No. 658,263. Patented Sept. 18, 1900.

D. A. HOUSER.

WHEEL PLOW.

(Application filed Mar. 29, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 5.

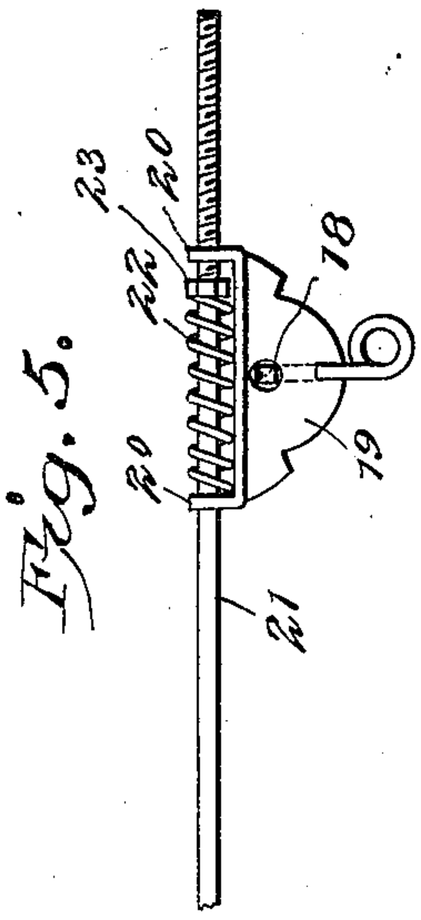
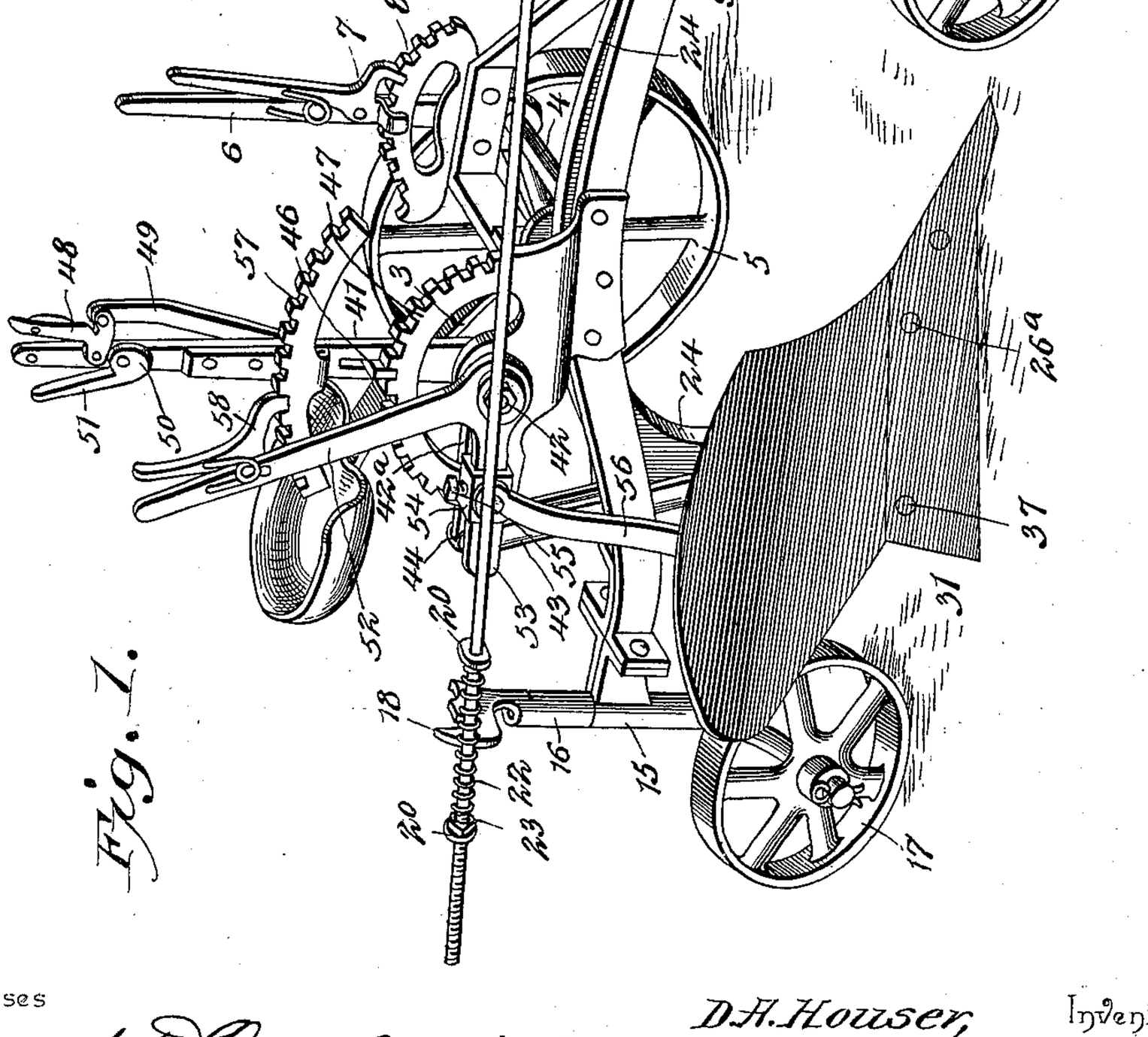


