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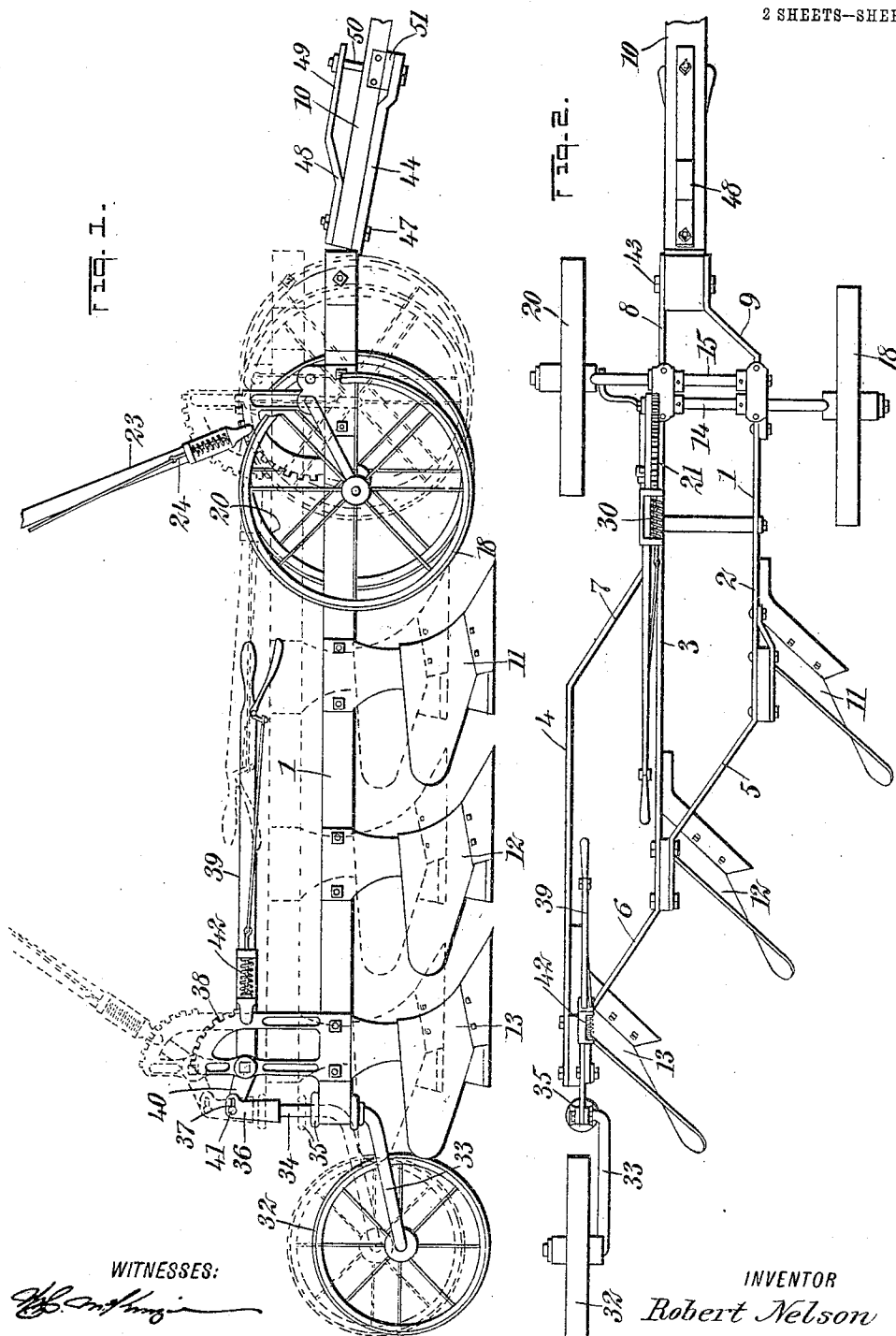
PATENTED MAR. 27, 1906.

R. NELSON.

PLOW.

APPLICATION FILED AUG. 23, 1905.

2 SHEETS-SHEET 1.



WITNESSES:

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No. 816,360.

