No. 705,627. Patented July 29, 1902.

L. E. WATERMAN.

DISK PLOW.

(Application filed July 6, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

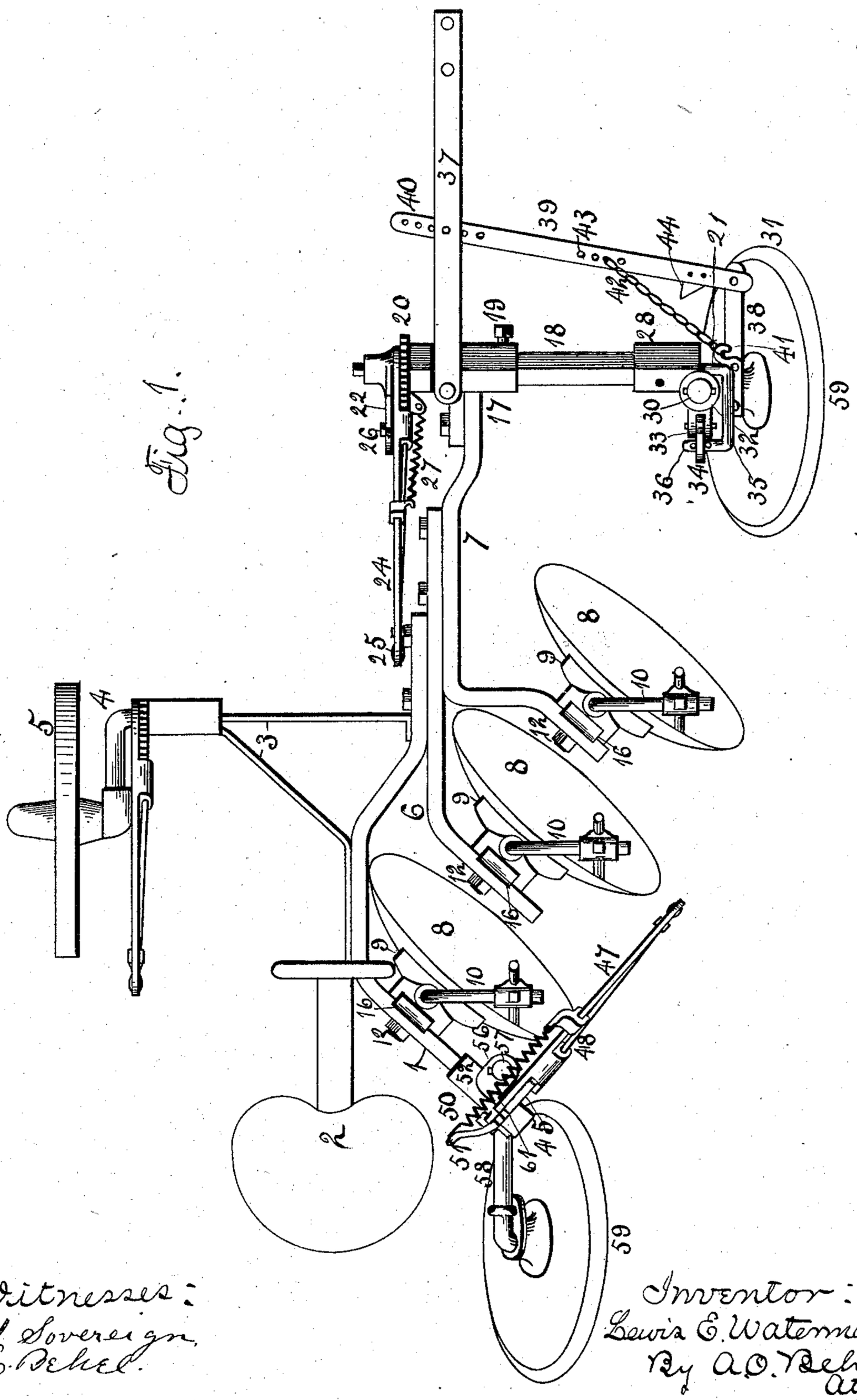

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Fig. 2.

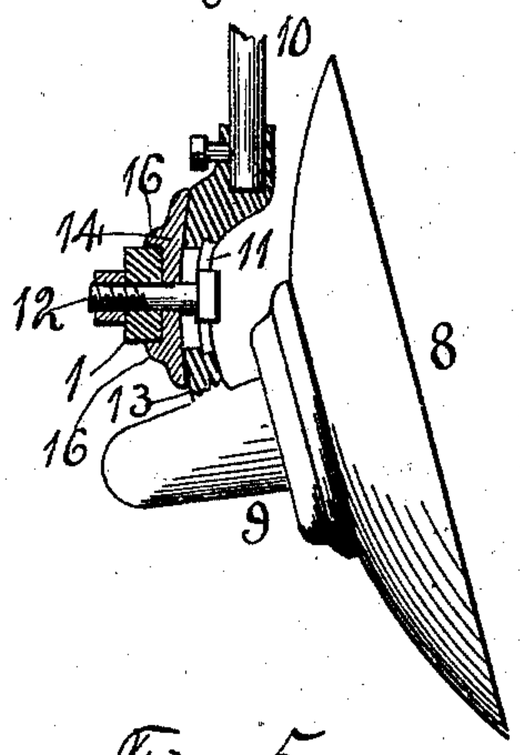


Fig. 3.

