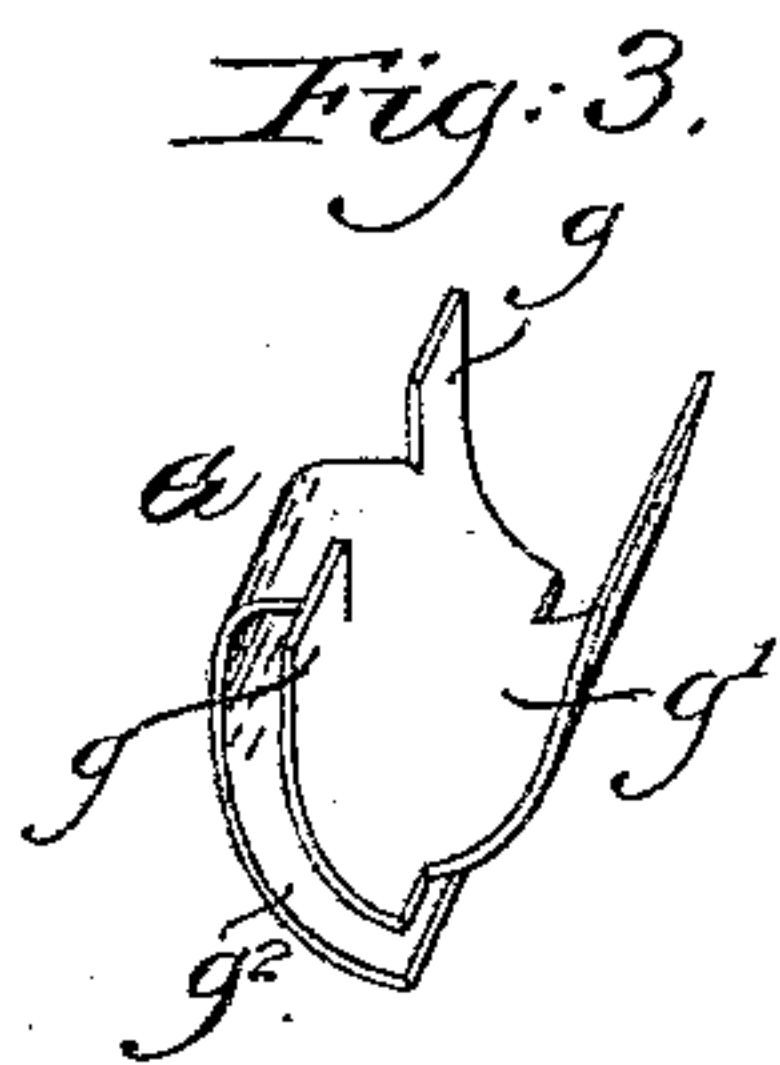
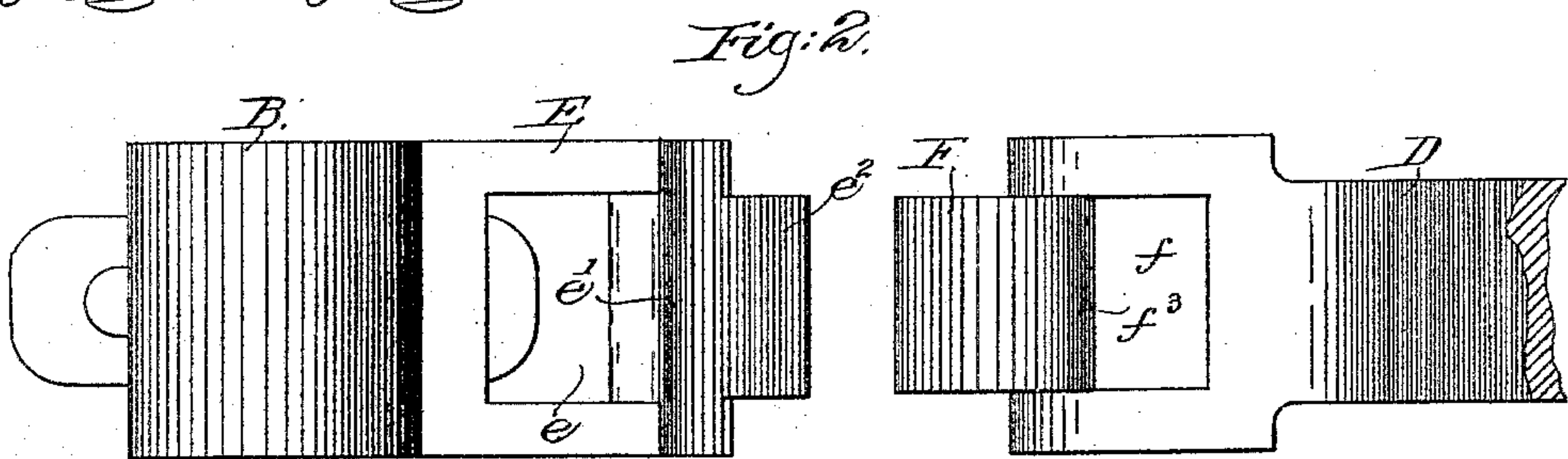
