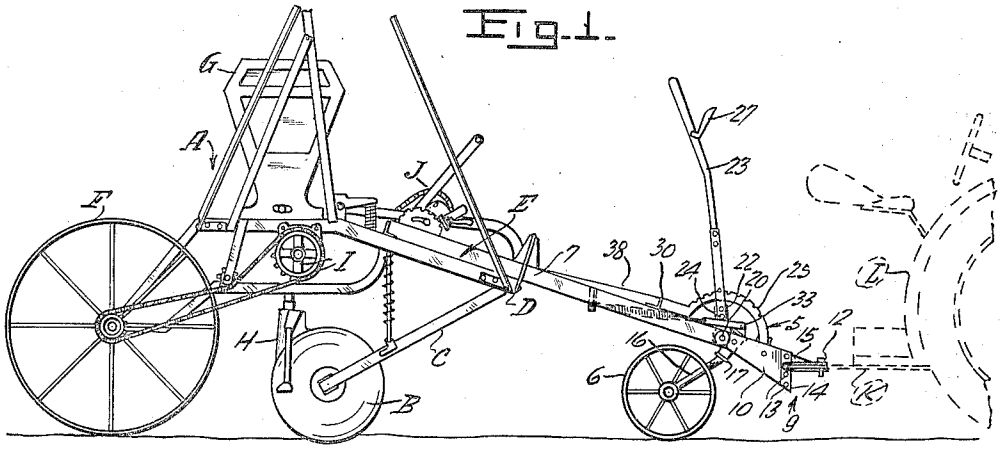
Dec. 31, 1940. O. J. PARKS 2,226,577

ADJUSTABLE SUPPORT FOR TRACTOR IMPLEMENTS

Filed Dec. 5, 1938

Fig. 1.



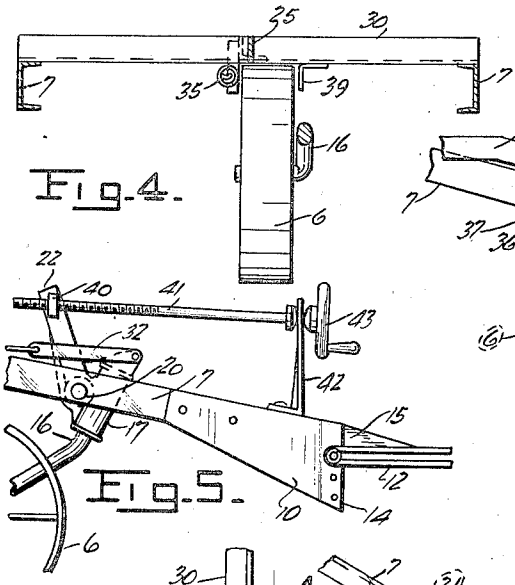


Fig. 4.

Fig. 5.

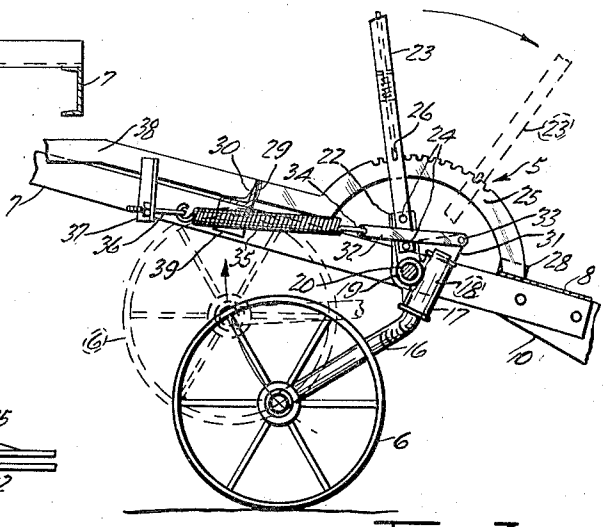


Fig. 3.