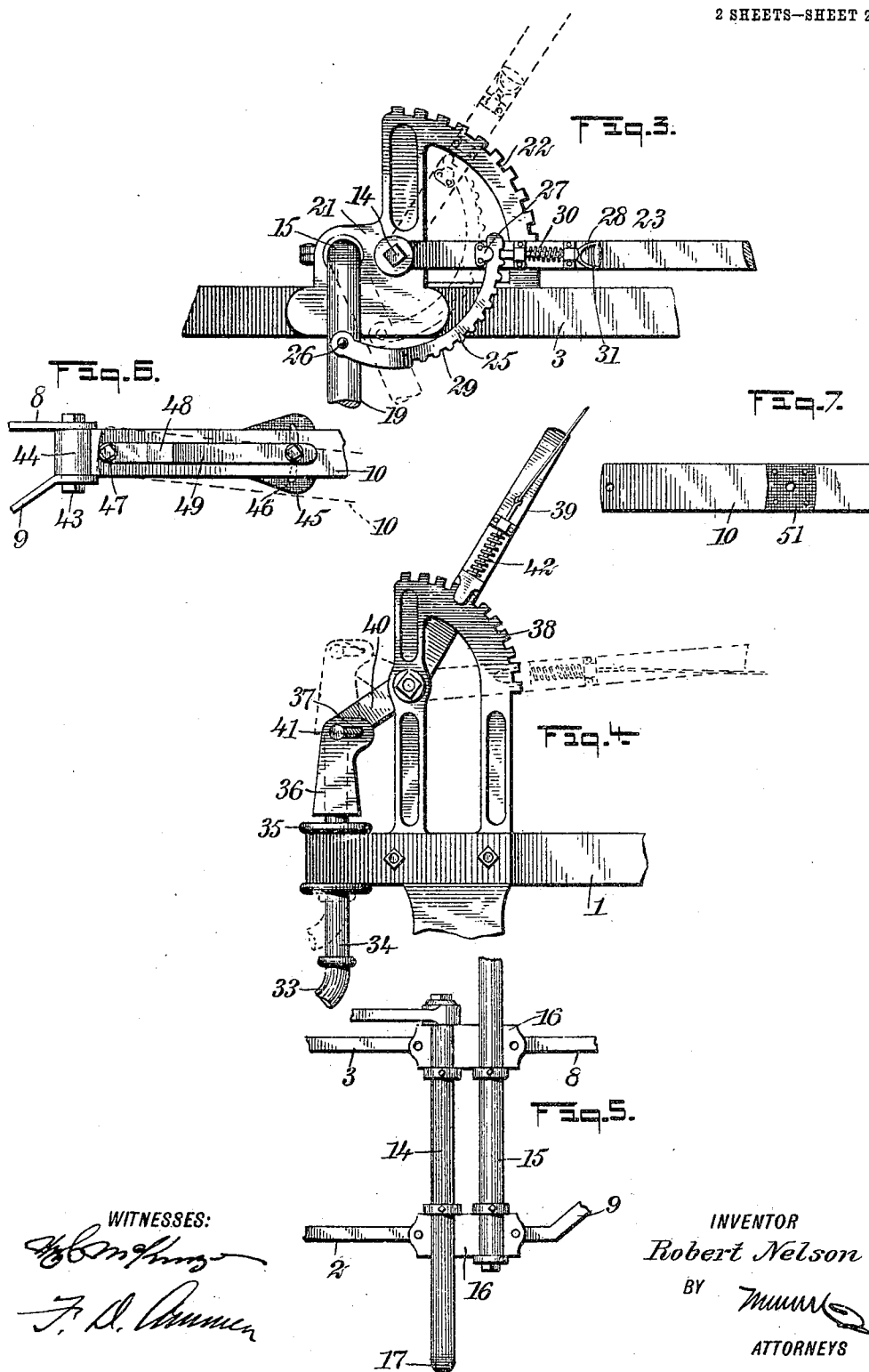
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*W. H. H. H.*  
*J. A. H. H.*

INVENTOR

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# UNITED STATES PATENT OFFICE.

ROBERT NELSON, OF SAN MARTIN, CALIFORNIA.

## PLOW.

No. 816,360.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed August 23, 1905. Serial No. 275,406.

*To all whom it may concern:*

Be it known that I, ROBERT NELSON, a citizen of the United States, and a resident of San Martin, in the county of Santa Clara and State of California, have invented a new and Improved Plow, of which the following is a full, clear, and exact description.

This invention relates to plows, and especially to the type known as "sulky-plows," the frames of which are mounted upon wheels.

The object of this invention is to provide improved means for attaching the wheels to the frame to the end that the height of the frame carrying the plowshares may be readily readjusted.

A further object is to provide an improved arrangement for attaching the tongue or pole of the plow to the frame.