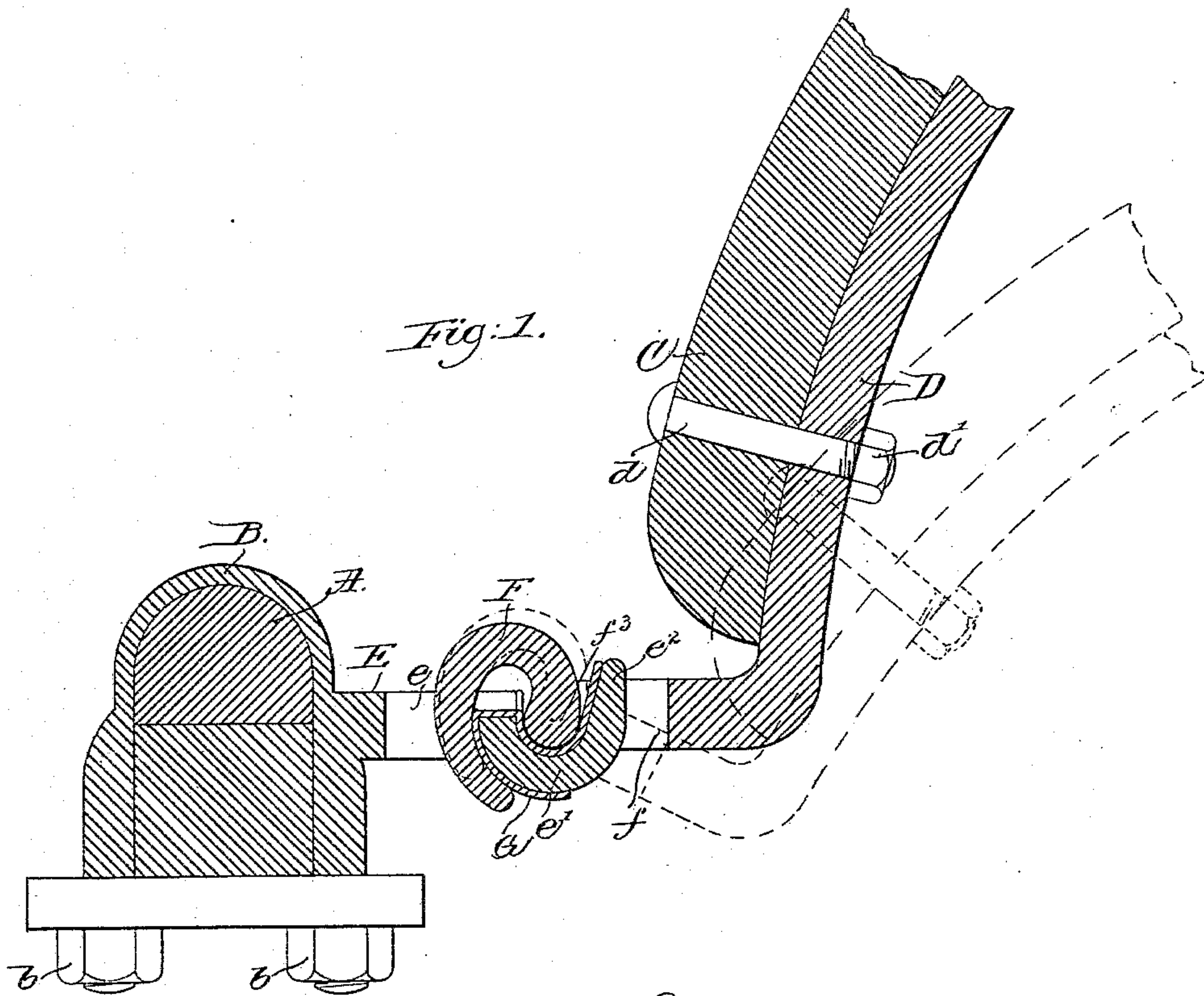


