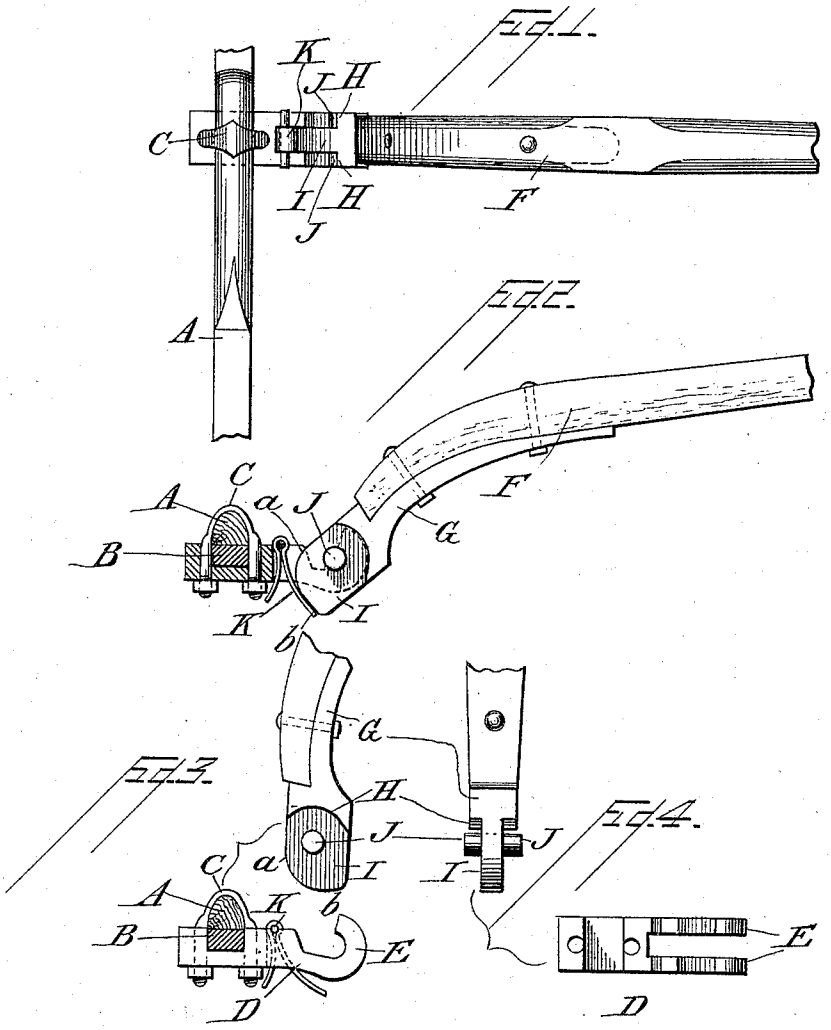
(No Model.)

A. C. LAYCOCK.

THILL COUPLING.

No. 488,396. Patented Dec. 20, 1892.



Attest:

F. H. Schott

Alfred T. Sage.

Inventor

Adam Clark Laycock

by W. B. Henderson,

his Attorney.

UNITED STATES PATENT OFFICE.

ADAM CLARK LAYCOCK, OF KINGSTON, PENNSYLVANIA.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 488,396, dated December 20, 1892.

Application filed March 3, 1892. Serial No. 423,671. (No model.)

To all whom it may concern:

Be it known that I, ADAM CLARK LAYCOCK, a citizen of the United States, residing at Kingston, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Thill-Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to thill couplings, and has for its object to provide for a coupling in which the thills can be readily and quickly attached and detached without the necessity of removing bolts or other fastenings and in which absolute safety is insured against accidental detachment of the thills as the same will have to be raised to a practically vertical position or thrown back of a vertical line before they can be removed from the coupling.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in the construction and the combination of parts hereinafter particularly described and then specifically defined in claims.

In the drawings forming a part hereof Figure 1 is a plan view of a portion of an axle and a thill coupled together by my invention. Fig. 2 a side elevation of the same. Fig. 3 detail views showing the thill iron and the hook eyes separated but in position to be coupled together, and Fig. 4 is a detail of the thill iron looking at it from the front or under side, and of the hooked eyes looking down upon the same.