Fig. 1.



Witnesses
Howard D. Orr.
J. W. Garner

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Fig. 2.

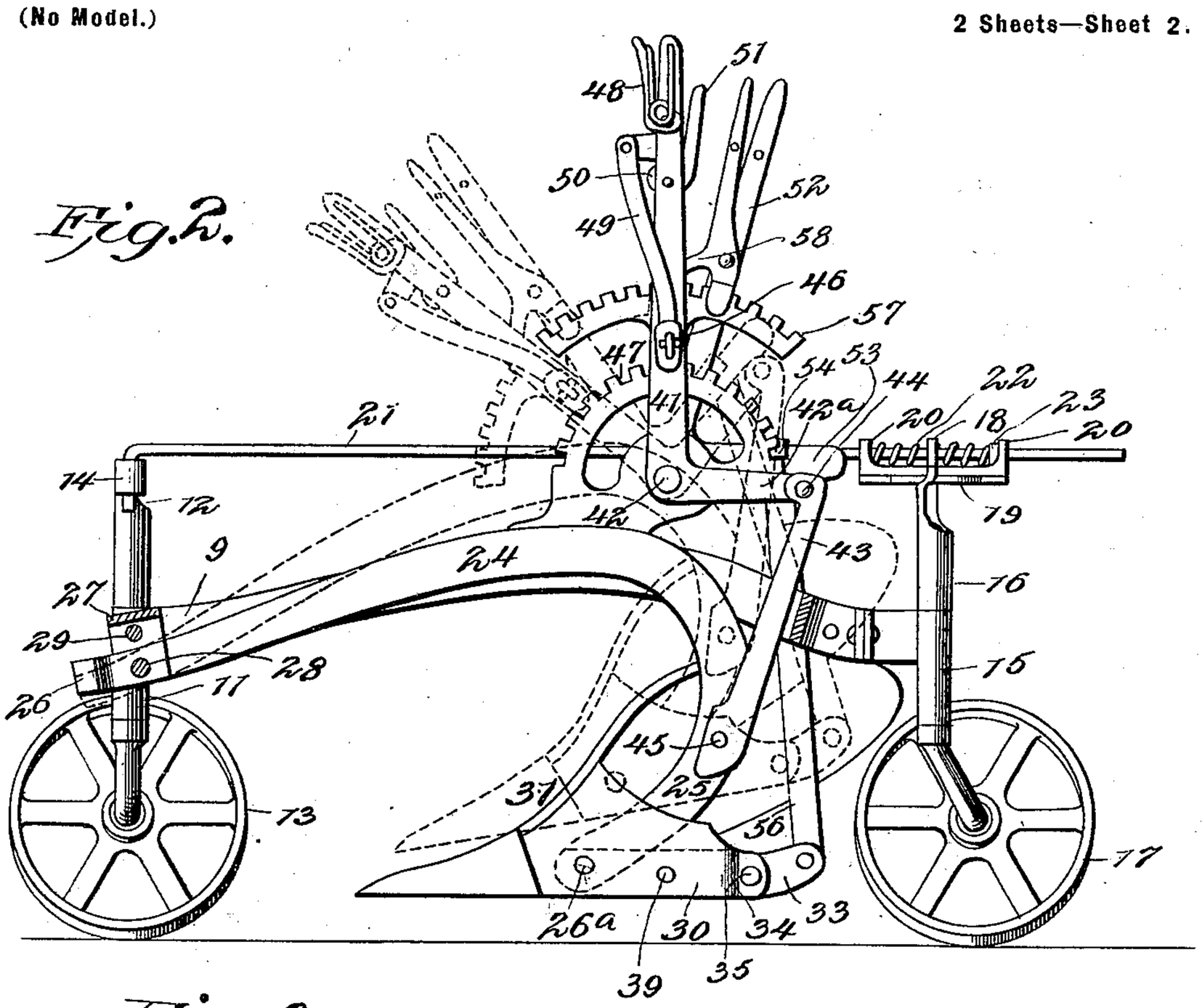


Fig. 3.

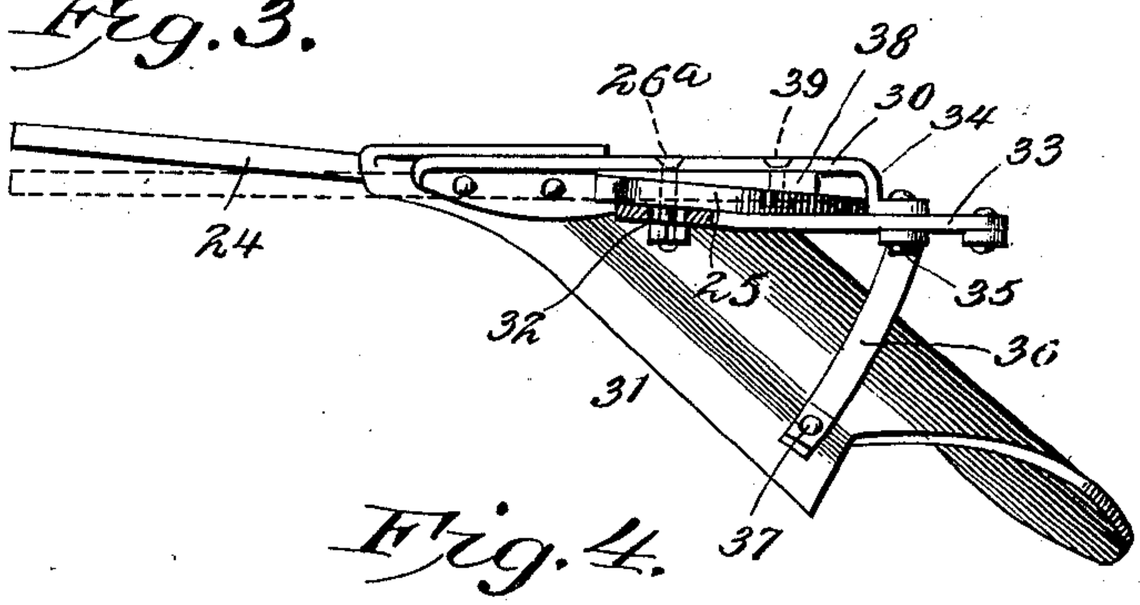
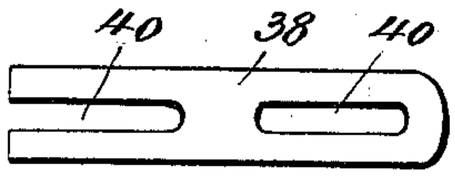


Fig. 4.



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UNITED STATES PATENT OFFICE.

DAVID A. HOUSER, OF OTTAWA, KANSAS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 658,263, dated September 18, 1900.

Application filed March 29, 1900. Serial No. 10,672. (No model.)

To all whom it may concern:

Be it known that I, DAVID A. HOUSER, a citizen of the United States, residing at Ottawa, in the county of Franklin and State of Kansas, have invented a new and useful Wheel-Plow, of which the following is a specification.

My invention is an improved wheel-plow of the class known generally as "three-wheel plows," in which a frame supported on wheels is designed to support the plow not only while elevated above the ground, but also in all of its various adjustments, and especially to support the plow in operation in order to lighten the draft thereof.

