

No. 659,853.

Patented Oct. 16, 1900.

P. E. LITTLE.
DISK HARROW.

(Application filed Aug. 13, 1900.)

(No Model.)

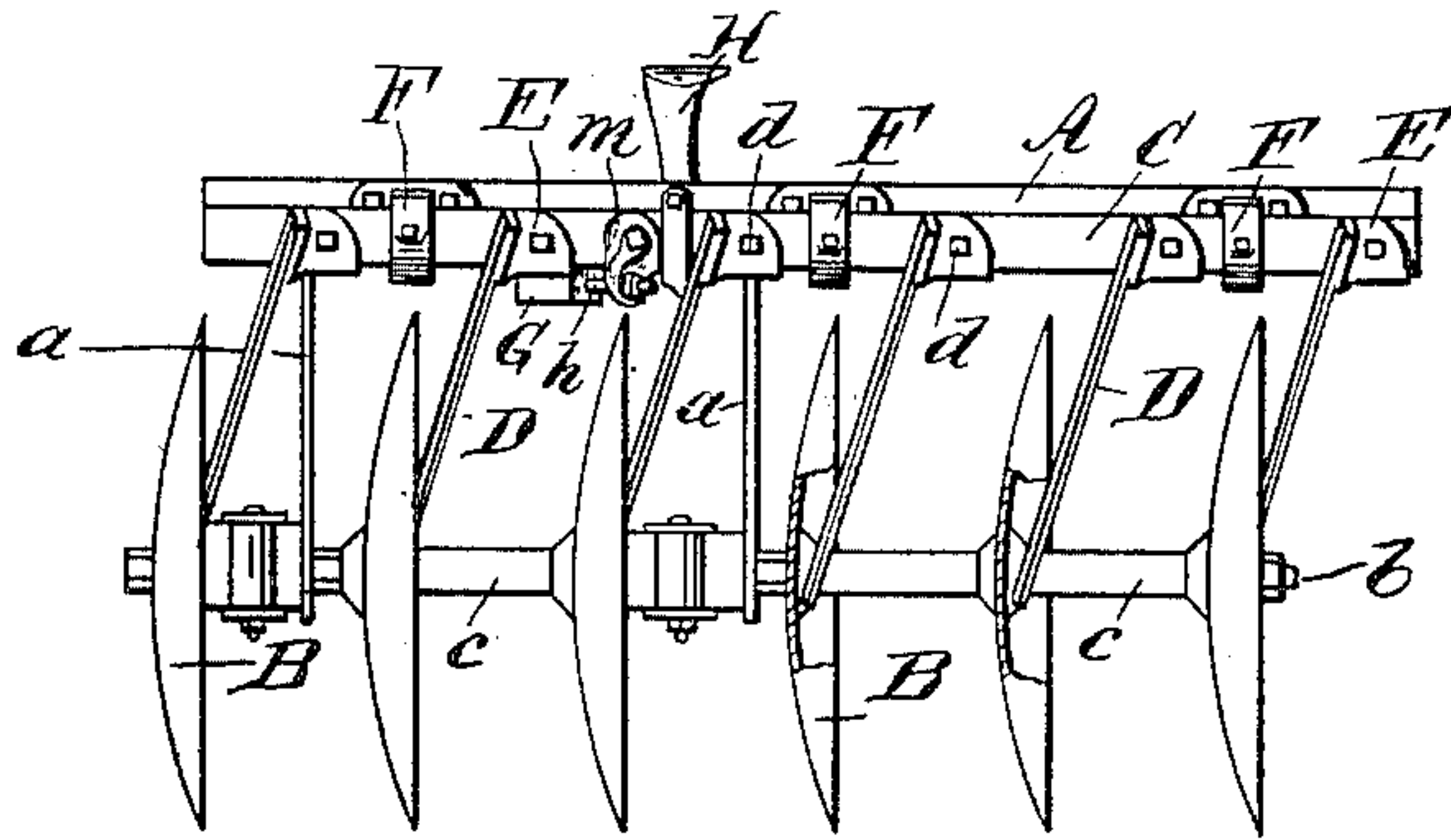


Fig. 1.