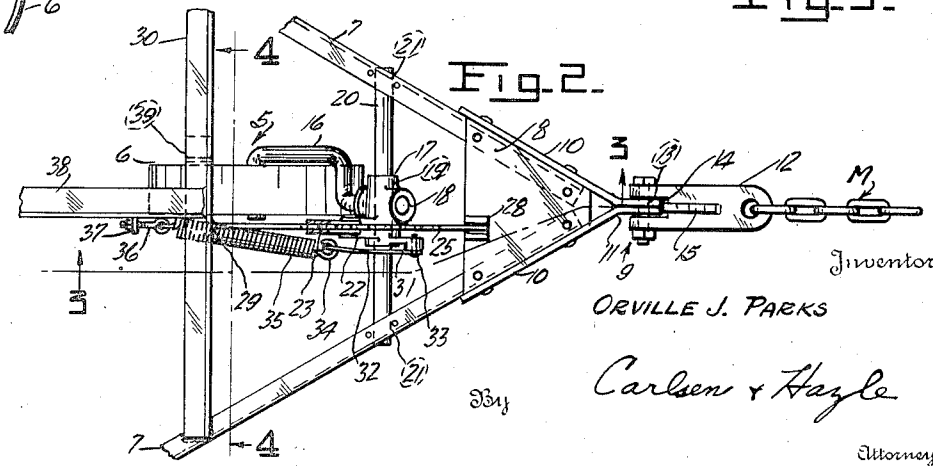


Fig. 2.

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ADJUSTABLE SUPPORT FOR TRACTOR IMPLEMENTS

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Application December 5, 1938, Serial No. 244,045

5 Claims. (Cl. 254—86)

This invention relates generally to improvements in hitch and supporting means for the frontal ends of press wheel drills and similar implements and more particularly to an adjustable supporting means for such implement.

In the ordinary implement of this type, which is used for drilling or planting grains and seed, the frontal end when pulled by a tractor is provided simply with a hitch for connection to the tractor draw bar, and the tractor thus serves to hold the frontal end in proper elevated position. The rear end of the drill is, of course, supported at all times upon the press wheels and in normal operation this arrangement is quite satisfactory. However, it frequently happens that the drill will become mired in the field and, in order that the tractor may have firm footing for pulling the drill clear, it is very desirable that means be provided which will enable the tractor to be disconnected, moved out to firm ground, and then connected again from the remote point to the drill, as by means of a chain. In this case it is obvious that some means must be also provided to support the frontal end of the drill for travel movement when it is thus disconnected from the tractor. My invention, therefore, has as its primary object the provision of adjustable supporting means for the frontal end of the drill, together with jack means whereby said supporting means may be lowered to support the drill when not connected to the tractor, as in the instance above or when the drill is stored, or raised clear of the ground when the drill is in operation behind the tractor.

A further object is to provide supporting and jack means of this character wherein the entire assembly is arranged at the front of the drill in compact form and with the control lever means conveniently disposed for manipulation by the tractor operator from his station on the tractor.

Another object is to provide a supporting and jack assembly for this purpose in simple and inexpensive form and which will in no way interfere with normal operation of the implement, but may in fact and in some instances be employed in association therewith as a depth control gauge wheel.

These and other more detailed and specific objects will be disclosed in the course of the following specification, reference being had to the accompanying drawing, in which—

Fig. 1. is a side elevation of a conventional form of press wheel drill showing my invention applied thereto.

Fig. 2 is a fragmentary plan view of the frontal portion of the drill frame showing my support and jack means arranged thereon.

Fig. 3 is a vertical longitudinal section along the line 3—3 in Fig. 2, showing the support means in lowered, supporting position and, in dotted lines, in elevated or inoperative position.

Fig. 4 is a vertical cross section along the line 4—4 in Fig. 2, showing the supporting means in elevated position.

Fig. 5 is a fragmentary side elevation of the frontal portion of the implement frame, showing a modified form of operating means for raising and lowering the support.