(No Model.)

C. R. JONES.  
THILL COUPLING.

No. 401,170.

Patented Apr. 9, 1889.



Witnesses:

Howard F. Eaton.

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Charles R. Jones,

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Attys.



# UNITED STATES PATENT OFFICE.

CHARLES R. JONES, OF HATLEY, QUEBEC, CANADA.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 401,170, dated April 9, 1889.

Application filed August 3, 1888. Serial No. 281,861. (No model.) Patented in Canada June 9, 1888, No. 29,311.

*To all whom it may concern:*

Be it known that I, CHARLES R. JONES, a subject of Great Britain, and residing in Hatley, in the county of Stanstead and Province of Quebec, Dominion of Canada, have invented an Improvement in Thill-Couplings, (for which Letters Patent of the Dominion of Canada, No. 29,311, were granted to me June 9, 1888,) of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Heretofore, so far as I am aware, thill-couplings have been so constructed as to permit the thills to be readily detached from the axle when the former are raised into an abnormally-elevated position or thrown back toward the body of the vehicle to their highest, or substantially highest, point, to enable the coupling to be detached. In other forms of thill-couplings the construction has been such that they might be uncoupled and the shafts or thills detached from the axle by raising the thills to their highest position to enable the coupler parts to be disengaged by a side or lateral movement of the thills.

My invention has for its object to provide a thill-coupling which may be readily disengaged, to permit the thills to be removed from the axle when the forward ends of the thills rest upon the ground, but which thill-coupling is engaged or locked to securely attach the thills to the axle and prevent the removal of the former from the latter when the vehicle is in use or when an animal is harnessed in the thills.

To this end my invention consists, primarily, of a thill-coupling, composed of a loop portion, adapted to be securely attached to the axle, and a backward and downwardly curved hook, adapted to be attached to or to form a part of the common thill-iron and to pass within the loop portion and engage the same, as will be more fully pointed out hereinafter.

My invention further consists of a thill-coupling, composed of a loop portion, adapted to be securely attached to a vehicle-axle and provided with a forward and upwardly turned hook, and a second loop portion, provided with a rearward and downwardly curved hook, adapted to enter the first-named loop

portion and engage the same, while the hook of the latter enters the last-named loop portion to engage it, substantially as hereinafter more fully pointed out.

My invention further consists of the combination, with a thill-coupling composed of a loop portion and a rearward and downwardly curved hook to engage said loop portion, of a washer and deadener, having lateral projection or wings, a rearward and downwardly curved lip, and a main or body portion, substantially as hereinafter more fully pointed out.

Referring to the drawings, Figure 1 represents in longitudinal section my improved coupling as applied to an axle and thills, the thill being shown in full lines and partly broken away, and showing in dotted lines the parts in position for disengagement. Fig. 2 is a plan of the coupler parts; and Fig. 3 is a detail showing in perspective the washer.

The axle A, clip B, with its nuts *b*, the thill C, the thill-iron D, bolted by bolt and nut *d* to the thill, are and may be of usual or preferred construction. Attached to or formed in one piece with the clip B in the present instance is what I here term, for convenience, the "primary loop portion" E, having the opening or slot *e* and a bar, *e'*, which in the present instance terminates in the forward and upwardly inclined lip or hook *e*<sup>2</sup>. The thill-iron D is at its lower extremity provided with a backward and downwardly curved lip or hook, F, which enters the slot or opening *e* of the primary loop E and passes behind and beneath in a curvilinear manner the bar *e'*, to thereby join or connect the coupling-sections and secure the thills C to the axle A. In the present instance I have shown the thill-iron D as provided with a slot or opening, *f*, similar to the slot or opening *e* of the primary loop portion, to permit the hook *e*<sup>2</sup> of said primary loop portion to pass immediately in front of to the base *f*<sup>3</sup> of the hook F, as clearly shown in Fig. 1, whereby, it will be noticed, that when said hook or lip *e*<sup>2</sup> is employed the pull or strain is borne by it and the base portion *f*<sup>3</sup> of the hook F. If the hook or lip *e*<sup>2</sup> be not employed, the pull or strain will come upon the bar *e'* of the primary loop E and the hook F of the thill-iron D. I prefer, however, to employ the parts as



