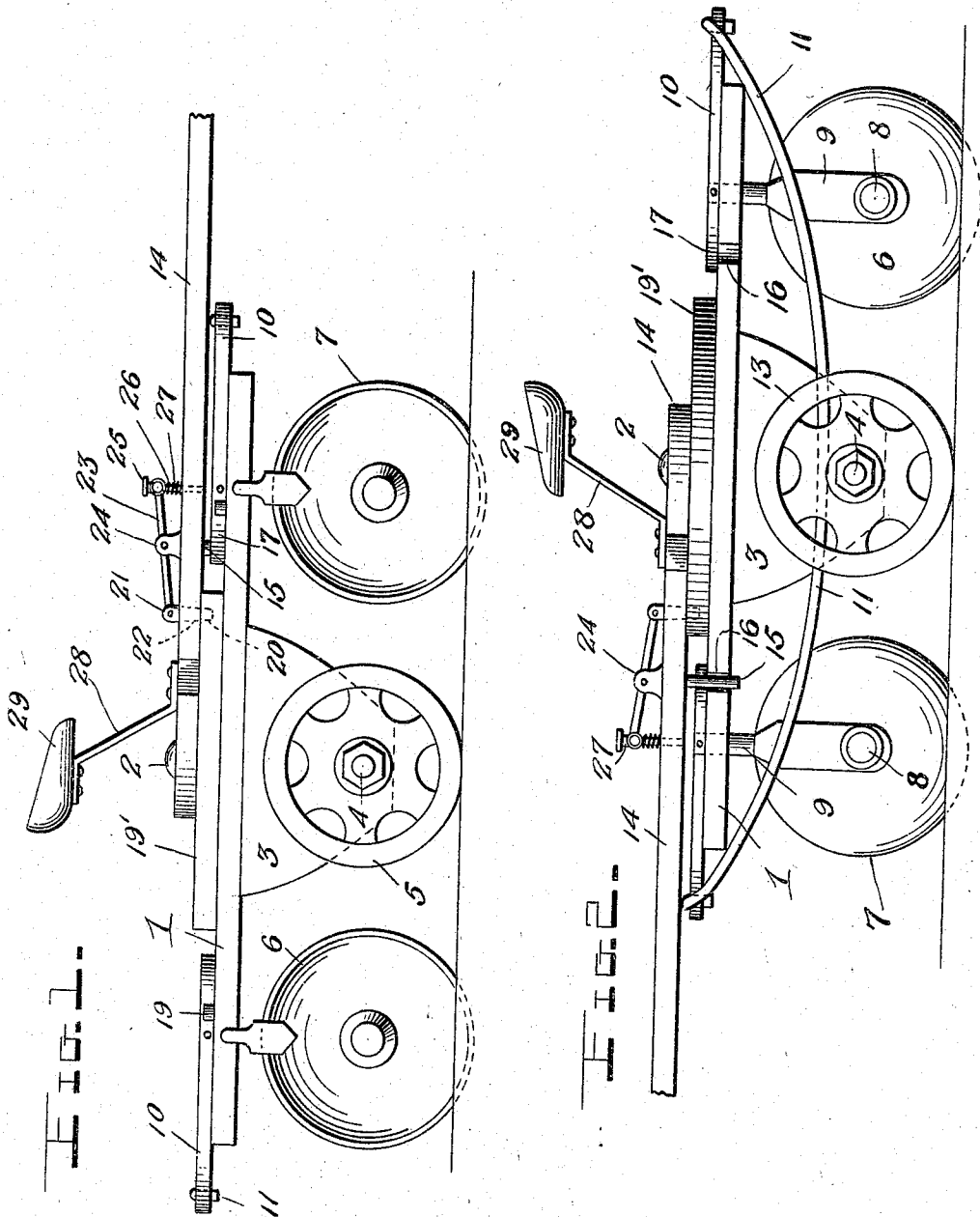


J. J. NALL.
 REVERSIBLE PLOW.
 APPLICATION FILED NOV. 21, 1908.

939,617.

