

No. 672,485.

Patented Apr. 23, 1901.

J. LINDSTROM.  
DISK HARROW.

(Application filed Dec. 4, 1900.)

(No Model.)

2 Sheets—Sheet 1.

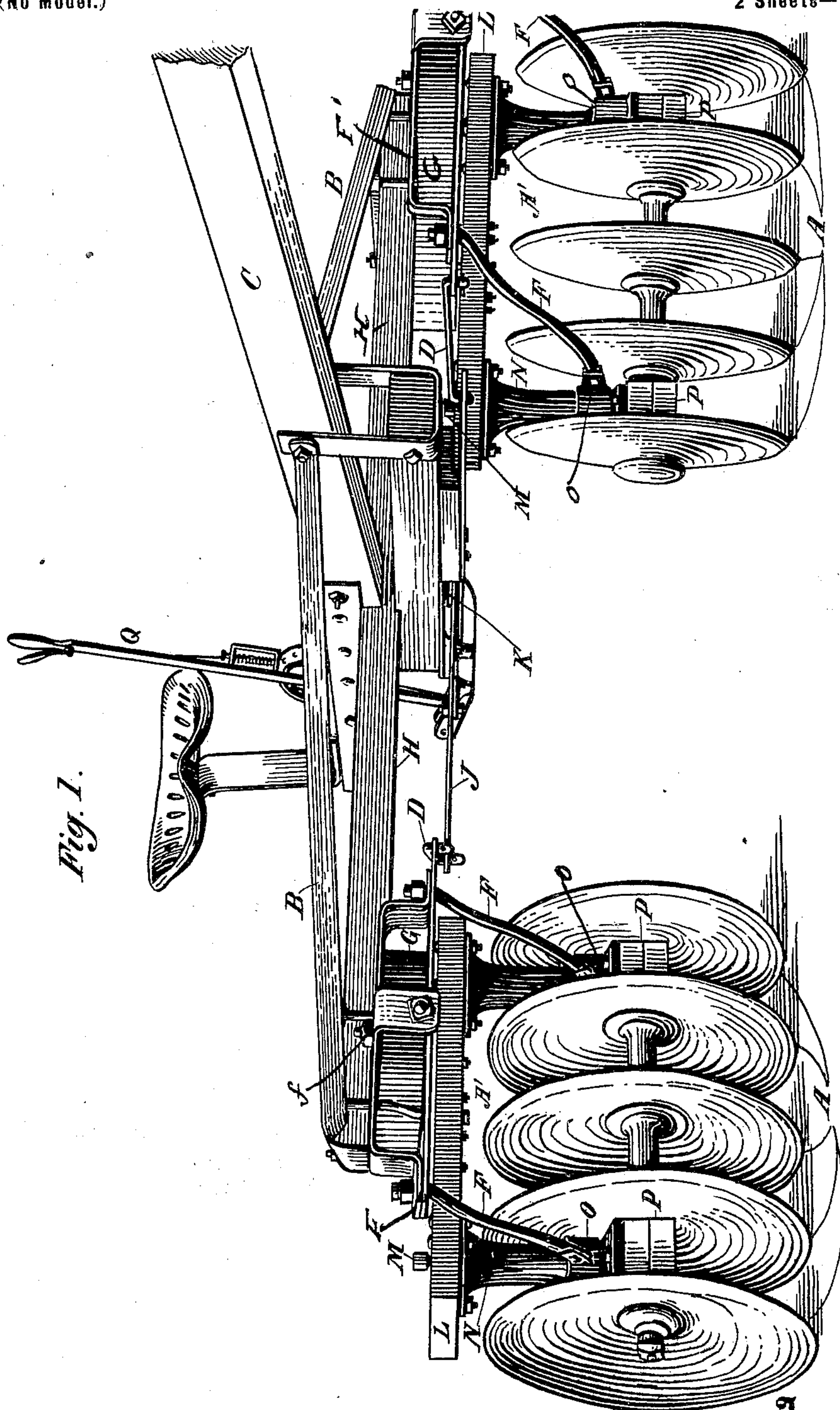


Fig. 1.