One object of my invention is to provide a wheel-plow in which the plowshare is adapted to be adjusted pivotally on the standard and caused to operate at any desired inclination in the furrow.

A further object of my invention is to provide a plow in which the share is adapted to be obliquely disposed to any desired degree with reference to the standard, so as to widen or narrow the furrow made by the plow at will.

A further object of my invention is to provide an improved lever and connections for raising and lowering the plow.

A further object of my invention is to provide an improved lever and connections for tilting the plow on its standard.

With these and other objects in view my invention consists in the peculiar construction and combination of devices hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a wheel-plow embodying my improvements. Fig. 2 is a side elevation of the same, partly in section, showing the reverse side of the plow. Fig. 3 is a detail inverted plan view of the plow. Fig. 4 is a detail view of the wedge-key for adjusting the plowshare obliquely. Fig. 5 is a detail view of the spring-buffer connections between the furrow-wheels.

The supporting-frame 1 is provided on the land side with the lateral projecting portions 2, on which is carried the seat-bar 3 and in which is mounted the crank-axle 4 of the land side supporting-wheel 5. A lever 6 is secured to and projects from said crank-axle and is secured at any desired adjustment by means of the spring-pressed detent 7, which engages a segment rack-plate 8, with which the outer side of the part 2 of the frame is provided. The side bar 9 of the frame is provided at its front end with a lateral extension 10, forming a bracket, to which is bolted a vertical tubular bearing 11 for the standard-bar 12, which is swiveled therein, has its lower end outturned to form the supporting-spindle for the inclined front furrow-wheel 13, and at its upper end is provided with the tiller-head 14. At the rear end of the frame 1 is bolted a vertical tubular bearing 15, in which is likewise swiveled a similar standard-bar 16, on the lower portion of which is mounted an inclined furrow-wheel 17 and at the upper end of which is a tiller-bar 18, on which is secured a yoke-plate 19. Said yoke-plate is provided with bearings 20 for a connecting-rod 21, the front end of which is pivotally connected to the inner side of the tiller-head 14, as shown. A coiled extensile spring 22 on the said connecting-rod 21 bears between the forward bearing 20 and a tension-nut 23, which is screwed on the rear threaded portion of said connecting-rod, the function of said spring being to normally restrain longitudinal movement of the rod 21 and to permit either of the standard-bars 13 16 to turn so as to clear their respective wheels of obstructions which may be encountered.

It will be understood that by means of the independently-pivoted standards of the wheels 13 17 said wheels act as caster-wheels to permit the wheel-plow to be drawn in any desired direction, and, moreover, that when said plow is turned said wheels adjust themselves concentrically to the vertical axis of the land-wheel 5 and enable the plow to be turned in a very short space.

The plow-beam 24 is of the steel or iron beam type in which the standard 25 is formed integrally therewith; but for the purposes of this specification said standard and said beam are separately designated. The front end of the standard is provided with a lateral clevis 26, and immediately in rear of said clevis is an inverted-U-shaped shoe 27, which is bolted to the plow-beam, as at 28, and extends above the beam for a suitable distance, and through said shoe and the front ends of the bars

which form the sides of the frame 1 extends a bolt 29, which forms a pivotal connection between the front end of the beam and the front end of the supporting-frame 1. The landside-plate 30 of the plowshare 31 is pivotally connected to the lower end of the standard 25 by a bolt 26^a, which bolt also extends through a somewhat enlarged opening 32 in a bar 33, which is substantially parallel with the landside-plate and extends rearward beyond the rear end of the latter, the rear end of the landside-plate being bent to form an offset 34, which bears against the bar 33 and is bolted thereto, as at 35. A brace-bar 36 has one end bolted to the under side of the moldboard, as at 37, and the other end thereof secured to the bar 33 by the bolt 35. The opening in the lower end of the standard, through which the pivotal bolt 26^a passes, is sufficiently large to enable the said bolt to play loosely in said opening, and hence the plowshare is adapted to be adjusted obliquely with reference to its standard and the beam. A wedge-key 38 is interposed between the lower portion of the standard 25 and the opposing side of the landside 30, said wedge-key being secured in position by the bolt 26^a and a bolt 39, which pass through slotted openings 40, with which said wedge-key is provided. By moving the latter longitudinally in one direction or the other the plowshare may be more or less obliquely disposed with reference to the plow-beam, and hence caused to cut a furrow of greater or less width, as may be desired. When the plow has been adjusted, the bolts 26^a 39 are tightened, so as to firmly seat the key in place.

