W. N. THOMAS.

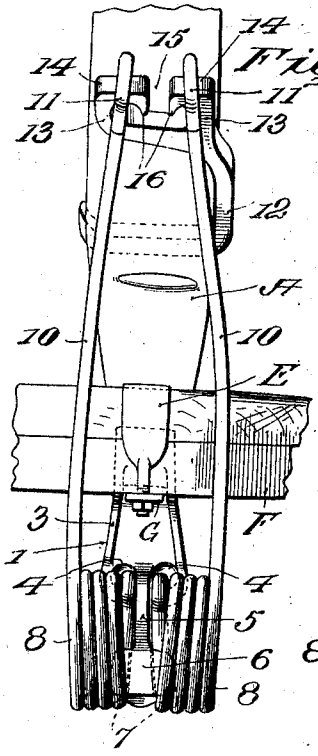
ANTIRATTLER AND THILL SUPPORT.

APPLICATION FILED JAN. 12, 1910.

981,142.

Patented Jan. 10, 1911.

Fig. 2.



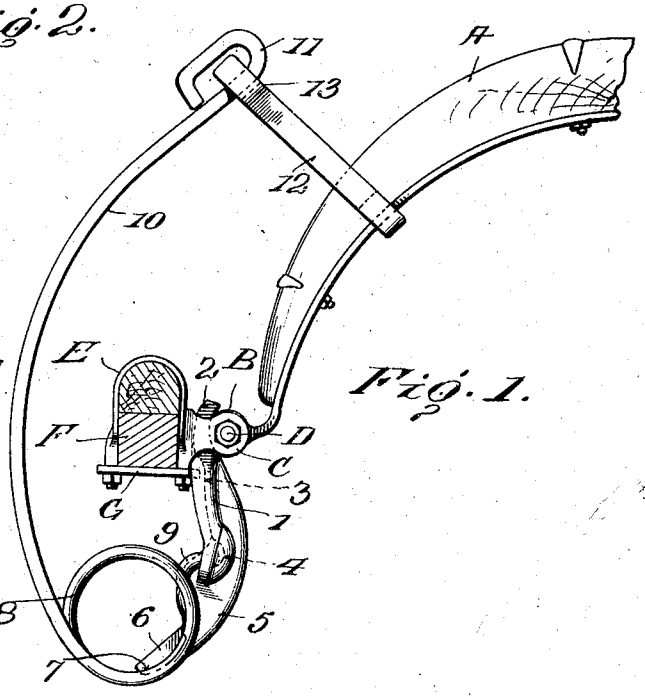


Fig. 1.

Fig. 3.

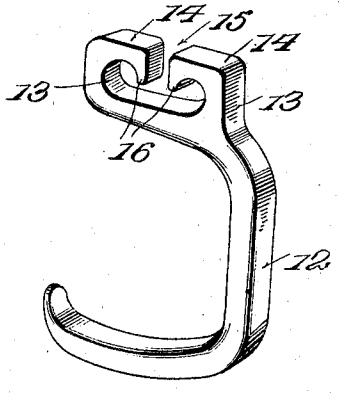
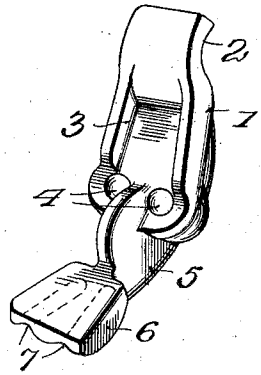


Fig. 4.



Witnesses

W. A. Woodson.

Juana M. Fallin.

Inventor

W. N. Thomas.

By Wm. A. Macy. Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM N. THOMAS, OF MARION, ALABAMA.

ANTIRATTLER AND THILL-SUPPORT.

981,142. Specification of Letters Patent. Patented Jan. 10, 1911.

Application filed January 12, 1910. Serial No. 537,692.