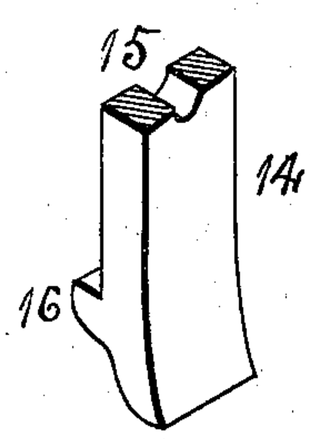


Fig. 4.

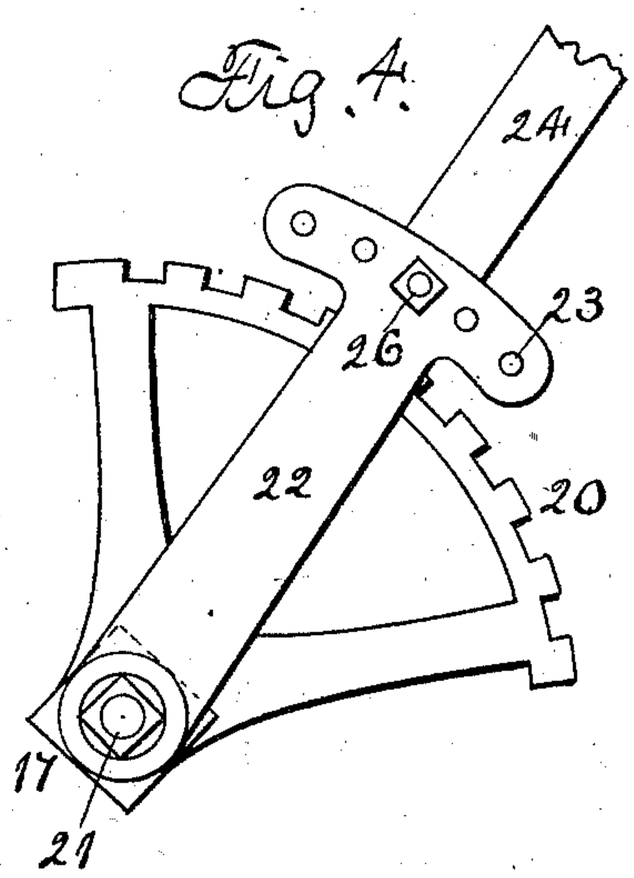


Fig. 5.