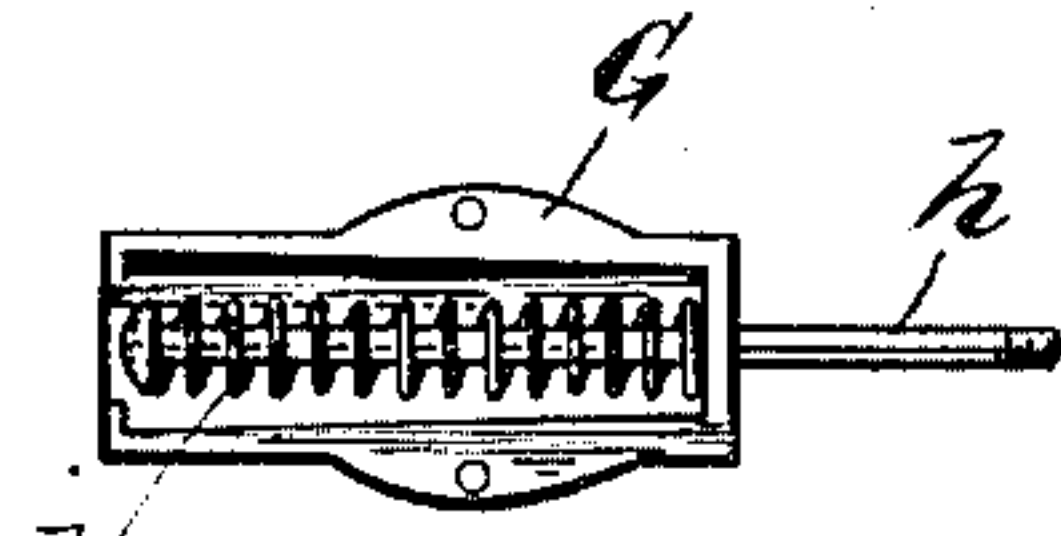


Fig. 5.

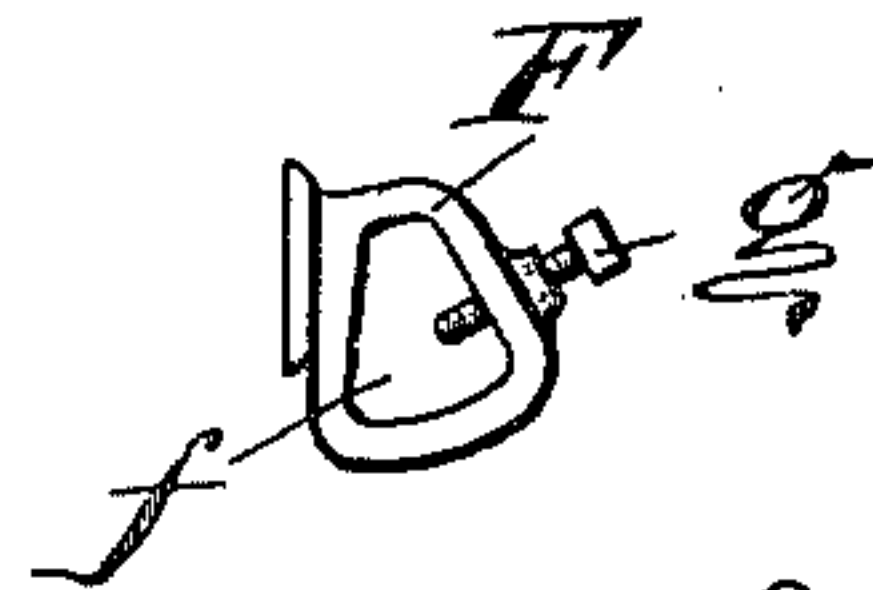


Fig. 6.

