

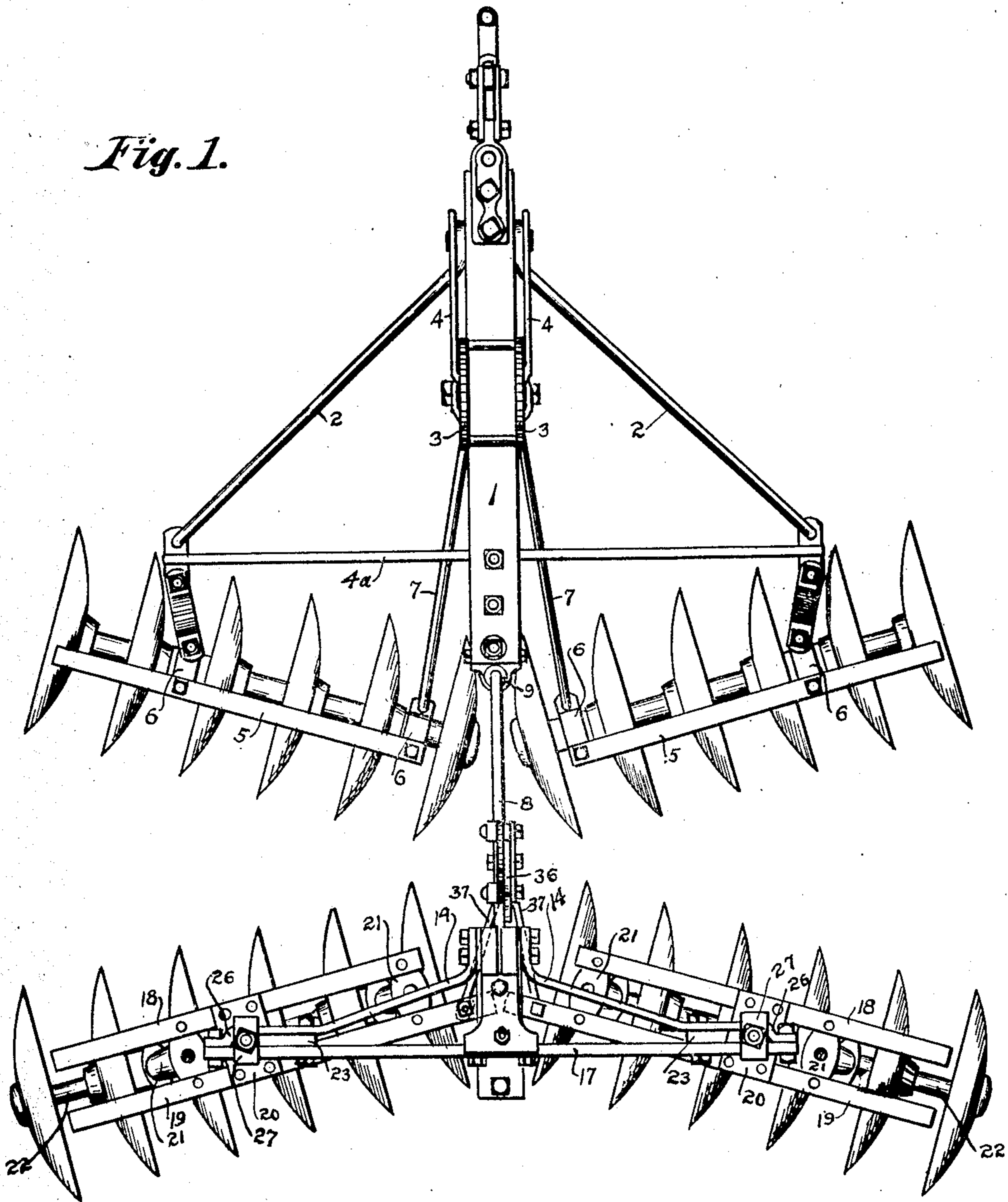
F. B. NIESZ.  
DISK HARROW.  
APPLICATION FILED DEC. 19, 1908.

