July 5, 1927. 1,635,019

S. D. WALTON

GANG DISK PLOW

Filed Dec. 10, 1925 2 Sheets-Sheet 1

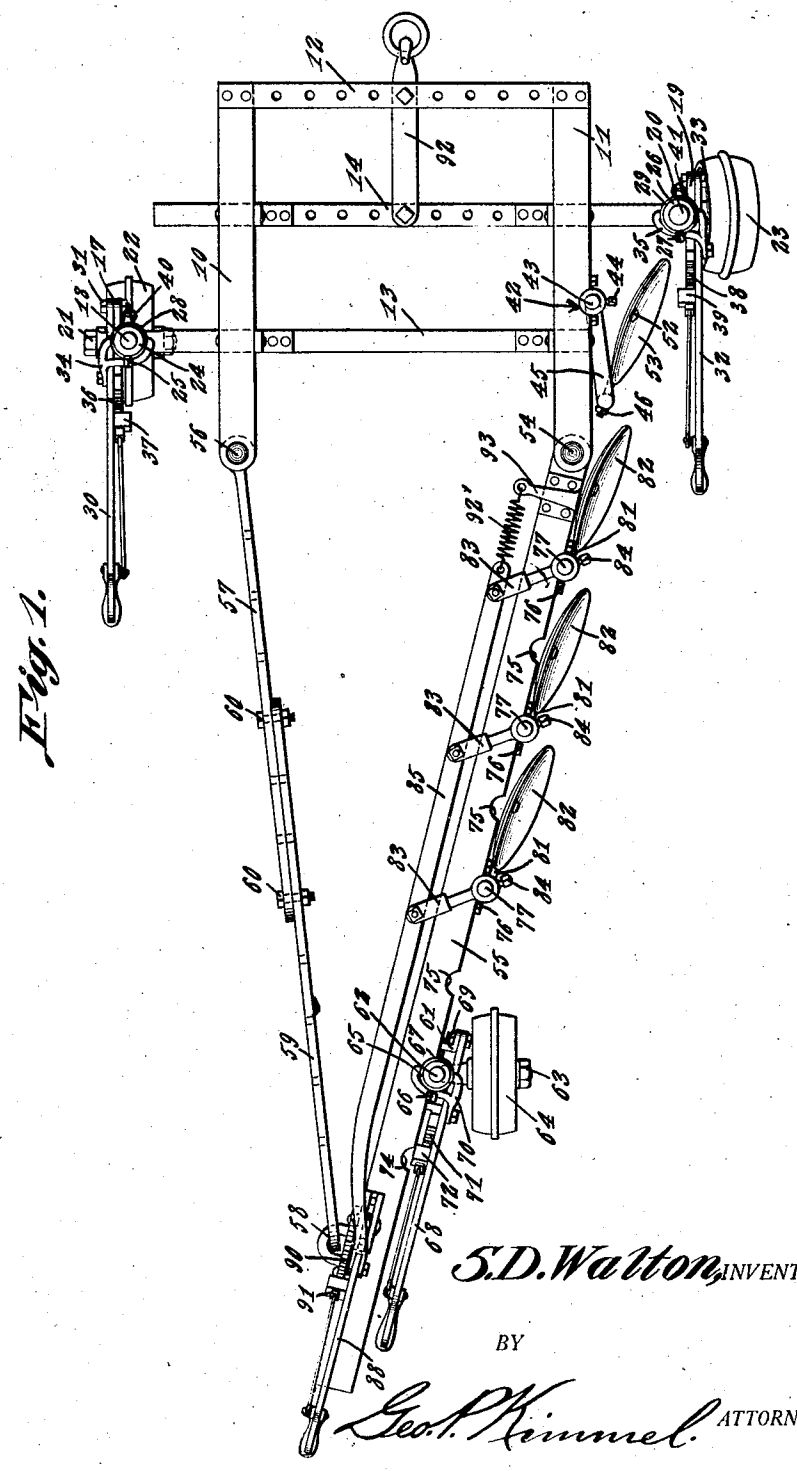


Fig. 1.