The invention consists in the construction and combination of parts to be more fully described hereinafter, and definitely set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a plow constructed according to my invention, certain parts being represented as broken away. In this view the plow is shown in dotted outline in adjusted position. Fig. 2 is a plan of the plow shown in Fig. 1. Fig. 3 is a side elevation showing the manner of mounting the forward axles and the manner of connecting the same together, enabling their angular position to be adjusted. This view is upon an enlarged scale, certain parts being broken away. Fig. 4 is a side elevation taken at the rear of the plow, illustrating the mechanism for supporting and adjusting the trailer-wheel. This view is upon an enlarged scale, certain parts being broken away. Fig. 5 is a plan of the forward portion of the plow-frame, further illustrating the manner of mounting the forward axles therein. In this view certain parts are broken away. Fig. 6 is a plan of the forward portion of the plow-frame and illustrating the manner of attaching the tongue thereto, the body of the said tongue being broken away; and Fig. 7 is a plan of the under side of the rear portion of the tongue and illustrating the details of its construction.

Referring more particularly to the parts, 1 represents the plow-frame. This frame com-

prises three longitudinally-disposed bars or beams 2, 3, and 4, the beam 3 being disposed centrally between the other two. The rear portion of the beam 2 is formed with an inclined extension 5, the rear extremity whereof attaches to the beam 3. The beam 3 has a similar inclined rear extension 6, which attaches to the rear extremity of the beam 4. The forward extremity of the beam 4 is formed with an inclined extension 7, which attaches to the central beam 3. The extremity of the beam 3 projects beyond the body of the frame forwardly, so as to form a tongue extension 8. Opposite the tongue extension 8 there is a similar forward extension 9, constituting a continuation of the right-hand beam 2, and to these extensions 8 and 9 the tongue 10 of the plow is attached in a manner which will be described more fully hereinafter. To the beams 2, 3, and 4 plows 11, 12, and 13 are rigidly attached in any suitable manner, as shown. Near the forward portion of the frame I provide a pair of forward axles 14 and 15, which are suitably mounted in double bearings 16, attached to the frame members 2 and 3. The body of the axle 14 is supported in a horizontal position, as shown, and at one extremity the axle is provided with an arm 17, which extends substantially at right angles to the body of the axle, as indicated. As shown in Fig. 5, this arm is disposed in a vertical position, but it may be made to assume an inclined position, such as that shown in Fig. 1. As indicated, the arm 17 is disposed at the right of the frame and is removed laterally from the side thereof by reason of the fact that the body of the axle projects beyond the frame for this purpose. To the lower extremity of the arm 17 the right wheel 18 of the plow is attached in any suitable manner. The axle 15 is substantially similar to the axle 14, except that it projects beyond the frame at the left. It is formed with a downwardly-projecting arm 19 at its outer extremity, which is represented in Fig. 3 as extending vertically downwardly. This axle may be rotated, however, so as to make the arm assume an inclined position.

In Fig. 3 the axles and a portion of the mechanism at this point are represented in elevation and viewed from the side opposite to that shown in Fig. 1. Upon the extremity of the arm 19 a wheel 20 is carried similar to the wheel 18 already referred to. To the central beam 3 a quadrant 21 is attached, as

illustrated in Fig. 3, and this quadrant is formed integrally with the bearing for the axle on this side. The quadrant comprises notches or teeth 22 in the periphery thereof for a purpose which will appear more fully hereinafter. Upon the extremity of the axle 14, which extends beyond the quadrant, I attach rigidly a hand-lever 23, which hand-lever is provided with locking mechanism 24, cooperating with the teeth 22, so as to enable the lever to be held rigidly in any position desired. In this way the axle 14 may be rotated so as to adjust the arm 17 into any angular position desired. Arrangement is made for enabling the lever 23 to impart its motion to the axle 15. For this purpose to the arm 19 of the axle 15 a curved rack or arc 25 is pivotally attached at 26. The inner face of this arc rests against the side of the lever 23, as indicated in Fig. 3, and its inner edge rests against a clip 27, which is secured to the outer face of the lever, as indicated. On the lever opposite this clip a locking-bolt 28 is slidably mounted, and the extremity of this bolt is adapted to engage the notches or teeth 29, which are formed in the outer edge of the rack 25. In connection with the locking-bolt 28 a spring 30 is employed, which normally maintains the bolt in engagement with the rack. The bolt is provided with a suitable handle 31, which enables it to be withdrawn for the purpose of releasing the rack. From this arrangement it should be understood that when the axle 14 rotates the lever 23 operates also to rotate the axle 15. By reason of the numerous teeth formed on the outer edge of the rack the relative angular position of the arms 19 and 17 may be adjusted as desired. In Fig. 3 the parts are represented in dotted outline in a second possible position. As indicated in Fig. 2, the arc or rack 25 is offset laterally, so as to bring its outer extremity near the arm 19, to which it is attached.