In the drawings the letter A designates the axle of the vehicle with its metallic base plate B, and C a clip of ordinary construction for securing the hook eye to the axle. This hook eye is composed of a plate D the forward portion of which is bifurcated so as to form two extensions or arms E the ends of which are curved upwardly and rearwardly as illustrated so as to form hooks or open eyes the front faces of which will describe the segment of a circle, or approximately so. The thill is indicated by the letter F and is provided with the thill iron G the rear portion of which is cut away or recessed on its opposite faces so as to form shoulders H which will bear against the front face of the hook eyes, while the portion to the rear of those shoulders and designated by the letter I forms a tongue which will fit between the hook or thill eye as indicated in the drawings. Projecting from opposite sides of this tongue are the pintles J which are designed to rest in the hook eyes and thus pivotally couple the thill thereto.

In order to provide for the proper placing and adjustment of an anti-rattler designated by the letter K in place without the necessity of driving and forcing the anti-rattler between the tongue of the thill iron and the rear portion of the thill eyes, I cut away the upper portion of the tongue to the rear of the pintles so as to cause the distance between the pintles and the rear outline of the tongue to gradually increase from about the point *a* to the point *b* so that the distance between the pintles and the point *b* is greater than between the pintles and the point *a* or any other point between those two points. Under this construction I am enabled to first place the anti-rattler in place as indicated in Fig. 3 of the drawings and then by bringing the thill iron to about the position indicated in the same figure and dropping the same down into place the tongue will pass between the two arms of the hook eye and the pintles into the open portion of the eye without unduly compressing the anti-rattler and then by turning down the thill the lower rear portion of the thill iron tongue will compress the anti-rattler and the latter will force the thill iron forward so as to bring the pintles into a secure locking position with the hook or thill eyes.

As will be observed from an inspection of Fig. 2 of the drawings under the construction which I have described there is comparatively no pressure exerted by the anti-rattler on the thill iron tongue as it is first introduced into the thill eye but after it is introduced and the thill is turned down to its working position there is a very constant pressure of the anti-rattler on the thill iron tongue which pressure is increased as the thill is turned down. This is a very marked advantage over constructions where the pressure is the same from the point of introduction of the tongue

to all other points in its movement as it permits the anti-rattler to be placed in position before coupling the thill and allows the removal of the latter without disturbing the anti-rattler and at the same time it so regulates the pressure between the anti-rattler and the tongue of the thill iron that the best results are obtained both as to durability and wear and as to the pressure exerted by the anti-rattler. It will also be observed that from the construction described the thill can be very readily coupled and uncoupled without the necessity of unscrewing bolts or other fastenings or the removal of any part other than the thill itself, and yet at the same time when the horse is hitched to the thills it is impossible for the thill to become accidentally detached as they must be thrown back to a vertical position or to a position back of a vertical line before they can be withdrawn from their coupling which is impossible so long as the horse is hitched.

I have described the construction that I have found the best for accomplishing the objects stated but I do not limit myself thereto where an equivalent construction affording the same advantages particularly specified is employed.

Having described my invention and set forth its merits what I claim is:—

1. The thill coupling herein described composed of the open hook or eyes provided with the anti-rattler in combination with the thill iron formed with pintles to fit in said open eyes and with a tongue to bear against said anti-rattler, said tongue having its rear portion cut away so that the distance between the pintles and the point *b* will be greater than between the pintles and point *a*, the distance gradually increasing from the point above to the point below the pintles, substantially as and for the purposes described.

2. The thill coupling herein described composed of the open hook or eyes provided with the anti-rattler in combination with the thill iron having shoulders on opposite sides to bear against the face of the hook eye and formed with a tongue having pintles projecting from opposite sides thereof, the rear end of the tongue being cut on a gradual curve from the point *a* above to the point *b* below the pintles so that the distance between the pintles and the point *b* is greater than between the pintles and the point *a* or any other point between those two points, substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

ADAM CLARK LAYCOCK.

Witnesses:

T. P. CULVER,

C. GEO. BOUGHTON.