No. 704,160. Patented July 8, 1902.

J. E. WHITNEY.

ANTIRATTLER FOR THILL COUPLINGS.

(Application filed Jan. 28, 1902.)

(No Model.)

FIG. 1.

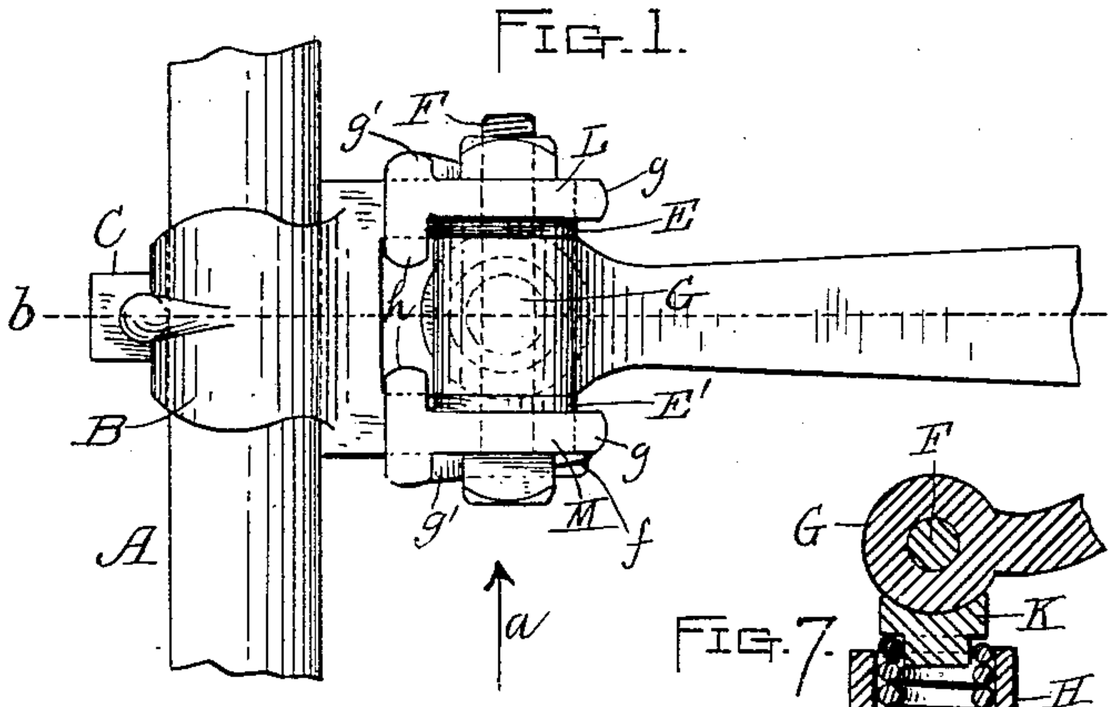


FIG. 7.

FIG. 2.

