thereby drop out or be displaced and the bolt 3 would still be held in place by the lug 12, though in that case it would probably rattle somewhat, and thus notify the operator that it should be replaced by another.

One great practical advantage in the use of my improvement is that it can be placed in position upon any proper vehicle as an antirattler without the slightest change whatever in any of the vehicle attachments, and it can be employed as a combined antirattler and quick shifter by making no other change than the removal of the said nut from the screw-threaded end of the said bolt 3.

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

1. In a combined antirattler and a quick-shifter thill-coupling, the combination of a gripping-jaw adapted to impinge upon the draft-eye, and provided with an integral lateral arm adapted to secure the draft-bolt in position as shown by a holding contact with the head thereof; a rearwardly-projecting spring having its forward end rigidly fixed in said jaw, and having its rear end pivotally connected with a cam-lever as shown; an operating-lever fulcrumed at its union with the said spring and provided with laterally-apertured ears; and a pendent yoke pivotally mounted in the said apertured ears, and having its lower end forwardly bent and adapted for a holding engagement with the adjacent clip-nut.

2. A thill-coupling consisting of a gripping-jaw for the draft-eye provided with means for securing the draft-bolt in position by a holding contact with the head thereof; a spring-plate having one end rigidly secured to said jaw and the other end pivoted to the operating-lever; a lever fulcrumed at said pivotal connection with the said spring-plate, and provided with apertured ears adjacent to said pivotal connection; and a pendent yoke pivotally suspended from said ears and adapted for a holding engagement with the clip-nut.

3. In a thill-coupling a gripping-jaw concavo-convex as shown, adapted for a holding engagement with the draft-eye as described, and provided with a lateral arm adapted to firmly secure the draft-bolt in place by contact with the head thereof.

4. The combination of the gripping-jaw 8 concavo-convex in form as shown, and provided with a lateral arm 11 for the purpose specified; the spring-plate 9 pivotally connecting said jaw with the operating-lever; a cam-lever 14 provided with apertured ears, and pivotally fulcrumed at its union with said spring-plate, and the pendent yoke 18 pivotally mounted in said ears and adapted for a holding engagement with the clip-nut as described.

Signed by me at Dayton, in the county of Montgomery, State of Ohio, this 13th day of September, A. D. 1899.

THOMAS J. GIBBONS.

Witnesses:
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