Patented Nov. 9, 1909.
 2 SHEETS—SHEET 1.



Witnesses

Chas. R. Griebauer.
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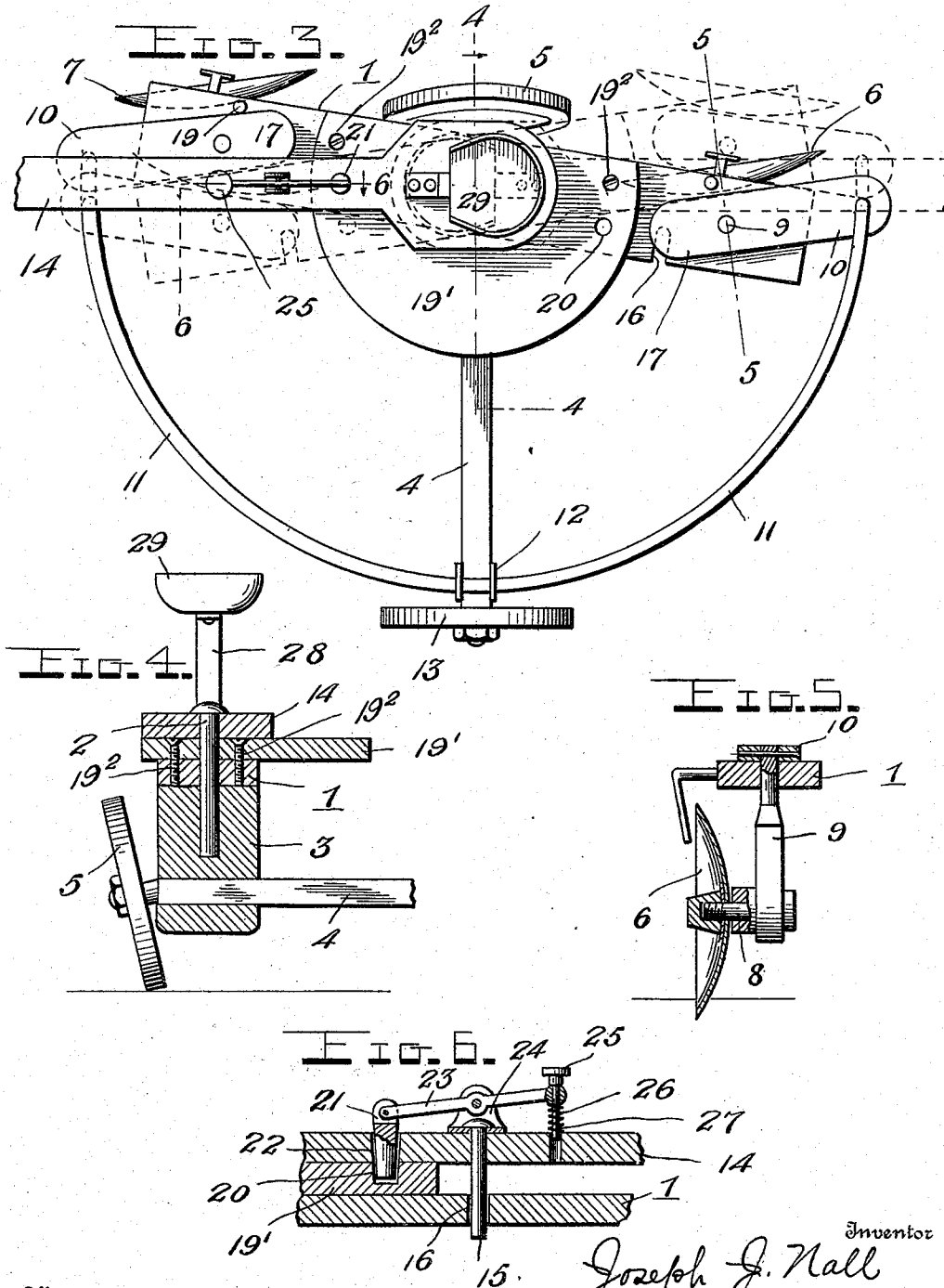
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UNITED STATES PATENT OFFICE.