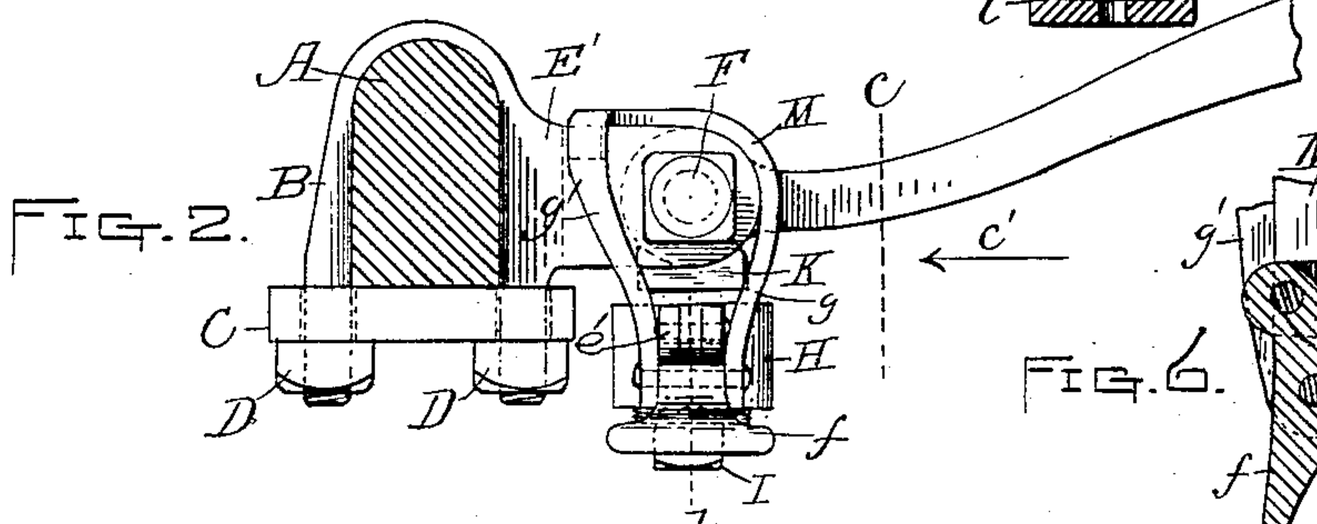


FIG. 6.

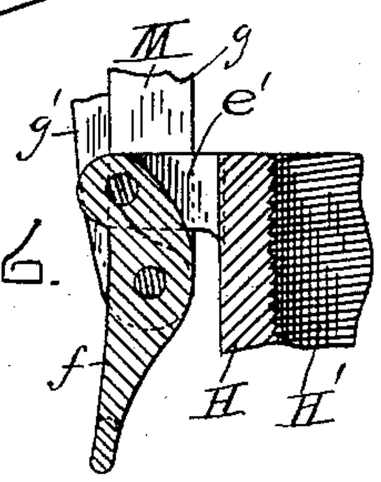


FIG. 3.

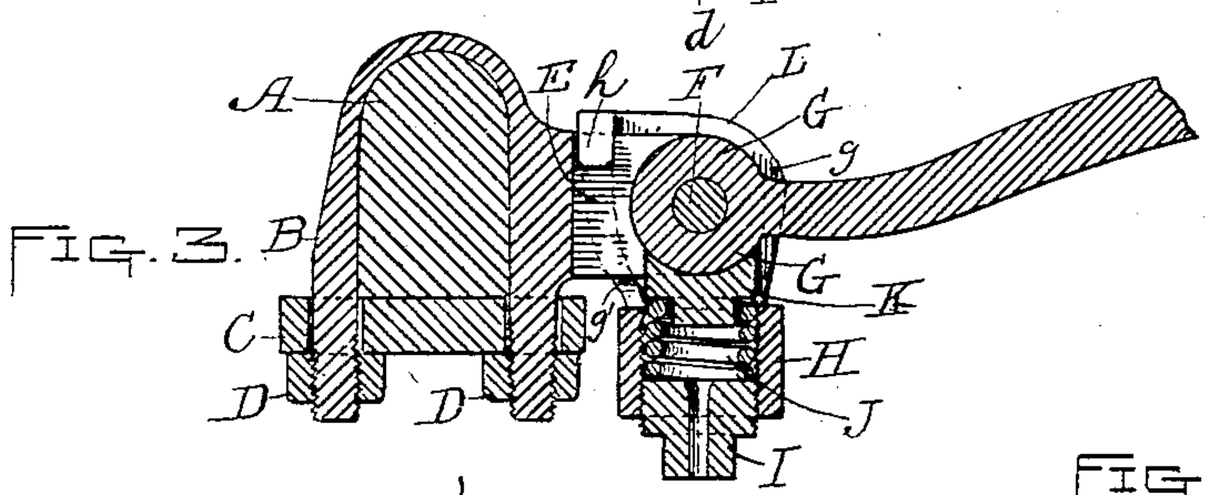


FIG. 4.

