

(No Model.)

W. Y. WATT.
THILL SUPPORT.

No. 452,627.

Patented May 19, 1891.

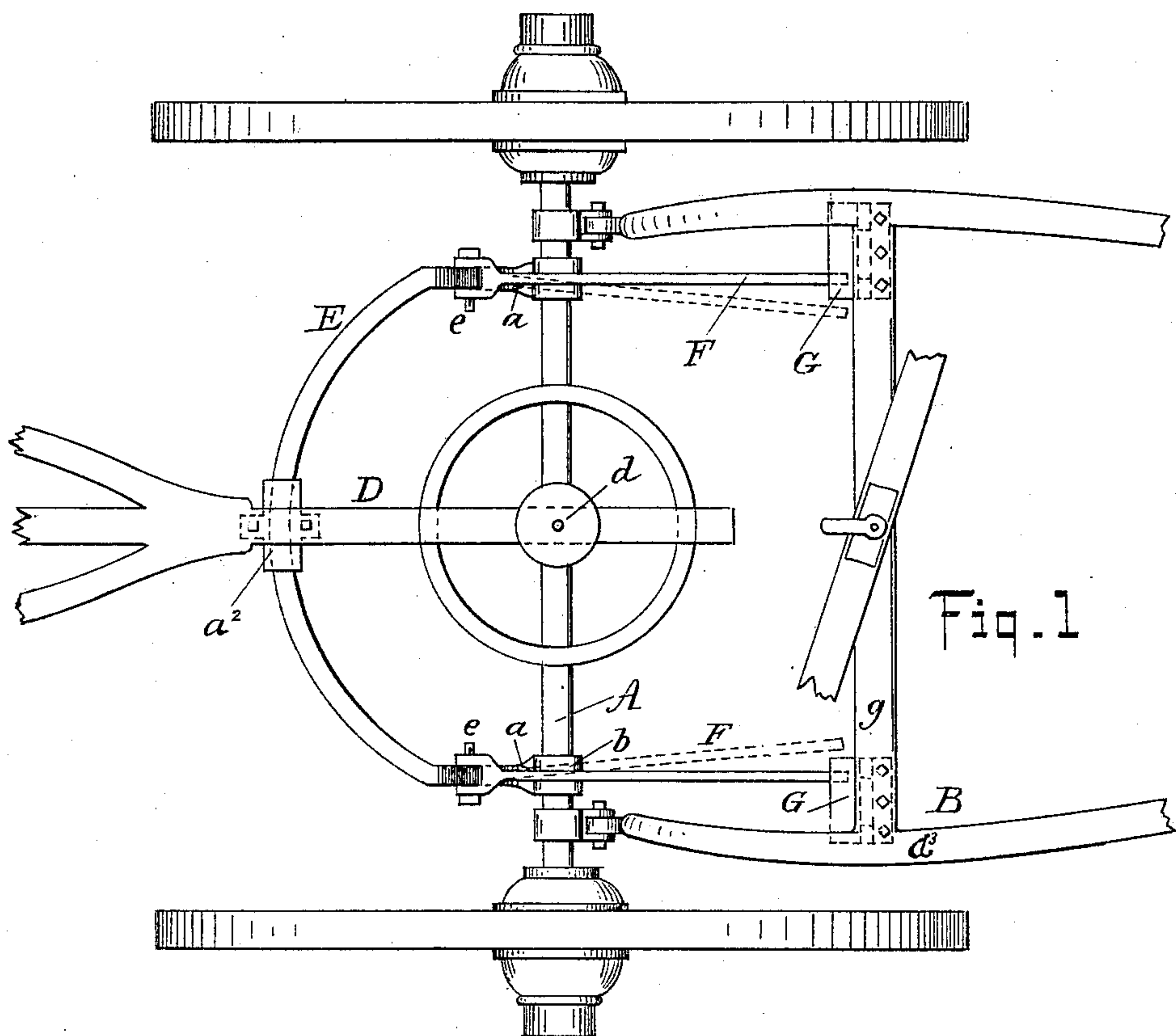


Fig. 1

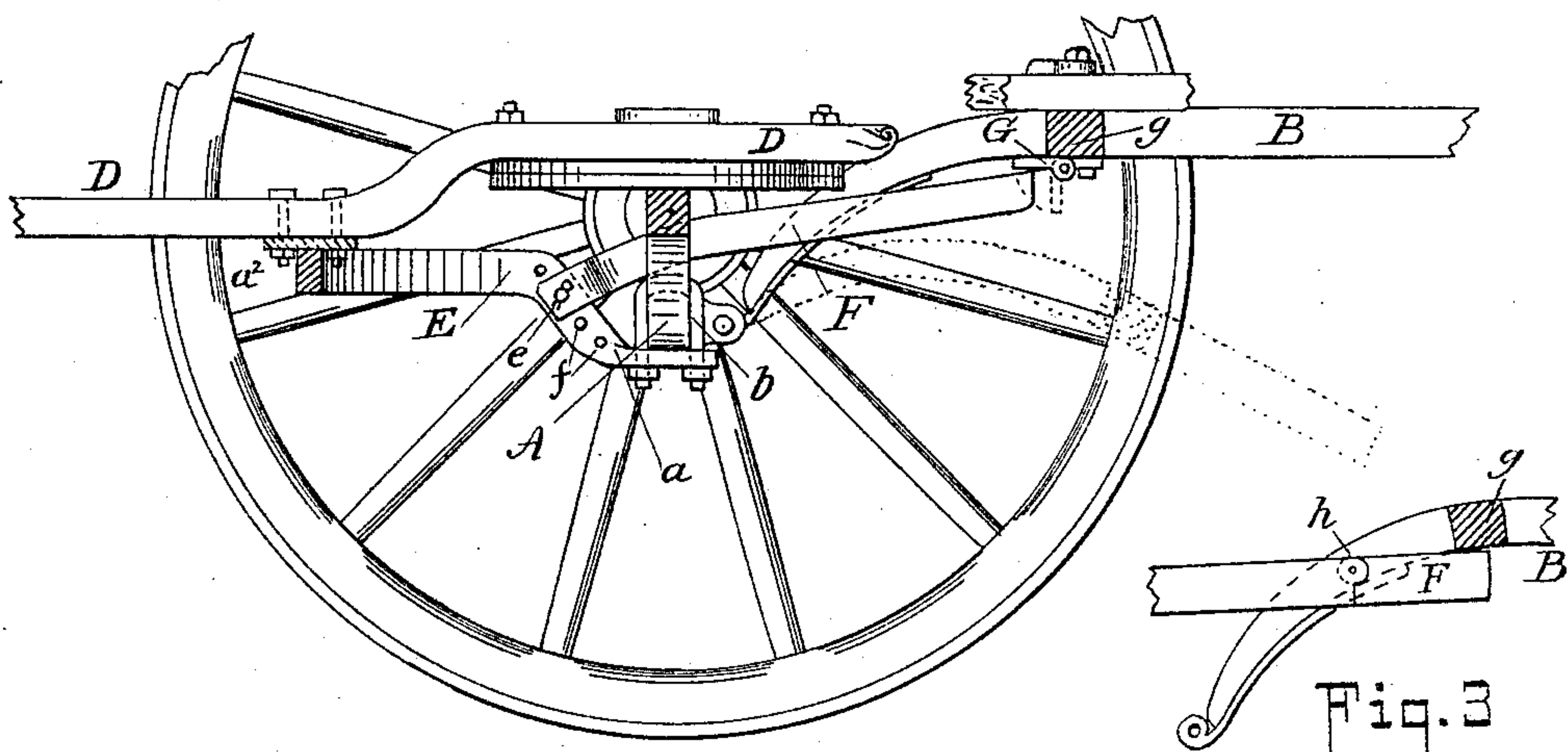


Fig. 2

Fig. 3

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THILL-SUPPORT.

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To all whom it may concern:

Be it known that I, WILLIAM Y. WATT, residing in Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Thill-Supports, of which the following is a specification.

The object of my invention is to support the thills or shafts of a wagon at any desired height independently of a saddle while at the same time permitting the thills to be raised or lowered, when desired.

The invention consists in the novel details of improvement and the combinations of parts, that will be more fully hereinafter set forth, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a plan view of the running-gear of a wagon at the front part showing my improvement in position to support the thills. Fig. 2 is a sectional side elevation of the same, and Fig. 3 is a detail of a modification.

In the accompanying drawings, the letter A indicates the forward axle of a vehicle, to which the thills B are to be suitably connected; and D is the reach, suitably connected with the axle.