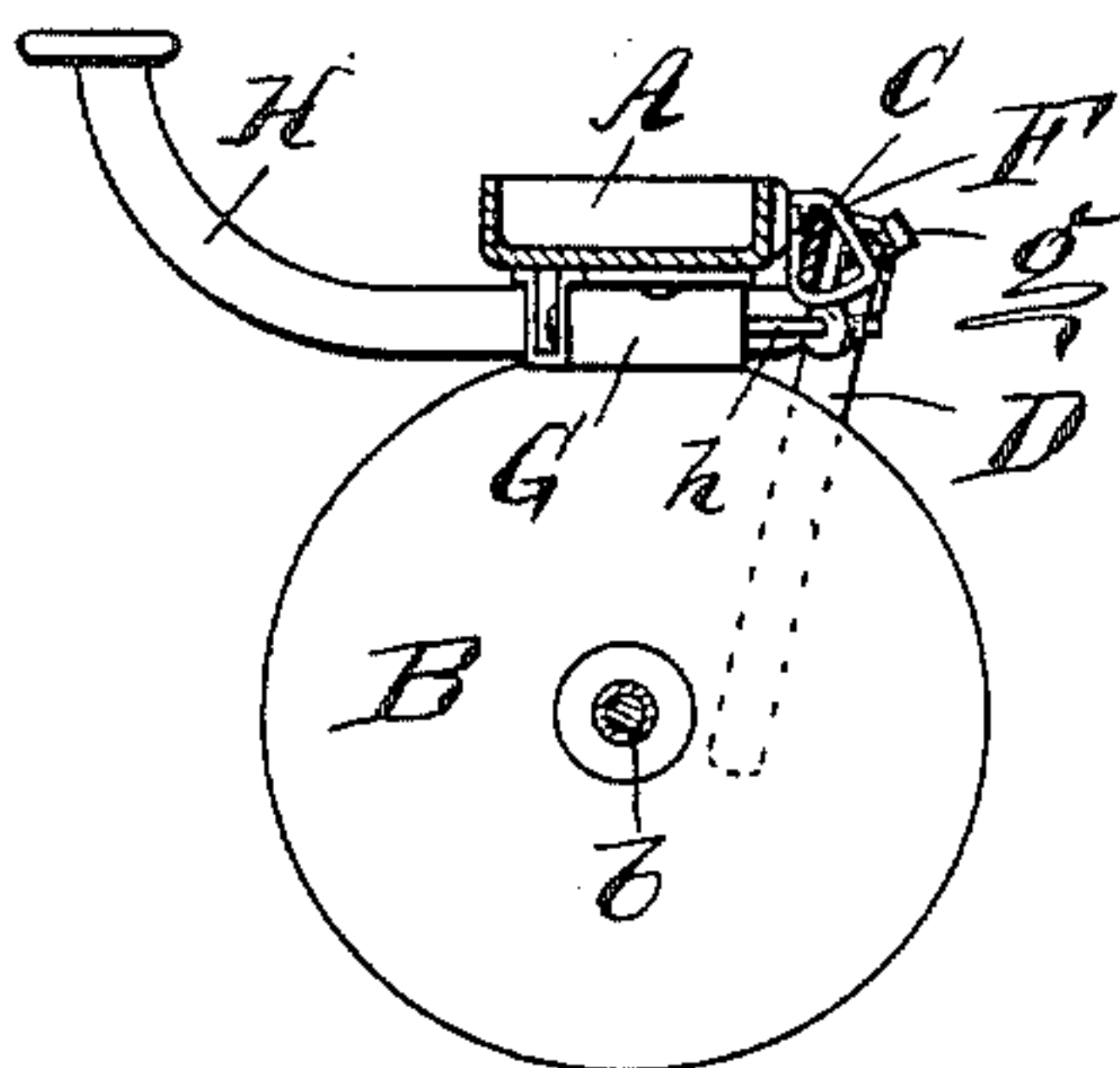


Fig. 2.