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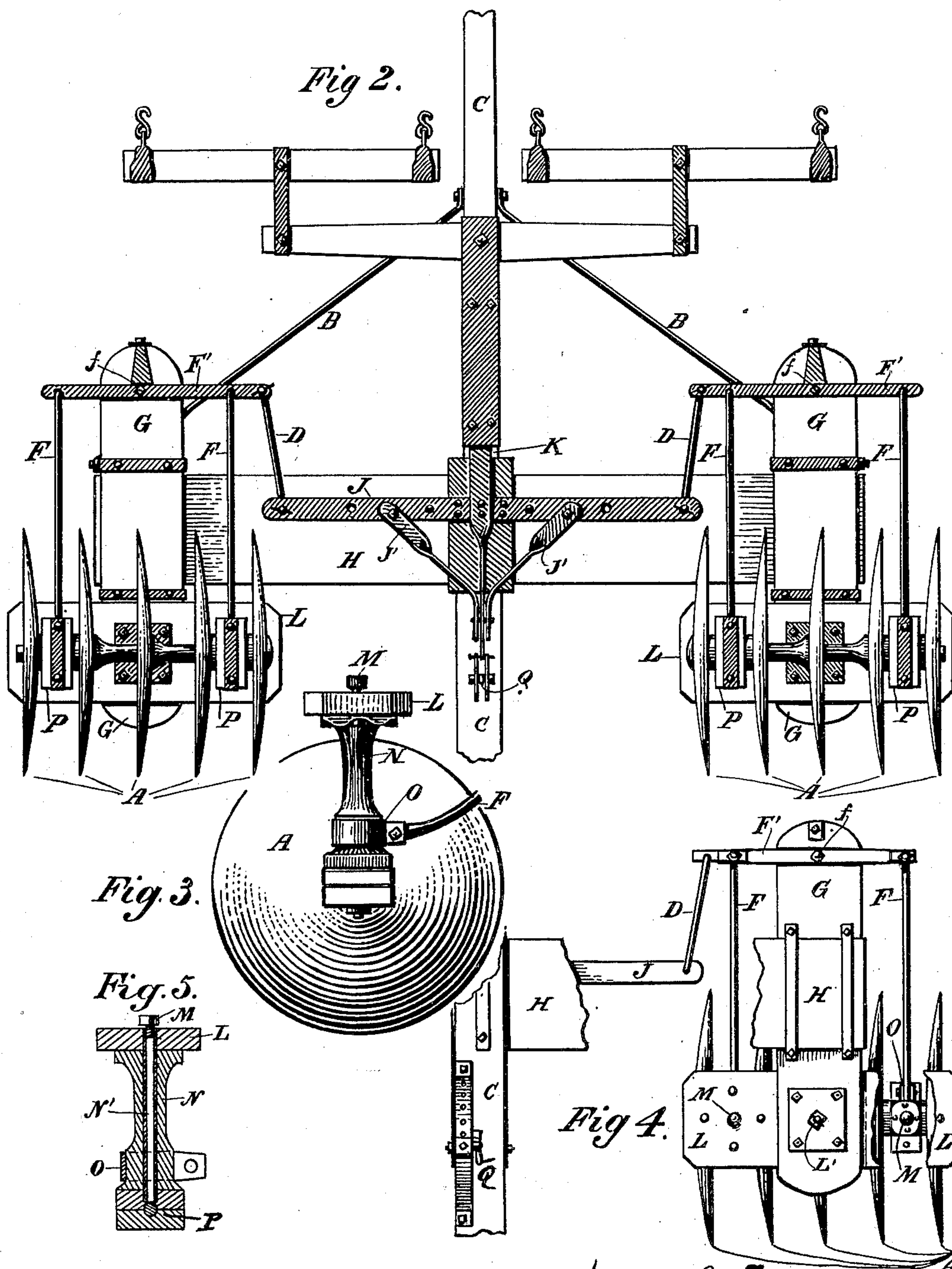
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2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

JOHN LINDSTROM, OF SAN JOSE, CALIFORNIA, ASSIGNOR OF THREE-FOURTHS  
TO FARMERS UNION, OF SAME PLACE.