JOSEPH J. NALL, OF KIMBOLTON, NORTH CAROLINA.

REVERSIBLE PLOW.

939,617.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed November 21, 1908. Serial No. 463,905.

To all whom it may concern:

Be it known that I, JOSEPH J. NALL, a citizen of the United States, residing at Kimbolton, in the county of Chatham and State of North Carolina, have invented certain new and useful Improvements in Reversible Plows, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in reversible or hillside plows.

One object of the invention is to provide a double disk plow in which the angles of the disks will be automatically reversed when the draft beam is reversed.

Another object of the invention is to provide an improved means for retaining the parts in their normal or reversed position.

A further object of the invention is to improve and simplify the construction and operation of plows of this character and thereby render the same more durable and efficient and less expensive.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figures 1 and 2 are side elevations of the improved hillside or reversible plow; Fig. 3 is a top plan view showing the parts in their normal position in full lines and in their reversed position in dotted lines; Figs. 4 and 5 are transverse sectional views taken, respectively, on the lines 4—4, 5—5 in Fig. 3; and Fig. 6 is a detail longitudinal section taken on the plane indicated by the line 6—6 in Fig. 3.

The present embodiment of the invention is in the form of a riding plow and comprises a body or main beam 1 through which extends a vertical pivot 2 carried by a bearing block 3 upon an axle 4. The block 3 is arranged adjacent to one end of the axle on which end is journaled a guide wheel 5 which runs in a furrow formed by one of two rotary disk plows 6, 7. The latter are in the form of concaved disks rotatable on stub shafts or spindles 8 projecting laterally from the lower ends of rotatable standards 9 mounted in the beam 1 adjacent its ends. Upon the projecting upper ends of the rotary standards 9 are fixed at points intermediate their ends crank arms 10, the outer or long ends of which are pivoted to the ends

of a semi-circular connecting rod 11, the central portion of which latter is rigidly connected, by means of a clip 12, to the shaft 4 at a point adjacent to one of its ends which carries a supporting wheel 13. The rod 11 is resilient and connects the disk standards 9 together for simultaneous movement so that when the main beam 1 is shifted angularly with respect to the axle 4 said standards 9 will be simultaneously rotated to dispose their disk plows 6, 7 at the same angle. This movement or reversing of the disk plows is effected automatically when the draft beam or tongue 14 is reversed. Said tongue 14 is rotatably arranged on the upper end of the pivot 2 and depending from it is a lug or projection 15 adapted to swing into either one of two keeper recesses or seats 16 formed in one side edge of the beam 1 and to also engage and actuate the short inner end 17 of either one of the two crank arms or members 10 on the disk carrying standards 9, thereby automatically reversing the disk plows. To limit the swinging movement of the crank arms or members 10, stops 19 are preferably provided on the beam 1. For the purpose of locking the tongue 14 in either of its two positions, a keeper plate 19' is arranged upon and secured by screws or bolts 19² to the top of the beam 1 beneath the inner end of the tongue and is formed with two keeper seats or recesses 20 either one of which is adapted to receive a locking pin 21 slidable in a vertical opening in the tongue. Said locking pin 21 has its projecting upper end loosely connected to one end of a lever 23 which is pivoted intermediate its ends in a bracket 24 upon the top of the tongue and has at its other end a finger piece 25. A coil spring 26 is arranged beneath the handle end of the lever and the tongue to project said end of the lever upwardly and thereby force the pin 21 downwardly against the plate 19 and into either one of the seats 20. Said spring is arranged upon a guide pin 27 depending from the lever and projecting into a seat or opening in the tongue, as clearly shown in Fig. 6. Fixed to the top of the inner end of the tongue is a seat spring 28 which carries a seat 29, the latter, being arranged upon the tongue, will be reversed with said tongue so as to always face in the direction in which the implement is drawn.