916,361.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses

*Geo. J. Storer.*  
*Sylvia Boron*

By

Inventor  
*Frank B. Niesz*

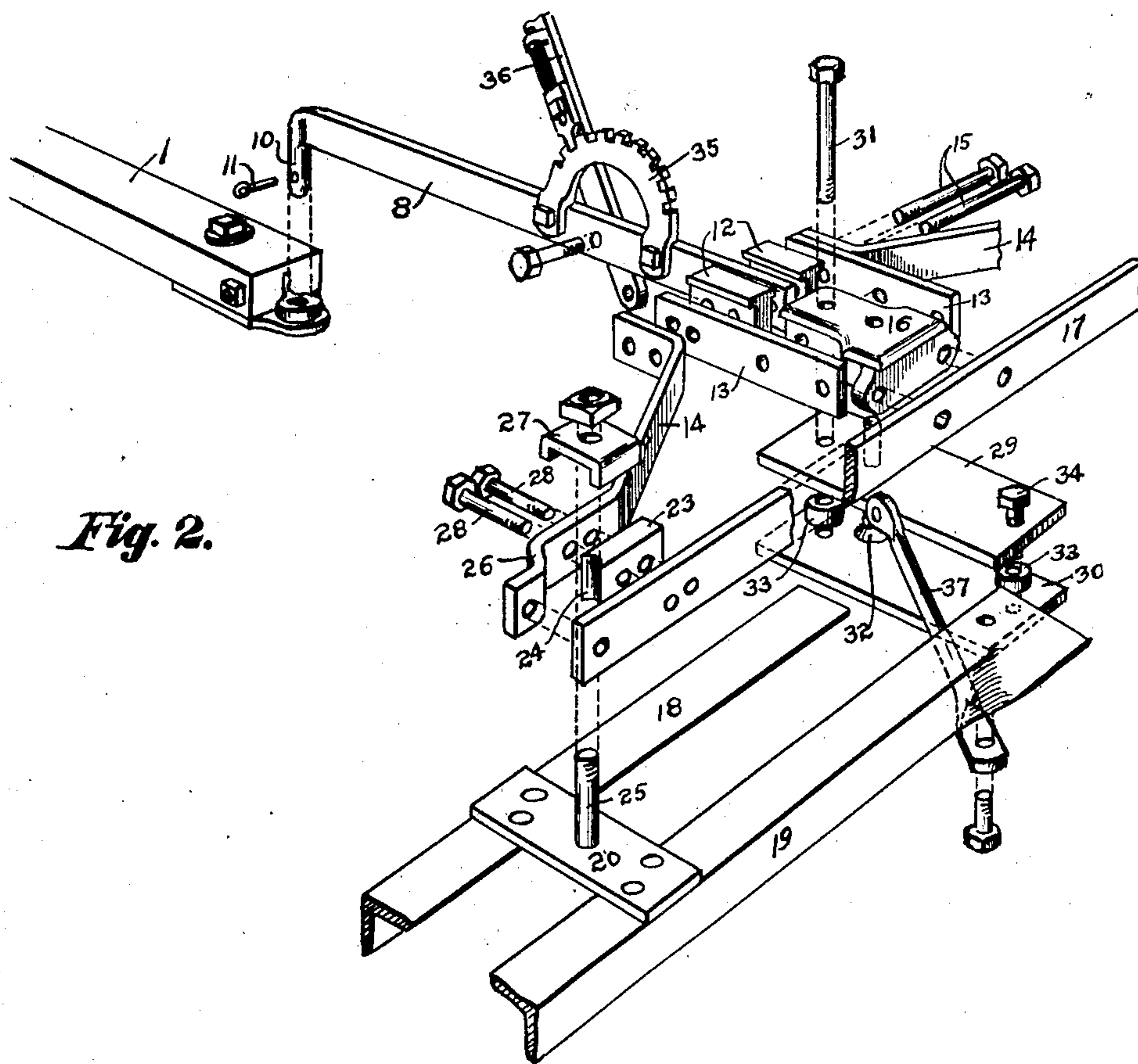
*Bond & Miller*

Attorneys

F. B. NIESZ.  
DISK HARROW.  
APPLICATION FILED DEC. 19, 1908.

916,361.

Patented Mar. 23, 1909.  
2 SHEETS—SHEET 2.



*Fig. 2.*

Witnesses

*Geo. J. Hoelen.*

*Sylvia Brown.*

Inventor  
*Frank B. Niesz.*

By

*Bond & Miller*

Attorneys

# UNITED STATES PATENT OFFICE.

FRANK B. NIESZ, OF CANTON, OHIO, ASSIGNOR TO THE BUCHER & GIBBS PLOW COMPANY  
OF CANTON, OHIO, A CORPORATION OF OHIO.

## DISK HARROW.

No. 916,361.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed December 19, 1908. Serial No. 468,399.

*To all whom it may concern:*

Be it known that I, FRANK B. NIESZ, a citizen of the United States; residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Disk Harrows.

The object of the present invention is to provide what might be termed a gang disk harrow, and a further object is to provide a flexible connection between the front and rear sets of disks, so that the ground is not thrown up in ridges when turning corners or when the harrow is moved out of a straight line. Heretofore in disk harrows of this kind the frame carrying the front and rear sets of disks have been formed rigid and difficulty has been experienced in turning corners.