E indicates a support that extends from the axle A to the reach D. The support is preferably made in the form of a bail, and secured at its ends to the axle A while its center part extends to the reach. The support E is shown as a flat bar turned on edge to engage the reach, while near its end, it is twisted half around, as at *a*, to bring its flat side against the axle. (See Fig. 2.) The ends of the support E are shown connected to the axle by clip *b*. The outer side of the bail-like support E is preferably curved in the arc of a circle described around the king-pin *d*. It is evident that the support E can be otherwise arranged and connected with the axle, if desired, provided it extends from the axle to the reach.

F are two bars or arms carried by the axle A and extending from the support E forwardly to support the thills B. (See Fig. 2.) The bars F are shown connected with the support E by pins or bolts *e*, that pass through apertures *f* in the support E near its ends, and through corresponding apertures in the

ends of the bars F, which are preferably forked to straddle the support E. (See Fig. 1.) The arms F are to be adjusted vertically to regulate the height of the outer ends of the thills, and for this purpose the apertures *f* are placed at different heights on the support E. This may be accomplished by bending the forward arms of the support E upward, as in Fig. 2, one aperture *f* being above the other. By thus bending the forward arms of the support E upwardly the ends of the support E can be secured to the under side of the axle, while the upper edge of the support E can always engage the reach, even when the axle is turned on the king-pin *d*.