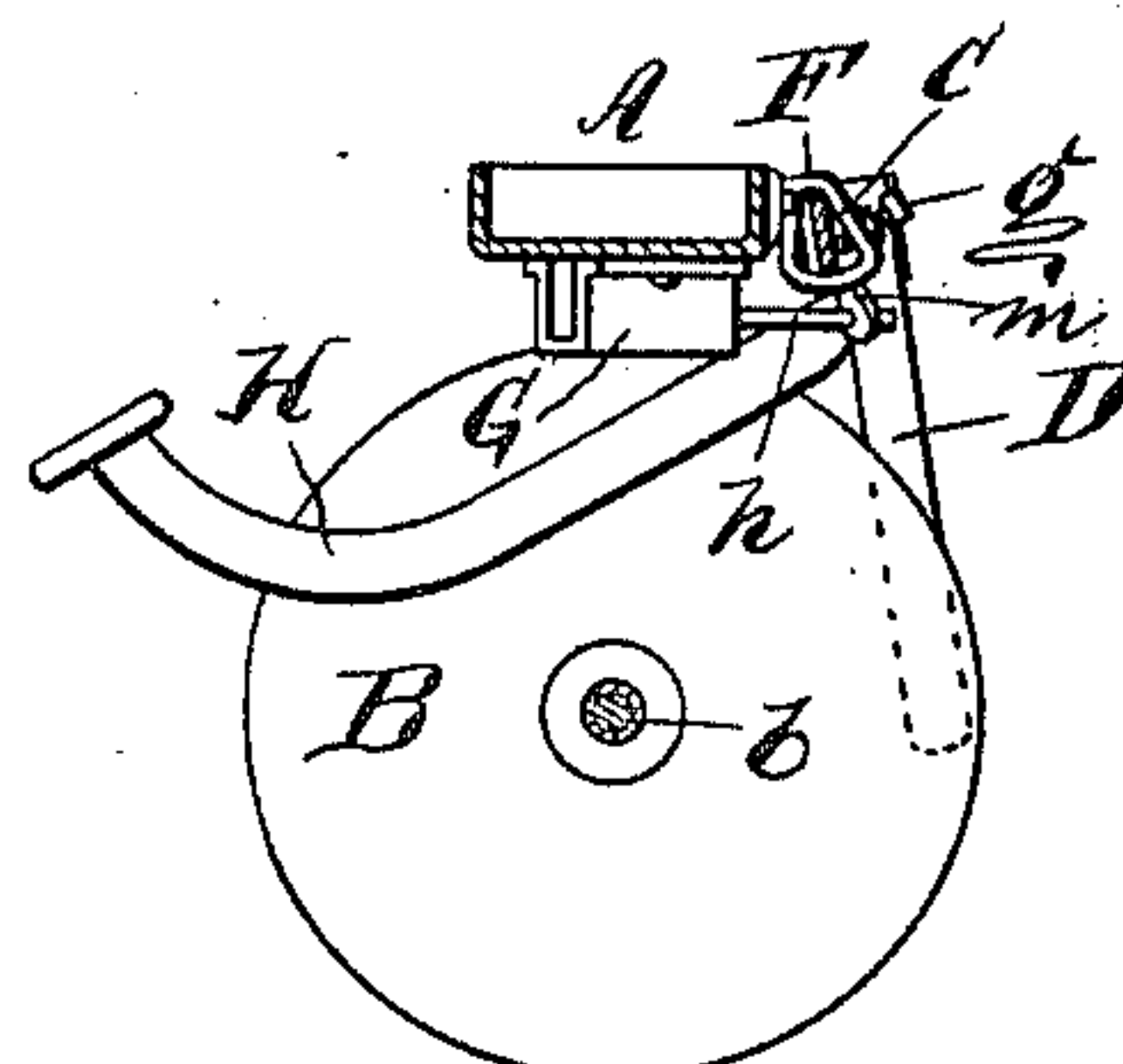


Fig. 3.