Having set forth the objects of the invention I will now proceed to describe the same in detail, reference being had to the accompanying drawings making a part of this specification and to the numerals of reference marked thereon, in which—

Figure 1 is a plan view. Fig. 2 is a perspective view showing a portion of one of the rear gang frames, the reach and the rear end of the tongue together with the different parts pertaining to the coupling of the two rear gang frames together, showing said parts disconnected and in relative alignment with each other.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the tongue, which is of the usual construction in harrows of this class and to which tongue is connected the usual braces 2 and the notched segments 3 and the levers 4, these parts are of the usual construction and form no specific part of the present invention. The same is true of the bar 4<sup>a</sup>, the bars 5 and their connections including the bearings 6 and the links 7.

To the rear end of the tongue 1 is pivotally attached the reach 8 by means of the apertured plate 9 and the coupling pin 10, which coupling pin is preferably formed integral with the reach 8 and is held against displacement by means of the cotter 11 or its equivalent. To the rear end of the reach 8 are connected the flanged blocks 12 and to the flanged blocks 12 are connected the spaced bars 13, and to the spaced bars 13

are connected the braces 14 all of said parts being securely connected or bolted together and to the reach 8 by means of the clamping bolts 15.

To the rear ends of the bars 13 is connected the head 16 by means of suitable clamping bolts and to the rear end of this head 16 is securely attached the bar 17, which bar is for the purpose of holding in proper spaced relationship with each other the two disk frames, which frames consist of the parallel bars 18 and 19, which bars are held in proper spaced relationship with reference to each other by means of the plates 20 and the various bearing blocks 21 in which bearing blocks are journaled the disk shafts 22. The disk frames are pivotally connected intermediate their ends and are so connected for the purpose of changing the angularity of the disk shafts 22 with reference to each other and to the reach 8 or more particularly with reference to the line of draft.

For the purpose of providing proper pivotal connections for the disk frames proper the blocks 23 are provided, said blocks being provided with the semi-circular grooves 24, which semi-circular grooves are for the purpose of receiving portions of what might be termed the king-bolts 25, said king-bolts being held in proper relationship by means of the braces 14, which braces are provided with the curved flanges 26 said curved flanges so located that they will abut against the king-bolts 25.

For the purpose of assisting in holding the blocks 23 and the braces 14 in proper relationship with reference to the bar 17 the flanged caps 27 are provided, which flanged caps are seated upon the bars 17, the blocks 23 and the braces 14, said cap also serving to provide suitable bearings for the king-bolts 25. In order that a rigid connection may be made as between the bar 17 and the braces 14 clamping bolts 28 are provided, which clamping bolts are located through the bar 17, the blocks 23 and the braces 14.

To the head 16 are connected the spaced plates 29 and 30 by means of the bolt 31 which spaced plates are for the purpose of preventing any tilting of the disk frames together with the different parts carried thereby, said frames consisting of the parallel bars 18 and 19. The spaced plates 29

and 30 are located below the head 16 and are securely clamped by means of the bolt 31. For the purpose of preventing any rocking movement of the plates 29 and 30 the plate 29 is also connected to the head 16 by means of the flat head bolt 32. For the purpose of holding the plates 29 and 30 in proper spaced relationship the spacing blocks or thimbles 33 are provided, through which 10 spacing blocks the bolt 31 is passed and also the bolt 34.

To the reach 8 is attached the notched segment 35 and to said reach is pivotally attached the lever 36 which lever is extended downward below the reach and to 15 the lower end of said lever are connected the links 37, said links being pivotally attached to the bars 19 constituting a disk frame proper. It will be understood that as the 20 lever 36 is moved upon its pivotal point the disk frames will be rocked upon their pivotal points intermediate their ends. When the lever 36 is thrown rearward at its upward end its lower end will be carried forward 25 which movement carries the inner ends of the disk frames forward by means of the connecting links 37.

It will be understood that by locating the various frames carrying the disks and their 30 shafts as illustrated in Fig. 1, the rear disk frames and the various disks can be set at

different angles with reference to the forward disk frames and the disks by means of which adjustment can be made for different kinds and conditions of soil. It will also be 35 understood that by pivotally attaching the reach at its forward end the rear disk frames will follow with greater ease the forward disk frame. That is to say the hinge connection as between the forward and rear 40 frames permits the turning of sharp corners, which is an important feature both in economy of time and ease in operation.

Having fully described my invention what I claim as new and desire to secure by Letters Patent, is: 45

In a disk harrow the combination of a front and rear disk frame, the rear disk frame consisting of parallel bars journaled intermediate their ends and a connecting 50 bar, a head secured to said connecting bar and spaced plates secured to the head and means for rocking the rear disk frames upon their pivotal points, substantially as and for the purpose specified. 55

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

FRANK B. NIESZ.

Witnesses:

SYLVIA BORON,  
F. W. BOND