The forward ends of the bars F are to engage and support the thills, and they are to be adjustably connected to the thills, so that the thills can be raised or lowered when the wagon is not in use. One means I have shown for connecting the thills to the arms F for said purpose is as follows: The outer ends of the bars F project near the cross-bar *g* of the thills, but so that said cross-bar is free to be raised and lowered. The thills B carry a hinged plate or bar G, that is adapted to be swung above and in line with the outer ends of the bar F, (there being one such plate on each of the thills, see Fig. 1,) and to thus prevent the thills from swinging down below a certain height. (See Fig. 2) Each hinged bar G is shown extending from the cross-bar *g*, and one of its ends comes under the main part or arm *a*³ of the thills, which gives a rest for the plate G and strengthens the structure. The thills B may be freely raised by lifting them, but when they are to be lowered they are first raised slightly to free the plates G from the ends of the bars F, when the plates will swing down, as in dotted lines, Fig. 2, thus leaving the ends of the bars F free from the thills. The latter can then swing down, as in dotted lines, Fig. 2. When the thills are lifted, the plates G will swing over the ends of the bars F and rest on them, thus supporting the thills.

The weight of the thills on the bars F tends to lift their inner ends, which are prevented from being raised by the support E coming against the reach.

The normal height of the outer ends of the

thills can be regulated by adjusting the pin *e* in an aperture *f* in the support E, when, by lowering said pin, the outer ends of the bars F will be raised (and thus the thills be raised) 5 and by raising the pin *e* the outer ends of the thills will be depressed correspondingly to adjust the thills to different heights of horses.

Between the support E and reach D, I prefer to place a wearing-piece *a*², which is shown 10 carried by the reach. (See Fig. 2.) Of course the means for connecting the bars F and the thills B to permit the latter to be raised or lowered can be altered from that described. The outer ends of the bars F can extend be- 15 neath the cross-bar *g* or other part of the thills to support the latter, which said bars can be jointed midway of their length, as at *h*, to enable them to be swung upward, as shown in Fig. 3, and prevent downward move- 20 ment at *h*. The hinged piece in this case is carried by the bars F instead of by the thills. In this case the thills will first be raised, then the outer parts of the bars F swung upward to free them from the cross-bar *g*, and then the 25 thills lowered. When the thills are raised, the cross-bar *g* will lift the outer ends of the bars F, then pass above them and rest upon them. Then, again, to lower the thills B the outer ends of the bars F can be moved side- 30 wise to free them from their engaging plates or other parts of the thills, as shown by dotted lines in Fig. 1.

My improved thill-support will be found simple in construction, effective in use, and 35 not liable to get out of order. The thills can be raised and lowered with very little trouble, and by being supported independently of the horse a saddle can be dispensed with, and thus chafing of the horse's back is prevented. 40 The parts E F F, although jointed together, as at *e*, form a single rigid support extending from the reach to the thills while the weight of the thills is upon it.

Having now described my invention, what 45 I claim is—

1. The combination, with an axle, reach, and thills, of a rigid thill-support carried by the axle, movably connected with the reach, and adjustably connected with the thills to 50 permit the thills to be raised and lowered independently of the support, substantially as described.

2. The combination, with an axle, thills, and reach, of a bar carried by the axle and 55 extending to the reach and movably connected with the reach, and another bar pivotally connected to and extending from said first-men- tioned bar forwardly to the thills and adjust-

ably connected with said thills, substantially as described. 60

3. The axle, thills, and reach, combined with the support-bar G, extending from the axle to the reach and movably connected therewith, and the bars F, jointed to the bar E and extending forwardly to the thills, sub- 65 stantially as described.

4. The axle, thills, and reach, combined with the support E, composed of a curved bar whose ends are carried by the axle and which extends to the reach, and with the bars F, 70 jointed to the support-bar E, the bars F supporting the thills, substantially as described.

5. The axle, thills, and reach, combined with the support E, extending from the axle to the reach and movably connected thereto, 75 and the bars F, adjustably connected to the support E and detachably connected with the thills, substantially as described.

6. The axle, thills, and reach, combined with the support E, extending from the axle 80 to the reach and having apertures *f* on different planes, bar F, supported by the axle, and pin *e* to enter said apertures to raise or lower the end of bar F, substantially as described.

7. The axle, thills, and reach, combined 85 with a support extending from the reach to the thills and supported by the axle, and a hinged plate or bar between the thills and the support, substantially as described.

8. The thills having cross-bar *g*, and the 90 hinged plate or bar G, carried by said thills, said plate coming against said cross-bar and also against the longitudinal arm *a*³ of the thills, combined with an axle, and a support carried by said axle and engaging said hinged 95 plate to support the thills, substantially as described.

9. A rigid thill-support composed of the bar E, adapted to engage a reach to which it is movably connected, and the bar F, jointed to 100 the bar E, supported by the axle and adapted to engage and support the thills, substantially as described.

10. The axle, reach, and thills, combined with a support carried by the axle and ex- 105 tending rearwardly to the reach, to which it is movably connected, and forwardly to the thills, the thills resting freely on said support, whereby they may be lifted from said support, and an adjustable connection be- 110 tween said support and thills to permit said thills to be lowered, substantially as described.

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Witnesses:

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