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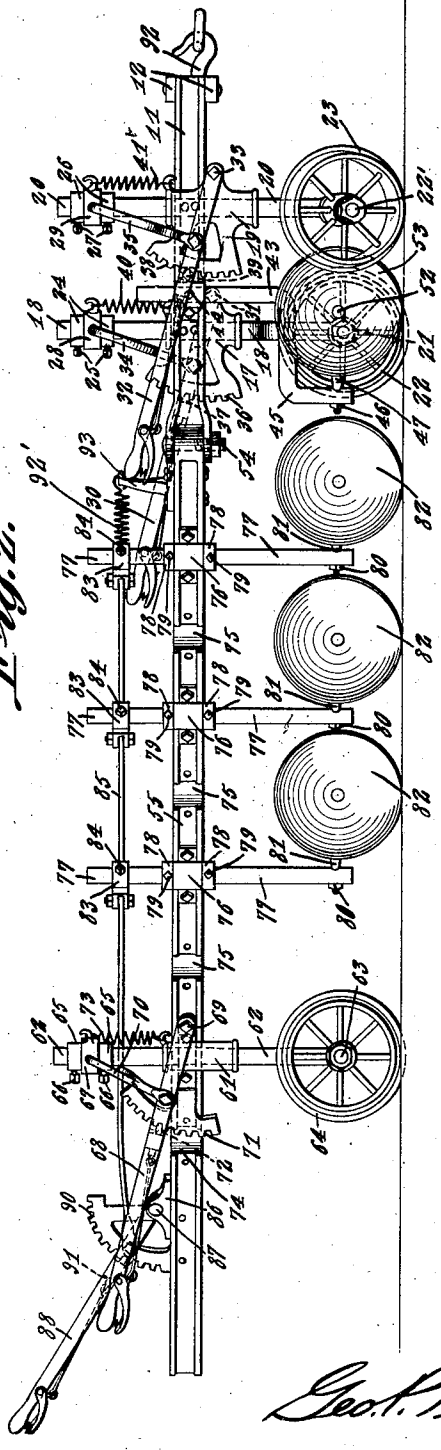


Fig. 2.

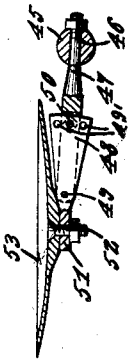


Fig. 4.

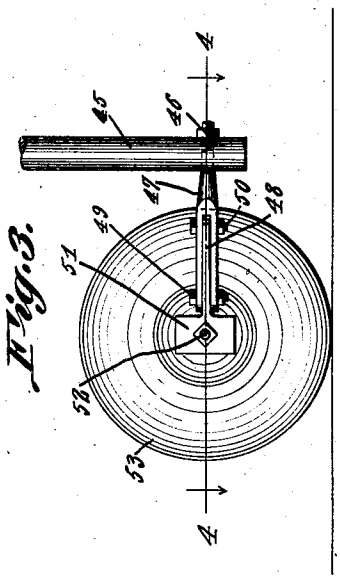


Fig. 3.

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Patented July 5, 1927. 1,635,019

UNITED STATES PATENT OFFICE.

STOKELY D. WALTON, OF IMPERIAL, CALIFORNIA.

GANG DISK PLOW.

Application filed December 10, 1925. Serial No. 74,495.

This invention relates to disk plows, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character having improved means for adjusting and controlling the angularity of the disk elements relative to the supporting frame.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention.

Fig. 1 is a plan view, and—

Fig. 2 is a side elevation, of the improved apparatus.

Figs. 3 and 4 are enlarged details illustrating the construction of the adjustable disk supports.

The improved apparatus includes a supporting frame formed of spaced side rails or members 10—11, a forward transverse member 12, and intermediate transverse members 13 and 14. The frame member 13 is extended at one end beyond the rail member 10 while the frame member 14 is extended at the opposite end beyond the rail member 11.

Connected to the outer end of the extended portion of the frame member 13 is a bracket device 17 forming a vertical bearing for a standard 18, while a like bracket 19 forms a vertical bearing for a standard 20.

At its lower end the standard 18 is offset laterally to form a journal 21 for a combined supporting and ribbed guide wheel 22, while the standard 20 is likewise offset laterally to form a journal 22′ for a combined supporting and ribbed guide wheel 23, the journal 22′ being inclined outwardly and downwardly to support the wheel 23 at an angle to run in the bottom of the furrow formed by the disk cutters.

Mounted on the standard 18 near its upper end are spaced stop collars 24 adjustably coupled to the standard 18 by set screws 25, while like stop collars 26 are mounted on the standard 20 and adjustably coupled thereto by set screws 27.

An adjusting collar 28 loosely engages the standard 18 between the stop collars 24, while a similar adjusting collar 29 loosely engages the standard 20 between the stop collars 26.

A lever 30 is pivoted at 31 to the bracket 17, while a like lever 32 is pivoted at 33 to the bracket 19.

The lever 30 is coupled by a link device 34 to the collar 28.

The bracket 17 is provided with a toothed segment 36 with which a pawl device 37 carried by the lever 30 cooperates, while a like toothed segment 38 is formed on the bracket 19 with which a pawl device 39 carried by the lever 32 cooperates.

A spring 40 is attached to the bracket 17 and the collar 28, and operates to hold the standard 18 yieldably in its lower position, while a like spring 41 is coupled to the bracket 19 and the collar 29, and operates to hold the standard 20 yieldable in its lower position.

By this arangement the standards 18 and 20 together with the guide wheels 22 and 23 may be adjusted vertically, and retained in adjusted position, and the vertical position changed as required by adjusting the stop collars 24 and 26.

Attached to the frame member 11 is a guide hanger 42 for a standard 43, the latter vertically and rotatively adjustable in the hanger and held in adjusted position by a set screw 44.