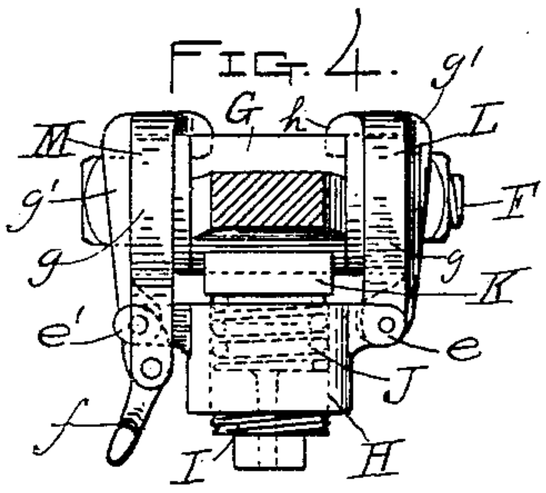
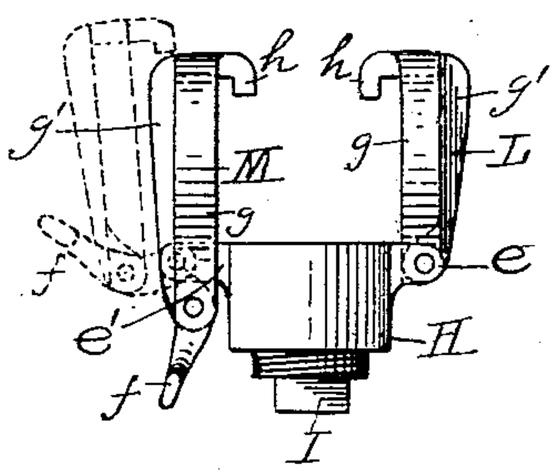


FIG. 5.



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UNITED STATES PATENT OFFICE.

JAMES E. WHITNEY, OF LEOMINSTER, MASSACHUSETTS.

ANTIRATTLER FOR THILL-COUPLINGS.

SPECIFICATION forming part of Letters Patent No. 704,160, dated July 8, 1902.

Application filed January 28, 1902. Serial No. 91,553. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. WHITNEY, of Leominster, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Antirattlers for Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a top or plan view of a thill-coupling with my improved antirattler applied thereto. Fig. 2 is a vertical section through the axle in front of the thill-coupling, showing a side view of the parts shown in Fig. 1 looking in the direction of arrow *a*. Fig. 3 is a central vertical longitudinal section taken on line *b*, Fig. 1. Fig. 4 is a transverse section through the shaft-iron, taken on line C, Fig. 2, looking in the direction of arrow C′ and showing a view of the front end of the thill-coupling and antirattler. Fig. 5 is a similar view to Fig. 4 of the antirattler detached from the thill-coupling. Fig. 6 is an enlarged sectional view taken on line *d*, Fig. 2; and Fig. 7 shows a modification in the construction of the antirattler, which will be hereinafter described.

The object of my invention is to provide an antirattler for the thill-couplings of carriages, whereby not only the rattling of the shaft-iron eye on the thill-coupling bolt, but also of said bolt in the ears of the thill-coupling may be entirely removed and which may be easily and quickly applied to any thill-coupling to which it is adapted in size without the removal or adjustment of any parts of said thill-coupling.

Said invention consists of an attachable device adapted to press upon the shaft-iron eye and to draw upon the thill-coupling ears when applied to the thill-coupling, so as to hold said parts and the thill-coupling bolt in firm contact with each other, and thereby prevent their rattling, as will be hereinafter more fully set forth.

In order that others may better understand the nature and purpose of my said invention, I will now proceed to describe it more in detail.