Referring now more particularly and by reference characters to the drawing, A designates a press wheel type of grain drill of usual form comprising a gang of transversely aligned and spaced opener disks B supported by arms C from a draw bar D forming a part of the frame E, which frame is supported at the rear by a series of transversely spaced press wheels F which operate behind the openers B. The grain or seed is carried in the hopper G and is fed to seed boots H adjacent the openers B by operation of seed feeding means actuated by forward travel of the machine through the sprocket and chain assembly I. Power lift mechanism J is provided for raising and lowering the openers B and the usual markers and other working parts are provided in accordance with conventional practice.

My invention constitutes the assembly designated generally at 5 and comprises a supporting means taking the form of a caster wheel 6, which is so mounted that it may be lowered to the position indicated in Fig. 1 to support the frontal end of the drill or raised to a position clear of the ground when the drill is connected and supported by the tractor.

The drill frame includes forwardly converging frame bars or members 7 which are secured to the frame E and at their frontal ends are connected by a superimposed gusset plate 8. The tractor hitch 9 comprises side plates 10 secured to the forward ends of the frame bars 7 and turned forwardly and parallel at their extremities, as at 11, to provide a mounting means for the coupling or yoke 12. A series of apertures 13 spaced from the vertically extended and elongated frontal edge 14 of the plates 10 provides for height adjustment of the coupling 12 as will be clearly evident, and it will be noted that the coupling carries an upstanding stop or lug 15 which is adapted to bear rearwardly against the edge 14 and maintain the coupling in substantially horizontal position, as well as aid in supporting the

frontal end of the machine from the tractor. The coupling 12 is of course adapted to be connected to the draw bar K of the tractor L when the tractor is used for pulling the drill.

The wheel 6 is mounted by an arm 16 on a body member or carrier 17 in which said arm is swivelled or rotatably supported, as indicated at 18, so that the wheel may caster freely from this point. The carrier 17 takes the form of a suitably shaped casting having a long bearing surface or bore for the arm 16 and a transversely, and substantially tangentially, extended bore 19 by which the carrier is journaled or rockably mounted on a rock or support shaft 20 extended transversely and horizontally between the frame members 7. The ends of this shaft 20 are received in openings 21 in said frame members as shown in Fig. 2, and this assembly is disposed immediately to the rear of the gusset plate 8.

Extended radially from the carrier 17 is a short arm 22 to which the lower end of an elongated operating lever 23 is secured as indicated at 24. This lever plays over a notched quadrant 25 and has the usual locking pawl 26 operated by the handle 27 for locking the lever in an adjusted position. The quadrant is formed of a flat bar bent to arcuate shape on a curvature determined with the shaft 20 as an axis, and the frontal end of the bar is secured by a bracket 28 to the gusset plate 8 while the rear end is extended straightly and secured at 29, to a cross bar 30 which in turn is secured crosswise atop the frame members 7.

The carrier 17 also has an upwardly and forwardly extended lug or ear 31 to which the frontal end of a link 32 is pivotally connected at 33. The link extends rearwardly from that point and is connected at its rear end at 34 to a retractile coil spring 35 and which extends rearwardly beneath the cross bar 30 and is adjustably secured by draw bolt 36 to a bracket 37 extended from a center frame member 38. This frame member in turn extends rearwardly to and is connected to the frame E. In spaced relation (transversely) to the spring 35 the cross bar 30 carries a depended stop member or lug 39, as shown.

The construction and assembly thus provided is such that, by swinging the lever 23 rearwardly, the arm 16 will be moved forwardly and downwardly carrying the wheel 6 into a lowered position in contact with the ground so that it will support the forward end of the drill. In this position the spring 35 is put under tension and serves to yieldably support the wheel relative to the drill frame. By manipulation of the lever to various positions the height at which the forward end of the drill is supported by the wheel may be readily varied and aside from its function of supporting the drill when not in use, the assembly further makes a convenient jack for use in raising and connecting the drill to the tractor.