To all whom it may concern:

Be it known that I, WILLIAM N. THOMAS, citizen of the United States, residing at Marion, in the county of Perry and State of Alabama, have invented certain new and useful Improvements in Antirattlers and Thill-Supports, of which the following is a specification.

The present invention relates to vehicle attachments of that type which yieldingly support the thill and also serve to prevent the rattling of the parts of the thill coupling.

The invention has for its object an improved device of this character which is susceptible of being easily and quickly applied to thill couplings of the ordinary form and is effectually held in position against accidental displacement; which is quite efficient in operation and embodies to a marked degree the characteristics of simplicity, durability and strength, and which consists of comparatively few parts capable of being readily assembled.

With these and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features of in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation partly in section, illustrating the application of the invention. Fig. 2 is a rear elevation thereof. Fig. 3 is a detail perspective view of the thill engaging hook, and Fig. 4 is a similar view of the supporting member.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

For the purpose of illustration the invention is shown and described in connection with a thill A that is of the customary type and has an eye B which is rotatably mounted between a pair of transversely spaced bracket arms C through the instrumentality of a bolt D passed therethrough. The bracket arms C are carried by and project forwardly from a substantially inverted U-shaped clip E which straddles the fore-axle F with its extremities connected by a tie plate or gland G.

My improved anti-rattler and thill support includes a supporting member or plate 1, the upper end portion of which extends upwardly between the bracket arms C and is curved slightly forwardly to form, in effect, a hook 2 that takes over the thill eye B. The supporting plate extends downwardly below the bracket arms and is formed in its rear face intermediate of its ends with a recess 3 in which is received the forwardly projecting extremity of the tie plate G, the upper wall of the recess being adapted to engage the tie plate to insure against the accidental downward displacement of the supporting plate. A pair of transversely spaced sockets 4 are formed in the lower end of the supporting plate and open through the rear face thereof. These sockets are arranged on opposite sides of a central longitudinal flange 5 which outstands from both faces of the plate in proximity to the lower end thereof, the flange extending upwardly along the forward face of the plate to a point just below the hook 2, whereby to reinforce the plate opposite the recess 3. The flange is continued downwardly below the lower end of the plate and terminates in a substantially flat head 6 that is supported in rearwardly inclined position below the axle F and that projects laterally on opposite sides of the flange, as shown. The forward or under faces of the projecting portions of the head are curved longitudinally and are formed with longitudinal grooves 7. The supporting plate, flange and head are preferably cast or otherwise formed of integral structure.

Transversely alining coil springs 8 encircle the respective laterally projecting portions of the head 6 and bear against the curved faces thereof with their innermost convolutions received in the grooves 7, whereby to maintain the coil springs against lateral displacement. The inner or adjacent ends of the coil springs are outturned, as indicated at 9, and extend forwardly and are seated in the corresponding sockets 4 in the lower end of the supporting plate. The other or remote end portions of the coil springs are outturned and constitute a pair of transversely spaced supporting arms 10 which, in their operative positions, extend upwardly behind the axle F and then curve

forwardly above the rear portion of the thill A. The extremities of the arms are bent to form closed loops 11 that are arranged for connection with a laterally facing hook 12 that is slipped sidewise upon the shaft. In the present instance the hook is formed above the shaft with a pair of transversely alining inwardly facing hooked lugs 13 which are arranged to engage with the respective loops 11, the angularly turned ends 14 of the lugs extending toward each other and being spaced apart a distance substantially equal to the diameter of the material forming the supporting arms 10, whereby to afford an entrance 15 between the lugs through which the loops may be passed one at a time. The supporting arms must be deflected laterally and inwardly to permit the loops to be inserted through the said entrance 15, and the loops after passing through such entrance 15, of course, spring laterally outwardly into engagement with the corresponding lugs. It is to be noted that the lugs are spaced apart transversely less than the normal distance between the ends of the supporting arms and thus the loops are kept apart, when engaged with the lugs, and hence are positively retained in such engagement against accidental displacement. This is a very valuable and important feature of the invention. As a further precautionary measure, the angularly disposed ends 14 of the lugs are enlarged at their extremities to form depending projections 16 that are designed to engage the loops 11 to prevent the same from being accidentally shifted into alinement with the entrance 15.