It will be understood from the foregoing description and by reference to the drawings that by reason of the plowshare being pivotally connected to its standard on the bolt 26^a the plowshare is adapted to be disposed horizontally or tilted or inclined to any appropriate angle vertically as may be desired. To accomplish vertical adjustment of the plow, I provide a lever 41, which is mounted on the frame 1, as at 42, and is provided with a rearwardly-extending crank-arm 42^a, which is connected to the plow-standard by a link 43, said link being pivotally connected to said crank-arm and to said standard, as at 44 45. The lever 41 has a vertically-movable detent 46, which engages a segment-rack 47 and is adapted to secure the lever at any adjustment, and thus support the plow when the same is raised or lowered, and the said detent 46 is connected to a grip 48, with which the lever 41 is provided, by a link 49. By means of the grip the detent may be moved into or out of engagement with the segment-rack, as will be readily understood. In order to adapt the lever to be firmly locked when the plow has been adjusted vertically in operative position, I provide a cam 50, which is pivoted to the lever 41 at a point immediately below the grip 48 and is adapted to be turned so as to engage said grip and lock the same against movement, and hence prevent the detent from being displaced from the notch in the segment with which it is engaged. The said cam has an operating-lever 51, which projects therefrom.

To enable the plow to be tilted on its pivot-bolt 26^a, I provide a lever 52, which is fulcrumed on the bolt 42, that serves also as the pivot for the lever 41, and said lever 52 has a rearwardly-extending crank-arm 53, on which is a cross-head 54, that is adapted to be adjusted to any required position on said crank-arm and has a set-screw 55, whereby it may be set when adjusted. A link-bar 56 is pivotally connected to the said cross-head and to the bar 33 at the heel of the plow, as shown. The lever 41 carries a segment-rack 57, which is engaged by a spring-pressed detent 58, with which lever 52 is provided, and hence said lever 52 may be locked at any required adjustment when the plowshare is set or inclined on the standard.

Having thus described my invention, I claim—

1. In a wheel-plow the combination with a supporting-frame, of a plow having its beam pivotally connected to the frame and the share pivotally connected to the standard and adapted to be inclined vertically adjusted with relation to said standard, and the adjusting-levers having their pivots in line with each other, one of said adjusting-levers being connected to the plow-beam and the other being adapted to adjust the plowshare on its pivot, substantially as described.

2. A plow having the plowshare pivotally connected to the standard, on one side thereof, and thereby adapted to be tilted in the direction of its length, said share being also adapted to turn laterally on said pivot, in combination with a key-wedge between the landside and the plow-standard, whereby said plowshare may be also obliquely adjusted with relation to the standard, substantially as described.

3. A plow having its share pivotally connected to the standard and adapted to turn laterally on said pivot in combination with means to secure said plowshare when adjusted both laterally and vertically with relation to its pivot, substantially as described.

4. A plow having the share provided with a bar secured to and substantially parallel with the landside and a brace-bar connecting said bar to the moldboard, in combination with the standard to which the share is pivoted, said standard being between the landside and supporting-bar, means to tilt and vertically adjust the share on its pivot and means to set said plow on said pivot at an angle to the line of draft, substantially as described.

5. A plow having a share adapted to be adjusted with relation with its standard, both in vertical and horizontal planes, substantially as described.

6. In a wheel-plow, the combination with

a supporting-frame, a plow having its beam pivotally connected to the supporting-frame, said plow being pivoted to the lower end of the standard, a lever, to raise and lower said plow, an adjusting-lever to set the plow on its pivot with relation to the standard, said adjusting-lever having an arm, a link pivotally connected to the said plow, and a cross-head to which the upper end of said link is pivoted, said cross-head being adjustable on the said arm of said adjusting-lever, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DAVID A. HOUSER.

Witnesses:
JOHN H. HARRISON,
JOHN H. HOUSER.