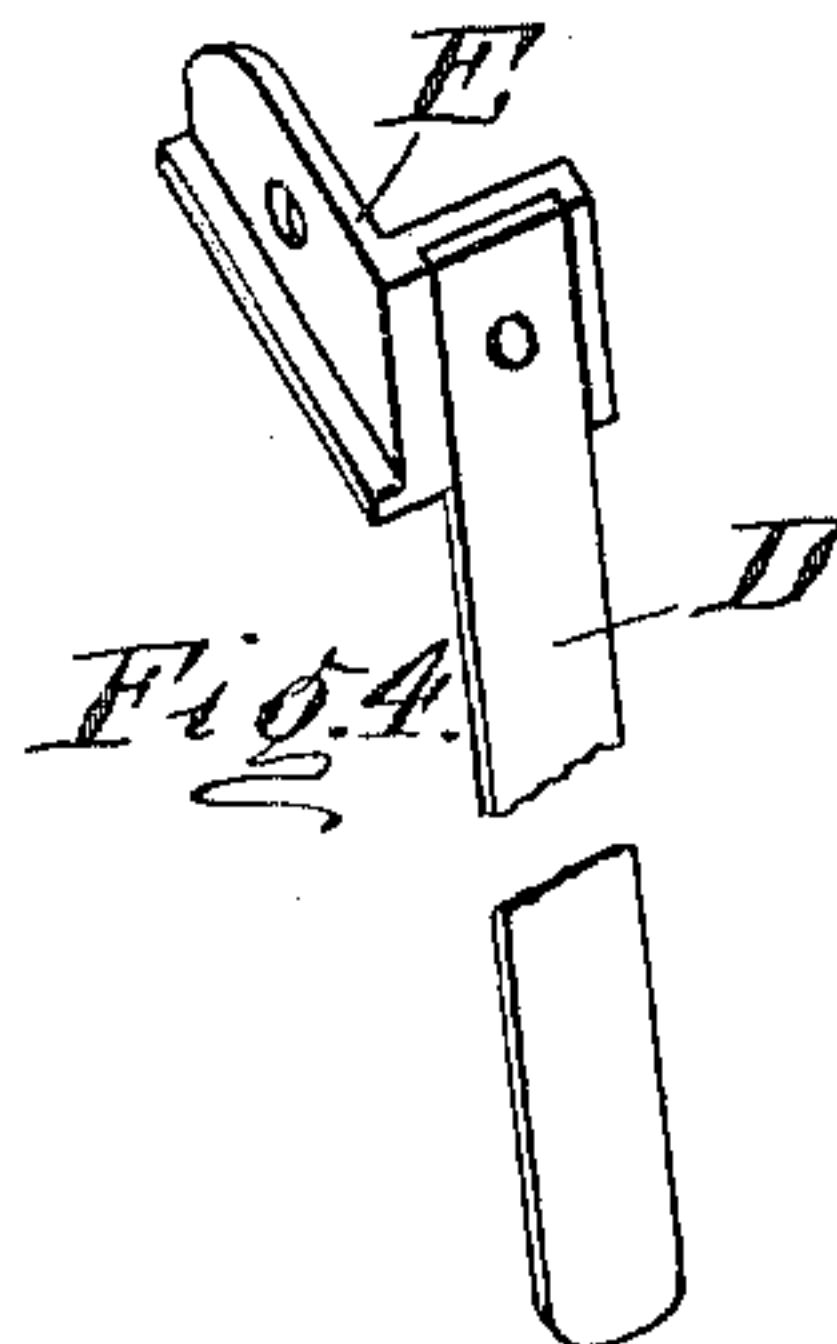


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

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DISK HARROW.

SPECIFICATION forming part of Letters Patent No. 659,853, dated October 16, 1900.

Application filed August 13, 1900. Serial No. 26,734. (No model.)

To all whom it may concern:

Be it known that I, PETER E. LITTLE, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Disk Harrows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to disk harrows of the ordinary construction in which rotating disks are employed, usually mounted in gangs and swiveled to the main frame, so as to be adjustable to the line of draft.

The invention has particular relation to devices for scraping the disks and freeing them from mud and earth which accumulates thereon in use, and more specifically it relates to a certain novel construction and method of mounting the scrapers whereby they may be effectively and easily shifted along the face of the disk in the manner to be hereinafter particularly pointed out and claimed.

Disk-harrow scrapers have heretofore been constructed of strips or bars of steel mounted in gangs (one scraper for each disk) and arranged to be oscillated from the center of the disk to its periphery to clear the disk of accumulations; but to accomplish this movement, inasmuch as to maintain its close contact with the disk the scraper must move both longitudinally and laterally, the rods or frame carrying the scrapers have been pivoted to rotate and at the same time arranged to slide laterally, and two sets of springs have been necessary to return the scrapers to their normal position.

The special novelty of my invention relates to my method of mounting the scrapers whereby but a single spring is required to return the scrapers to normal inactive position, and the oscillation of the scraper-bar is obtained by a single movement at the necessary oblique angle.

I have illustrated in the drawings only as much of a harrow as is necessary for a clear understanding of my invention.

In the drawings, Figure 1 is a rear elevation of one gang of a disk harrow, showing my invention. Fig. 2 is a cross-section of same, showing the scraper in its normal inactive

position. Fig. 3 is a similar section showing the scraper in use. Fig. 4 is a perspective view of one of the scrapers and the casting for attaching it to the bar. Fig. 5 is a top plan view of the housing and spring for returning the scrapers to normal position. Fig. 6 is a side view of one of the castings in which the scraper-bar is mounted on the frame.