The wheel 6 may, of course, be raised clear of the ground by moving the lever 23 toward the front and, when fully raised, the rim of the wheel is adapted to come to rest beneath the cross bar 30 and in the space between the spring 35 and stop 39 where the wheel is firmly held by locking the lever. The positioning of the wheel rim between the spring and stop prevents the wheel from castering or flopping over to the side as might otherwise occur, and the wheel is thus carried in straightahead position ready for use when lowered. The arm 16 carrying the wheel is of course suitably formed to dispose the wheel in position to enter the space between spring and stop. It will be noted that the lever 23 is conveniently located for operation by the operator of the tractor from his station thereon, and it is thus possible for the operator to disconnect the drill when it becomes mired, lower the caster wheel to support its forward end, drive the tractor clear of the mire, and then connect by a length of chain, as shown at M in Fig. 2, to the drill to pull it clear. In this manner a frequently encountered and extremely difficult condition may be easily dealt with. In addition the vertical adjustment of the wheel 6 may be utilized for depth or gauge adjustment of the working tools of the implement.

As shown in Fig. 5, I may employ screw-acting means in lieu of the lever-acting means for actuating the mechanism, and in this case I provide the extension arm 22 with a swiveled nut 40 through which the end of a screw shaft 41 is threaded. This shaft 41 extends forwardly through a supporting bracket 42 and is provided at its forward end with a hand wheel 43 by which the shaft may be rotated to oscillate the arm 22 and so adjust the wheel 6 as desired. The hand wheel being forwardly disposed, is convenient to reach of the tractor operator.

It is understood that suitable modifications may be made in the structure as disclosed, provided such modifications come within the spirit and scope of the appended claims. Having now therefore fully illustrated and described my invention, what I claim to be new and desire to protect by Letters Patent is:

1. An adjustable supporting means for the frontal end of a vehicle frame, comprising a vertically adjustable caster wheel, and means for engaging the wheel and retaining the wheel against caster movement to either side in its raised position.

2. An adjustable supporting means for the forward end of an implement frame, comprising an arm vertically adjustable with respect to the frame, means for adjusting and locking the arm in raised or lowered position, a wheel carried by the arm and operatively mounted for castering action with respect to the frame and adapted in lowered position for supporting the frame, and means on the frame for engaging and retaining the wheel against lateral movement in two directions in its raised position.

3. In combination with a tractor implement including a frame borne by wheels at its rear portion and normally supported at its forward end by the tractor, means for supporting the forward end of the frame when disconnected from the tractor and comprising an arm mounted for castering and vertically swinging movements, a wheel mounted on the arm and normally elevated thereby to clear the ground when the implement is connected to the tractor, a lever for urging the arm and wheel downwardly into ground contact, and the said lever being forwardly disposed with respect to the implement for manipulation by the operator of the tractor into position for supporting the forward end of the frame when it is disconnected from the tractor.

4. An adjustable support for the forward end of an implement frame, comprising a carrier member oscillatably supported in the frame for movement about a horizontal axis, an arm journaled at one end in the carrier member for up and down movements therewith and for castering action with respect thereto, a wheel carried by the arm, means for oscillating the carrier member to raise and lower the arm and wheel with respect to the

frame, a spring connected to the carrier member to normally urge the arm and wheel downwardly, the said spring being extended in spaced relation over the wheel, and a stop on the frame spaced from the spring to define therebetween a space for the reception of a portion of the wheel in the raised position thereof.

5. The combination with a tractor implement including frame borne by wheels at its rear portion and when in use supported at its forward end by draft connection with the tractor, of means for supporting the forward end of the frame from the ground when said draft connection is released and comprising, an arm mounted for castering action and up and down swinging movements with respect to the forward end of the frame, a wheel mounted on the arm and normally elevated thereby clear of the ground when the frame is connected to the tractor, screw acting adjusting means for urging the arm downwardly to carry the wheel into supporting engagement with the ground, and a hand control member on the said adjusting means and forwardly located for manipulation by the tractor operator to move the wheel into position for supporting the forward end of the frame as it is disconnected from the tractor.

ORVILLE J. PARKS.