The rear extremity of the frame 1 is supported upon a trailer-wheel 32. This trailer-wheel is carried at the rear extremity of an inclined arm 33, which arm is formed integrally with a spindle 34, supported in a vertical position in a bearing 35 at the rear extremity of the beam 4. To the upper extremity of the spindle 34 a swivel-head 36 is attached, and this head is provided with a substantially horizontal slot 37. At a suitable point near the spindle 34 a quadrant 38 is rigidly secured to the frame, and this quadrant carries a hand-lever 39, the said lever having a short arm 40, provided with a pin 41, which fastens in the said slot. The hand-lever 39 is provided with locking mechanism 42, which enables the lever to be locked in any position desired. When the lever is held in a substantially horizontal position, as indicated in Fig. 1, the wheel 32 and the arm 33, carried by the same, will have the most ele-

vated position possible. However, when the lever is moved into elevated position, as indicated in dotted outlines, the rear portion of the frame will be elevated and the bearing 35 will slide upwardly on the spindle 34. The arm 33 of course extends rearwardly, as indicated, and enables the wheel 32 to adapt its plane of rotation to the direction of movement of the plow. This is especially desirable in turning. The swivel-head 36 permits the movement just described and at the same time enables the vertical adjustments described to be made.

The tongue extensions 8 and 9 are connected by a horizontal bolt 43, which bolt constitutes a pivot for a tongue-iron or clevis 44. This tongue-iron attaches rigidly to the under side of the tongue 10, as shown. The forward portion of the clevis or tongue-iron 44 is expanded, as indicated most clearly in Fig. 6, so as to form an adjusting-plate 45. This plate is provided with an arcuate slot 46. This slot is struck from the bolt 47 as a center, and this bolt attaches the tongue to the clevis 44. This bolt 47 also affords means for attaching a bracket 48 to the upper side of the tongue, which has an upwardly-offset forward extension 49. Through this forward extension a clamping-bolt 50 passes downwardly and through the tongue and through the slot 46. The upper face of the adjusting-plate 45 is scored or roughened, as indicated in Fig. 6, so as to facilitate the securing of the tongue rigidly thereto. To the under side of the tongue 10 a plate 51 is attached, which is scored on its under face, as indicated in Fig. 7, and this face rests against the upper face of the adjusting-plate. From this arrangement it should be readily understood that the tongue 10 may be adjusted in either direction from its central position, as indicated in dotted lines in Fig. 6, it being understood that the bolt 50 will move laterally in the slot 46 in so doing. This arrangement for enabling the angular position of the tongue to be adjusted with respect to the frame is considered highly advantageous where the plow is used in orchards or vineyards, as the implement may be very readily adapted in this way to pass the trees or vines.

Evidently by operating the lever 23 the axles 14 and 15 may be rotated so as to adjust the arms 17 and 19 into any position desired. In this way the frame of the implement will be raised or lowered at the front. By operating the lever 39 at the rear the frame may be raised or lowered so as to lift the plows completely out of the ground when desired or so as to adjust the depth of the cut to any extent desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an implement of the class described, in combination, a frame, a pair of parallel

axles rotatably mounted in the said frame, wheels carried by said axles, a lever adapted to rotate one of said axles, a curved bar constituting a rack and carried pivotally by one of said axles, and a locking-bolt on said lever for adjusting said bar.

2. In an implement of the class described, in combination, a frame, an axle carried thereby and projecting at one side of said frame, a second axle displaced laterally with respect to said first axle carried rotatably by said frame and projecting at the opposite side of said frame, said axles having arms, wheels carried on said arms, a lever attached to one of said axles, and affording means for rotating the same, a curved rack pivoted to one of said arms and lying adjacent to said lever, and a locking-bolt carried by said lever for adjusting said rack.

3. In an implement of the class described, in combination, a frame, an axle rotatably carried thereby and projecting at one side thereof, a second axle rotatably carried thereby and projecting at the opposite side of said frame, said axles having arms, wheels carried on said arms, a lever attached to one of said axles and affording means for rotating the same, a rack connecting said axles, and means for locking said rack in different posi-

tions so as to adjust the angular relation of said arms.

4. In an implement of the class described, in combination, a frame, a vertically-disposed rotatable spindle at the rear of said frame, means for guiding said spindle upon said frame, a wheel carried on said arm, a swivel-head attached to said spindle, and a lever supported on said frame and engaging said swivel-head to adjust the vertical position of said spindle.

5. In an implement of the class described, in combination, a frame, a vertical rotatable spindle, means for guiding said spindle on said frame, said spindle having an arm extending rearwardly therefrom, a wheel carried on said arm, a swivel-head attached to the upper extremity of said spindle and having a lateral slot therein, a lever supported on said arm and having a pin engaging said slot, and means for locking said lever in a plurality of positions.

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

ROBERT NELSON.

Witnesses:

CHAS. W. MANGELS.

WILL LOMKIN.