Referring to the drawings, A represents the carriage-axle, and B the usual yoke attached thereto by means of the cross-bar C and nuts D D, said yoke also having the forward-extending ears E E′ for supporting the usual transverse bolt F, to which is pivoted the shaft-iron eye G of the thills. The aforesaid parts are of ordinary well-known construction and arrangement and are not required to be altered or removed in applying my improved antirattling device thereto, the only essential requirement being that said devices be adapted in size to the particular sizes of thill-couplings to which they are to be applied, about four sizes being required in practice to fit the different sizes of carriages. Said antirattling device consists of the central hub H, having a vertical threaded opening H′, in the lower end of which is fitted a nut I. Above said nut in opening H′ is arranged a spiral spring J, and between said spring and the bottom of the shaft-iron eye G when the device is fitted to the thill-coupling is arranged a block K, whose upper surface is made concave in shape to fit the convex surface of said shaft-iron eye, as is shown in Figs. 3, 4, and 7 of the drawings. The hub H is supported in position to hold said block K against the surface of the shaft-iron eye by means of clamps L and M, pivoted at their lower ends to opposite sides of said hub H. The clamp L is pivoted to an ear *e*, formed at the upper edge of one side of hub H, and the clamp M to a cam-lever *f*, whose inner end is pivoted to an ear *e′*, formed upon the opposite side of said hub from ear *e*. Both of said clamps L M are made in the form of a yoke, the front side *g* of which fits over the front curved edge of each ear E E′ and the other side *g′* against the outer surface of the ear, thence over the top edge, and turns down over the top inside edge in the form of a hook *h*, as is shown in the drawings, thereby holding said clamps in position from slipping off when applied to the thill-coupling.

In applying the antirattling device the cam-lever *f* is first moved from the position shown by full lines in the drawings to that shown by dotted lines in Fig. 5, so as to raise the clamp M above the level of the ear E′, over which it is to be fitted. The device is now placed under the thill-coupling, with the block K against the under side of the shaft-iron eye G, and the clamp L is fitted over the

ear E. The other clamp M is then fitted over the ear E′ and the cam-lever pulled down from the position shown by dotted lines to that shown by full lines, said operation, as will be seen, causing the device to be clamped securely, with the spring-block K pressing upward against the under side of the shaft-iron eye G and the clamps pulling downward upon the ears E E′. Now since both said eye and the ears are fitted over the same bolt F it is also obvious that all of said parts must necessarily be held with a firm pressure one against the other sufficient to absolutely insure them against rattling, but not so rigid as to prevent the shaft-irons from being easily turned in their pivots in using the carriage. A constant yielding pressure is imparted by the spiral spring J, and any wear of the block K by friction against the shaft-iron eye G may be taken up as occasion requires by turning up the regulating-nut I. In Fig. 7 I have shown the device without said nut I, the necessary take-up caused by wear being adjusted by inserting a washer *i* of the proper thickness under the spring J—as, for instance, as the block K wears away and the parts become loose, so as to rattle, the old washer is substituted by a thicker one of sufficient thickness to produce the desired upward pressure to again hold the parts firmly in frictional contact. I prefer the first-described construction of using the nut I to obtain said adjustment; but as it is not an essential feature, as cited in the above instance, I do not limit myself thereto. I also reserve the right to attach or form the clamp L rigid with the hub H, as it is not essential to the carrying out of my invention to have it pivoted thereto, as described. I also further reserve the right to employ any suitable elastic cushion other than spring J under block K for the purpose described or to make such other modifications in the construction as may be deemed advisable in practice coming within the scope of my invention, the essential feature of which, as before stated, consists in providing a device which shall have the counter resistance of the block K against the shaft-iron eye G by draft upon the ears of the thill-coupling rather than upon the bolt F and in providing such a device with cam attachments, whereby it may be readily attached and detached to and from the thill-coupling of a carriage without removing or changing any of the old parts of said thill-coupling.

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

The combination of ears E E′, bolt F and shaft-iron eye G, with hollow hub H, elastic cushion J fitted therein, block K, means for regulating the pressure of said block against said shaft-iron eye, clamp L attached at its lower end to hub H and adapted to fit and hook over the ear E, clamp M pivoted at its lower end to a cam-lever *f*, and adapted to fit and hook over the other ear E′, and said cam-lever *f*, pivoted at its inner end to hub H, substantially as and for the purpose set forth.

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