The standard 43 is formed with a laterally and downwardly directed offset 45, and rigidly coupled at 46 to the lower end of the offset is an arm 47, with the outer portion divided to receive a plate member 48, the latter pivoted at 49 between the free ends of the divided portion of the standard. The plate member 48 increases in width toward the free end, and is formed with a plurality of spaced apertures 49′ to receive a holding bolt 50 extending through the sides of the divided portion of the standard.

At the end opposite to the perforated enlargement the plate member 48 is enlarged vertically as at 51, the latter portion perforated to receive the journal 52 of a disk member 53.

By this means the disk may be adjusted to any required extent within the range of the apertures 49′ of the plate 48, to adjustably control the angular action, and the standard 44—45 also adjusted to control the lateral position of the disk.

Pivoted at 54 to the rear end of the frame member 11 is a beam 55.

Attached to the beam 55 intermediate the ends is a hanger 61 to receive a standard 62,

the latter having a laterally directed journal 63 at the lower end to support a rear guide wheel 64.

The three guide wheels 22—23 and 64 are provided respectively with annular guide ribs to prevent lateral displacement while moving over the ground.

Mounted on the standard 62 near the upper end are spaced stop collars 65 adjustably coupled to the standard by set screws 66.

An adjusting collar 67 loosely engages the standard 62 between the stop collars 65.

A lever 68 is pivoted at 69 to the hanger 61 and coupled by a link 70 to the collar 67.

The hanger 61 is provided with a toothed segment 71 with which a pawl device 72 carried by the lever 68 cooperates. A spring 73 is attached to the hanger 61 and to the collar 67, and operates to hold the standard 62 yieldably in its lower position. By this arrangement the standard 62 together with the guide wheel 64 may be adjusted vertically and retained in adjusted position, and the vertical position of the standard changed, as required by adjusting the stop collars 65.

Pivoted at 56 to the rear end of the frame member 10 is a brace section 57, and pivoted at 58 to the beam 55, is a brace section 59, the brace sections overlapping and each provided with a plurality of transverse apertures to receive holding bolts 60 to enable the brace sections to be adjusted to control the angular position of the beam relative to the supporting frame.

The hanger 61 includes a cylindrical body which engages in a semi-circular seat in the outer face of the beam 55, and an extra seat for the hanger shown at 74, to allow the hanger to be disposed rearwardly of the position in Figures 1 and 2, which will be required when the angularity of the beam is changed through the coaction of the brace sections 57 and 59.

Formed in the outer face of the beam at uniformly spaced intervals are seats 75 like the seat 74, to alternately receive hangers 76, each of the latter to receive a standard member 77.

Mounted on each of the standards 77 above and below each of the hangers, are stop collars 78, adjustably coupled to the standard by set screws 79.

By this means the standards 77 are free to rotate in the hangers 76, but are adjustably supported vertically therein.

Rigidly coupled at 80 to each of the standards 62 at the lower end, is a divided arm, a portion of which is represented at 81, the latter being identical with the arm 47 shown in Figures 3 and 4, and each supporting a cutting disk 82.

The cutting disks employed in this machine are dish shaped or concavo-convex and these disks are extremely shallow as shown in the sectional view Figure 4. A disk of 20 or 22 inches diameter should have a dish of from one-half to three-quarters of an inch, which makes it easy to use giving an easy running machine.

Near its upper end each of the standards is provided with a turning arm 83 and each held adjustably upon the standard by a set screw 84. At their outer ends the turning arms 83 are coupled to an adjusting rod 85, whereby the standards 77 may be simultaneously rotated to control the angular position of the disks.

Mounted on the beam 55 is a bracket 86 in which a lever 88 is pivoted at 87, the latter coupled at 89 to the rod 85.

Formed upon the bracket 86 is a toothed segment 90 with which a pawl 91 carried by the lever 88 cooperates, to hold the lever in adjusted position.

By this means the standards 77 and the disks carried thereby may be simultaneously rotated and retained in adjusted position.

The frame members 12 and 14 are provided with a plurality of spaced apertures to adjustably support a draft bar 92, as shown.

A spring 92′ is connected between a bracket 93 and the rod 85, to yieldably hold the standards.

The improved device may be constructed of any suitable material and of any required size and to contain any required number of the disks.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification but it will be understood that modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described my invention what I claim is:—

In a disk plow, a support, external sleeve-like hangers vertically disposed and adjustably secured at intervals to the support, ground working elements, standards for said elements and rotatable in the hangers, adjustable means on the standards to sustain the same in selected vertical adjustment, arms on the standards and each having a fork, a bracket on the support beyond the standards, a link pivoted in the forks and having a spring at one end connected to the bracket, and means at the end of the link opposite the spring for moving said link against the resistance of said spring to turn the standards.

In testimony whereof, I affix my signature hereto.

STOKELY D. WALTON.