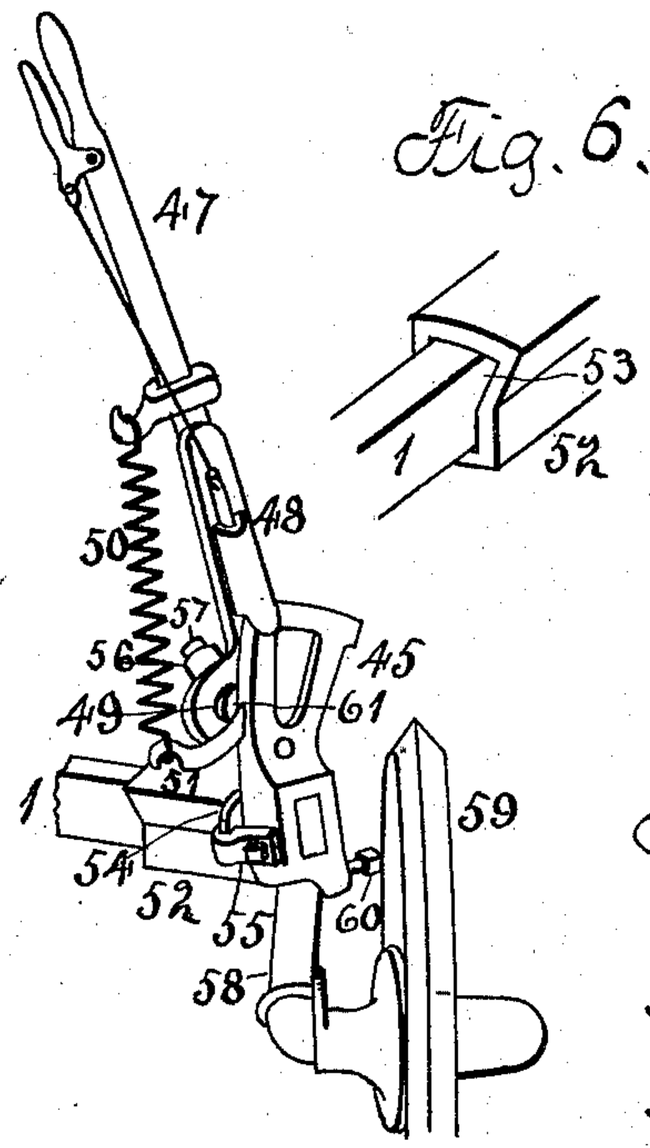


Fig. 6.

Fig. 7.

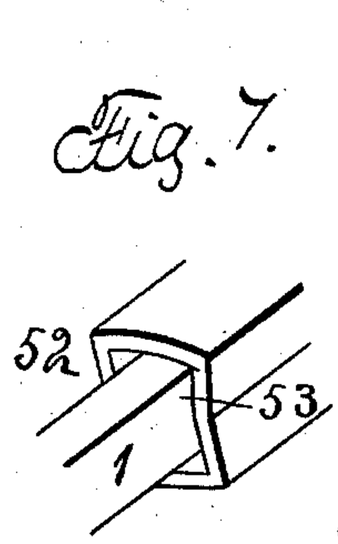
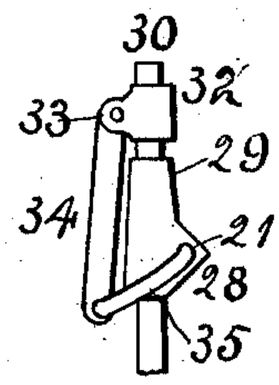


Fig. 8.

Fig. 9.



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UNITED STATES PATENT OFFICE.

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DISK PLOW.

SPECIFICATION forming part of Letters Patent No. 705,627, dated July 29, 1902.

Application filed July 6, 1900. Serial No. 22,758. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. WATERMAN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Disk Plows, of which the following is a specification.

The object of this invention is to construct a disk plow in which it can be adjusted so that it can be used as a sulky, gang, and in which a square corner can be turned.

In the accompanying drawings, Figure 1 is a plan view of my improved plow. Fig. 2 is a vertical section through a disk-support. Fig. 3 is a section of the adjustable block for changing the angle of the disks. Fig. 4 is an elevation of the hand-lever for moving the furrow-wheel. Fig. 5 is a perspective view of the caster-wheel in the position it appears for transportation. Fig. 6 is a perspective view of the movable sleeve supporting the caster-wheel and in the position shown at Fig. 5. Fig. 7 is a perspective view of the movable sleeve supporting the caster-wheel and in the position shown at Fig. 8. Fig. 8 is a perspective view of the caster-wheel in working position and slanted to resist the pressure of the disks. Fig. 9 is an elevation of the support for the furrow-wheel.

The main frame consists of angle-bar 1, supporting a driver's seat 2 and to which are secured the brace-bars 3, supporting the axle 4 of the land-wheel 5, which has the usual hand-lever arrangement. To the angle-bar is secured the bar 6, and to this bar is secured the bar 7. The angle-bar 1 and braces 6 and 7 each support a disk 8 in the same manner, which is clearly shown at Fig. 2. Each disk is secured to a support 9 in a manner to revolve, and the support has an upwardly-extending arm 13, supporting a scraper 10. The support has a vertical opening 11, through which a bolt 12 passes, also passing through the bars receiving a nut on its projecting end. Between the arms 13 and bars is located a block 14, having a central opening 15 and two lugs 16. The lugs embrace the bars, and the central opening receives the bolt 12. This block is in wedge form transverse to its length, and by changing the position of this block the disks are adjusted to take more or less land, and by means of the slot 11 the disks can be adjusted to have more or less suck. If the sulky-plow is desired, the disk connected to the angle-bar 1 is used, if a gang is desired the bar 6 and its disk are used, and if three disks are desired the bar 7 and its disk are used.

To the forward end of the bar 7 is connected a support 17, having a square opening receiving the square hollow shaft 18. This shaft is adjusted transverse of the machine and held in its adjusted position by the set-screw 19. A toothed segment 20 is connected to the square shaft 18 and is adjustable therewith. Within the square shaft is located a rod 21, and to its end near the toothed segment 20 is secured an arm 22, having a series of holes 23 in its free end. A hand-lever 24 is pivotally supported on the end of the toothed segment 20. A connection is formed between the hand-lever 24 and arm 22 by a bolt 26, passing through one of the holes 23, receiving a nut on its projecting end. The object of this arm 22 and its adjustable connection with the hand-lever 24 is to place the hand-lever within reach of the driver when sulky, gang or three-disk plow is used.