## DISK HARROW.

SPECIFICATION forming part of Letters Patent No. 672,485, dated April 23, 1901.

Application filed December 4, 1900. Serial No. 38,639. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN LINDSTROM, a citizen of the United States, residing at San Jose, county of Santa Clara, State of California, have invented an Improvement in Disk Harrows; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in cultivating devices of the character employing concavo-convex disks for turning the earth.

It consists of sets of disks or gangs supporting a framework, each gang pivoted to this frame in such a manner as to be turnable inwardly or outwardly in relation to each other, means by which this movement is made, draft-rods leading from the base of the standards supporting the frame above the axle of each gang, whereby the draft or pull is from a point near the axle, novel means for lubricating the journals, and of details more fully explained in the following specification and accompanying drawings.

Figure 1 is a perspective of the machine. Fig. 2 is a bottom view of the machine. Fig. 3 is an elevation of a standard and its connections. Fig. 4 is a plan of one of the gangs. Fig. 5 is a section of one of the standards.

Having reference to the drawings, B represents hounds or parts of a framework from which extends the pole or tongue C. To the ends of the cross-beam H of this frame are secured the horizontal pieces G, which are supported pivotally upon the gangs A' at L', Fig. 4. To the bar L of each of the gangs are secured the standards N. These standards carry the boxes P, in which the axle of the disks A is journaled. The standards have a longitudinal central opening N', which extends through the journal-box to the axle and is closed by a cap M. Through this opening the axles are lubricated. These standards are usually made by casting the metal about a three-fourth-inch gas-pipe, which is allowed to project sufficiently below the casting to pass into the journal-box. The pipe serves not only as an oiling-duct, but gives added strength to the standard.

Immediately above the journal-boxes and

upon the standards N are the collars or swivels O, to which are attached the draft-rods F. These latter are pivotally secured at their other ends to the lever F'. This lever is fulcrumed upon the horizontal piece G at f. The inner ends of these levers are connected with a cross-head J by the links D. This cross-head is slidable in the guide K and is operated by a lever Q. Upon this cross-head are the braces J', by which its position at right angles to the line of travel is always maintained. Thus by means of the lever Q, I am able to operate the two sets of disks or gangs simultaneously and have them act on the ground at any angle desired in relation to the line of travel.

The hounds B connect the pieces G with the tongue and give rigidity to the structure.

The value of making these gangs adjustable in relation to each other is recognizable in the working of many varieties of soils. It allows an immediate adaptation to cut a broad or a narrow furrow, as may be desired.

The draft-rods F connecting, as they do, with the standards near the axles and leading to a point forward on the frame relieves much of the strain usual in machines where the gangs are supported solely from a point immediately above the axle. Thus added strength is here given and also ease of draft.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of gangs of disks, pivotally-mounted pieces, bars and standards depending therefrom and connecting with the gangs, draft-rods extending upwardly and forwardly from the lower part of the standards, levers pivotally secured between their ends and having opposite ends connecting with the draft-rods, a slidable cross-head between the gangs and connections between the cross-head and the inner ends of the levers, and a lever and connection for operating the cross-head and simultaneously turning the gangs with relation to each other.

2. The combination in a cultivator of revolvable disks arranged in gangs, the disks of each gang having a common axle, standards rising from the axle-boxes and a bar connect-

ing the standards of each gang, a horizontal  
piece pivotally mounted upon each of said  
bars, draft-rods swiveled upon the standards  
at a point near the base thereof, the levers F'  
5 pivoted on said horizontal piece and with  
which the rods connect, a cross-head and con-  
nections therefrom to the levers F' and means  
for operating the cross-head to turn the gangs

inwardly or outwardly in relation to each  
other. 10

In witness whereof I have hereunto set my  
hand.

JOHN LINDSTROM.

Witnesses:

C. M. LORIGAN,  
A. O. MATTHEW.