It is believed that the operation of the device will be obvious. The supporting arms 10 are operatively connected to the thill A through the medium of the hook 12, whereby to serve to yieldably sustain the thill in raised position. The tension of the springs draws the head 6 and the lower portion of the supporting plate 1 rearwardly and rocks the latter about the forwardly projecting extremity of the tie plate, so that the hook 2 is pressed forwardly against the thill eye B with considerable force and thus effectually prevents the disagreeable rattling of the thill coupling after the parts thereof have worked loose through excessive wear.

From the foregoing description in connection with the accompanying drawing it will be apparent that I have provided an improved anti-rattler and thill support which may be quickly applied to the customary form of thill coupling and is securely held in place; which may be easily detached when occasion requires; which may be easily and cheaply manufactured; and which consists of comparatively few parts that may be readily separated to admit of their replacement by new parts in event of possible breakage. The invention is also more simple, durable and efficient than the devices which have heretofore been employed for this purpose.

It is to be understood that in practice these devices are employed in pairs, there being one device for each thill. Inasmuch as the devices are substantially duplicates, however, only one of the same is shown and described.

Having thus described the invention what is claimed as new is:

1. The combination with a thill having an eye, a supporting axle, a clip engaging over the axle and having bracket arms to receive the eye, and a tie-plate carried by the clip beneath the axle and projecting forwardly therefrom, of a curved plate engaging between the bracket arms and over the eye of the thill, and having a recess for the reception of the projecting end of the tie-plate, said plate having spaced sockets adjacent to its lower end and having a flattened head with longitudinal grooves in its under face forming the lower termination of the plate, a pair of coil springs encircling the head and having the innermost convolutions thereof seating in the grooves of the head, the inner ends of the springs engaging in the sockets and the outer ends thereof terminating in upwardly diverging supporting arms having loops upon their extremities, a hook engaging over the thill and having inwardly facing hook lugs upon its upper end having depending projections to receive the loops, the lugs being spaced apart equal to the thickness of one of the loops to prevent the displacement of the same.

2. In a thill support the combination with a thill having an eye, an axle, a clip engaging over the axle and having bracket arms to receive the eye therebetween, and a tie-plate carried by the clip against the under side of the axle and projecting forwardly therefrom, a curved plate engaging at its upper end between the bracket arms and over the eye of the thill and having a recess for the reception of the forward end of the tie-plate to retain the same in position, said plate having spaced sockets adjacent to its lower end and having a central and longitudinal flange outstanding from both faces thereof, the flange terminating in a head at its lower extremity having longitudinal grooves in its under face, a pair of coil springs encircling the head and having the innermost convolutions seating in the grooves, the inner ends of the springs engaging in the sockets and the outer ends of the springs terminating in upwardly diverging supporting arms having loops upon their outer ends, a hook carried upon the thill and having inwardly facing hook lugs with depending projections to receive the loops, the lugs being spaced apart equal to

the thickness of one of the loops to prevent the accidental displacement of the same.

3. A thill support including a curved plate having sockets at its lower end and a flattened head with grooves in its lower face, a pair of coil springs engaging over the head and having the innermost convolutions thereof seating in the grooves, the inner ends of the springs engaging in the sockets, while the outer ends thereof terminate in diverging supporting arms having loops at their outer ends, and a hook member having inwardly facing lugs at its upper extremity with depending projections to receive the loops, the lugs being spaced apart equal to the thickness of one of the loops to prevent the accidental displacement of the same.

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

WILLIAM N. THOMAS. [L. S.]

Witnesses:

W. F. LOCKHART,

D. K. BARKER.