In operation, assuming the parts to be in the position shown in full lines in Fig. 3,

when it is desired to reverse the device, the lever 23 is actuated to elevate or retract the pin and thereby unlock the tongue. The team is then turned to swing the tongue in the opposite direction and as the lug 15 on the tongue enters the seat 16 in the beam 1 it engages and actuates the end 17 of the crank arm or member 10 on the foremost disk standard 9 and it also actuates the beam 1 so that the parts shift from their full line position to their dotted line position in Fig. 3, thereby reversing the angle of the disk plows 6, 7. The pivotal mounting of the beam 1 on the axle 4 and the provision of the arcuate spring or resilient rod 11 with its pivotal connection to the arms 10, permit the beam and arms to swing to different angular positions with respect to each other and to the axle 4, as will be readily understood upon reference to Fig. 3 of the drawings. When the locking pin 21 on the tongue registers with the keeper opening 20 in the plate 19 it will enter said opening and thereby lock the tongue and the other parts in the dotted line position shown in Fig. 3. It will be seen, therefore, that when the tongue is reversed the angle of the disk plows will be automatically and simultaneously reversed.

While the preferred embodiment of the invention has been shown and described in detail it will be understood that various changes in the form, proportion and arrangement of parts and in the details of construction may be resorted to without departing from the spirit of the invention.

Having thus described the invention what is claimed is:

1. An implement of the character described comprising a body, a reversible tongue, reversible plows having rotatable standards, arms fixed intermediate their ends on said standards, a connecting means between the outer ends of said arms and the body, means carried by the tongue for engaging and actuating the inner end of either of said arms, whereby the plows will be simultaneously reversed when the tongue is reversed and means for retaining the tongue in adjusted position.

2. An implement of the character described comprising an axle, supporting wheels thereon, a vertical pivot carried by said axle, a beam mounted intermediate its ends on said pivot, reversible plows carried by the ends of said beams and having rotatable standards, arms carried by said standards, a connecting member fixed to the axle and connected to said arms, and a reversible tongue having means to engage and

actuate either of said arms, whereby the plows will be simultaneously reversed when the tongue is reversed.

3. An implement of the character described comprising an axle, supporting wheels thereon, a pivot on said axle, a beam mounted intermediate its ends on said pivot, rotatable plow carrying standards in said beam adjacent its ends, arms upon said standards, an arcuate rod fixed to the axle and pivoted to said arms, a reversible tongue on said pivot and having means to engage and actuate said beam to automatically reverse the standards and means for locking the tongue in an adjusted position.

4. An implement of the character described comprising an axle, supporting wheels thereon, a pivot on said axle, a beam mounted intermediate its ends on said pivot, rotatable plow carrying standards in said beam adjacent its ends, arms upon said standards, an arcuate rod fixed to the axle and pivoted to said arms, a reversible tongue on said pivot, said beam being formed with seats, a lug depending from the tongue and adapted to enter either of said seats and to engage said beam to automatically reverse the standards when the tongue is reversed, and means for locking said tongue in an adjusted position.

5. An implement of the character described comprising a body, a reversible tongue, reversible plows having rotatable standards, arms carried by said standards, a wheeled axle on which the body is pivotally mounted, resilient connections between said arms and the axle and means carried by the tongue and adapted to engage either one of said arms, whereby the plows will be simultaneously reversed when the tongue is reversed.

6. An implement of the character described comprising a body, a reversible tongue, reversible plows having rotatable standards, arms carried by said standards, a wheeled axle on which the body is pivotally mounted, resilient connections between said arms and the axle, means carried by the tongue and adapted to engage either one of said arms, whereby the plows will be simultaneously reversed when the tongue is reversed and means for locking said tongue in adjusted position.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOSEPH J. NALL.

Witnesses:

D. G. FOX,

T. F. OVERMAN.