A spring 27 has a connection with a stationary part of the plow at one end, its other end connected to the hand-lever 24, which assists the attendant in raising the forward end of the plow through the mechanism now to be described.

To one end of the square shaft 18 is secured a support 28, having a vertical portion 29, through which the support 30 of the furrow-wheel 31 is passed. To the upper end of the furrow-wheel support is secured a collar 32 in a manner to permit it to oscillate thereon. This collar has ears 33, between which is pivoted a link 34. One end of the rod 21 has a portion 35, bent at right angles thereto, and its end 36 is a reverse bend and has a connection with the link 34, and as the hand-lever 24 has a connection with the rod the rod can be oscillated, which will raise and lower the end of the rod and through the link connection with the furrow-wheel support raise and lower the forward end of the plow-frame.

To the stationary portion 17 is pivoted a tongue or evener support 37, and to the support of the furrow-wheel is secured an arm 38, and a link 39 connects the support and arm and made adjustable in connection with the support by the series of holes 40. A hook 41 is secured to the arm 38, and a chain 42 connects this hook and the link and made adjustable in connection with the link 39 by the series of holes 43. A stop 44 has a connection with the link 39. In turning the plow to the left hand the tongue-support is turned, which will draw on the link 39 and through it upon the arm 38, which will turn the furrow-wheel, and in turning the plow to the right hand the tongue-support through the link 39 will push on the arm 38 and turn the furrow-wheel until the stop 44 comes in contact with the arm 38, which limits the further movement of the furrow-wheel. The chain is employed when it is desired to move the forward end of the plow bodily to the left hand.

In making the square shaft 18 adjustable through the support 17 all the parts connected to the shaft move therewith, and as the evener-support does not move with the square shaft the series of holes 40 compensate for the adjustment. The object in adjusting the square shaft and furrow-wheel attached thereto is to place the furrow-wheel in proper position with the forward disk.

To the free end of the angle-bar 1 is secured a curved support 45, having a notch 46 in one end. A hand-lever 47 has a pivotal connection with this support and is provided with a thumb-lever and dog arrangement 48. The lower portion of this lever has a cam-shaped slot 49. A spring 50 connects the hand-lever 47 and a stationary support 51. Upon the angle-bar 1, inside of the curved support 45, is loosely mounted a sleeve 52, having ends 53 longer than the thickness of the angle-bar 1, while its center portion is about the same size as the thickness of the angle-bar. A flange 54 extends from the sleeve, and a hook 55, secured to the end support 45, engages the flange and holds the sleeve from lengthwise movement on the angle-bar 1. From the sleeve 52 rises a support 56, within which is located the upturned end 57 of the axle 58 for the caster-wheel 59. A set-screw 60 limits the movement of the caster-wheel axle in one direction and is made adjustable to properly set the caster-wheel. From the support 56 from the caster-wheel axle extends a stud 61, which is located in the cam-slot 49 in the lower end of the hand-lever 47. By moving the hand-lever the sleeve is rocked upon the angle-bar 1, which will throw the caster-wheel into the position shown at Figs. 5 and 8, the former figure showing the position of the caster-wheel when the plow is being transported over the field and the latter figure with the caster-wheel slanting at an angle and in working position, the notch 46 receiving the dog of the hand-lever 47 in one direction and the end of the curved support reversing it in the other direction.

I claim as my invention—

1. In a disk plow, the combination of a disk-support, a disk, and a wedge-shaped block located between the disk and its support, the block having a curved face and the disk made adjustable in connection with the curved face.

2. In a disk plow, the combination of a transverse support, a hollow shaft adjustable in the support, a furrow-wheel supported by one end of the shaft and an adjusting-lever supported by the other end of the shaft.

3. In a disk plow, the combination of a transverse support, a hollow shaft adjustable in the support, a rod located within the shaft, a furrow-wheel supported by the shaft in a vertical adjustable manner, a connection between the furrow-wheel support and rod, a hand-lever having a connection with the rod, and a toothed segment for the hand-lever supported by the shaft.

4. In a disk plow, the combination of a furrow-wheel, an evener-support, a link connection between them, and a stop supported by the link.

5. In a disk plow, the combination of a furrow-wheel, an evener-support, a link connection between them and a chain connecting the furrow-wheel and link.

6. In a disk plow, the combination of a main frame, a sleeve loosely mounted thereon, a segment secured to the main frame, a hand-lever having a pivotal connection with the segment, and a connection with the sleeve, a caster-wheel, and a caster-wheel support having a pivotal connection with the sleeve.

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