shown in Fig. 1, because of greater security and strength. When such parts are used, it will be observed that the slot  $f$  in the thill-iron D becomes necessary, and the lower end of said thill-iron, with its hook and slot, is thereby of somewhat similar construction as the primary loop portion, so that, for convenience, I term that portion of the thill-iron D having said slot and hook the "secondary loop portion."

In Fig. 1 the parts are represented in full lines as substantially in the position they will occupy when the vehicle to which they are intended to be applied is in use and an animal is harnessed in the thills. In such position it is clearly apparent, from an inspection of said Fig. 1, that it is impossible to disengage the thill-coupling to detach or remove the thills from the axle. To remove the thills from the axle I employ one of two ways: first, which I prefer, to so construct and arrange the parts that when the forward ends of the thills rest on the ground it is necessary to "jack" the axle to which said thills are attached a slight distance from the ground—about the distance, for instance, usually necessary to remove the wheel therefrom—when the hook F will have been swung upward and around the base of the hook  $e^2$  and the bar  $e'$  sufficiently to permit the parts to be disengaged by lifting the hook F from the loop portion E. I have shown in dotted lines, Fig. 1, the parts in position for disengagement, as just described.

In Fig. 3 I have shown my improved hardened and shaped rawhide washer or deadener G, which is provided with the wing portions  $g$ , the main body  $g'$ , projecting forward and upwardly in a curved manner, and the backward and downwardly curved lip  $g^2$ . The said washer is adapted to slip into place with relation to the primary loop portion, so that the main body will cover the inner curved surface of the hook  $e^2$ , the lip  $g^2$  will pass over the bar  $e'$  and partially around and about the under surface of said hook  $e^2$ , and the wings  $g$  cover the ends of the primary loop portion at either side of the hook  $e^2$ , so that when the hook F of the secondary loop portion is passed into the slot  $e$  and around and beneath the bar  $e'$  and a portion of the hook  $e^2$  the metal portions of the coupling are prevented from contact with each other, whereby not only does said washer serve as a deadener, but it also prevents wear of the parts of the coupling. The other and less preferred manner of removing the thills from the axle is to so

construct and arrange the parts that the hook F may be disengaged from the primary loop portion by simply lifting it therefrom when the forward ends of the thills rest upon the ground, without the necessity of "jacking" the axle, as before described.

What I claim, and desire to secure by Letters Patent, is—

1. A thill-coupling composed, essentially, of a coupling-iron provided with an upward, backward, and downwardly curved hook, substantially as specified, and a second coupling-iron having a bar and slot or opening to permit the said curved hook to pass in front of and over the bar, through the slot, and under said bar to lock the couplings, in the manner and for the purpose specified.

2. A thill-coupling composed, essentially, of a primary loop portion having a bar, a slot or opening, and a forward and upwardly turned lip, and a thill-iron provided with a secondary loop portion having a slot or opening and a backward and downwardly curved hook, substantially as and for the purpose described.

3. The combination, with the primary loop portion having the slot or opening and bar, as specified, of a thill-iron provided with a backward and downwardly curved hook, and a washer provided with the wings  $g$ , the main portion  $g'$ , and the lip  $g^2$ , the said lip passing over the bar, substantially as and for the purpose set forth.

4. The combination, with the primary loop portion having a slot, a bar, and the upturned lip, substantially as specified, and the thill-iron provided with the secondary loop portion having the slot and curved hook, as specified, of the shaped and hardened washer G, having the wings  $g$ , the main body portion  $g'$ , and the lip  $g^2$ , substantially as and for the purpose specified.

5. A thill-coupling composed, essentially, of a thill-iron provided with a backward and downwardly curved hook, and a bar adapted to be secured to an axle and to permit the hook to pass over and under the same and to prevent lateral movement of said hook when engaged therewith.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES R. JONES.

Witnesses:

M. L. MORRISON,  
JAMES H. LANGE.