A is the gang-beam, from which are suspended, by suitable hangers *a a*, the gang of disks B B, which disks are mounted on the usual axle *b* and kept at the desired distance apart by the usual thimbles *c c*. Any desired construction of harrow, however, can be employed in which rotating disks are employed for action on the ground.

C is the scraper-bar, one of which is provided for each disk gang. Depending obliquely from this scraper-bar are the series of scrapers D D, one for each disk. These scrapers are comparatively thin bars of steel or other suitable material riveted to the angle-plates E, which plates are secured by the bolts *d d* to the scraper-bar C at suitable points, the bar being preferably slotted at the points of attachment, so as to allow an independent lateral adjustment of each scraper.

The plates E are formed in such shape that the scrapers when secured to the scraper-bar will extend downward at an oblique angle to bring the operating end of the scraper in contact with the concave surface of its corresponding disk.

The scraper-bar is mounted in the castings F F, which are bolted to the gang-beam. These castings are provided with triangular openings *f*, through which the scraper-bar passes, the openings being wider at the bottom than at the top, and the bar is mounted loosely in these castings, so that it can oscillate obliquely therein, the amount of oscillation being controlled and regulated by the set-screw *g*.

Mounted in a housing or box G, bolted at an oblique angle to the under side of the gang-beam A, is a bolt *h*, upon which is mounted the coiled spring *l*, bearing between the head of the bolt and the box. The outer end of this bolt is coupled to the scraper-bar C by the casting *m*, bolted thereto, and a nut on the end of the bolt permits the tension of the

coiled spring to be regulated as desired. Secured to the scraper-bar and extending to the front of the gang-beam is the foot-lever H, by means of which the scrapers are thrown into action. The tension of the coiled spring 5 l will normally hold the scraper-bar vertical, resting against the inner sides of the supporting-castings F F, and in this position the scrapers are so secured that their lower edges 10 will extend toward the center of the disks in contact therewith, as shown in Fig. 2. When it is desired to clean the disks, the operator presses down the foot-lever, which oscillates the scraper-bar and at once brings tension to 15 bear upon the coiled spring. As this spring is attached at an oblique angle to the scraper-bar, the pull of the spring is lateral as well as transverse, and the movement of the scraper-bar carries the scrapers along the concave 20 surfaces of the disks to the periphery, conforming to the shape of the disks, and thus by reason of the mounting of the scraper-bar loosely on the triangular-shaped castings a single spring acting obliquely on the scraper 25 is all that is required to obtain the desired movement. When the foot-lever is released, the coiled spring at once returns the scraper-bar to its normal position, as shown in Fig. 2.

The foot-lever, it will be understood, is located in convenient position for the foot of 30 the driver as he occupies the harrow-seat. A hand-lever, however, can be substituted for the foot-lever, if desired.

When it is desired to regulate the throw of 35 the scrapers, this can be done, as will be readily understood, by adjusting the set-screws g g.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. In a disk harrow, the combination with the gang-beam, of castings secured thereto, provided with openings wider at one side than at the other, a scraper-bar loosely mounted in said castings, means for rocking said bar, 45 and spring connecting said scraper-bar and gang-beam, said spring bearing on said scraper-bar at an oblique angle thereto, substantially as shown and described.

2. In a disk harrow, the combination with the gang-beam, of castings secured thereto, provided with substantially-triangular openings, a scraper-bar loosely mounted in said castings, means for rocking said bar, a coiled spring connecting said scraper-bar and gang-beam, said spring bearing on said scraper-bar at an oblique angle thereto, substantially as 55 shown and described.

3. In a disk harrow, the combination with the gang-beam, of castings secured thereto, provided with substantially-triangular openings, a scraper-bar loosely mounted in said castings, means for rocking said bar, a box or housing secured obliquely to the gang-beam, a bolt mounted in said housing and connected 65 at an oblique angle to said scraper-bar, with a coiled spring bearing between said bolt and housing, to draw said scraper-bar laterally when oscillated and set-screws to limit the oscillation of said scraper-bar, substantially as 70 shown and described.

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Witnesses:

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