

(No Model.)

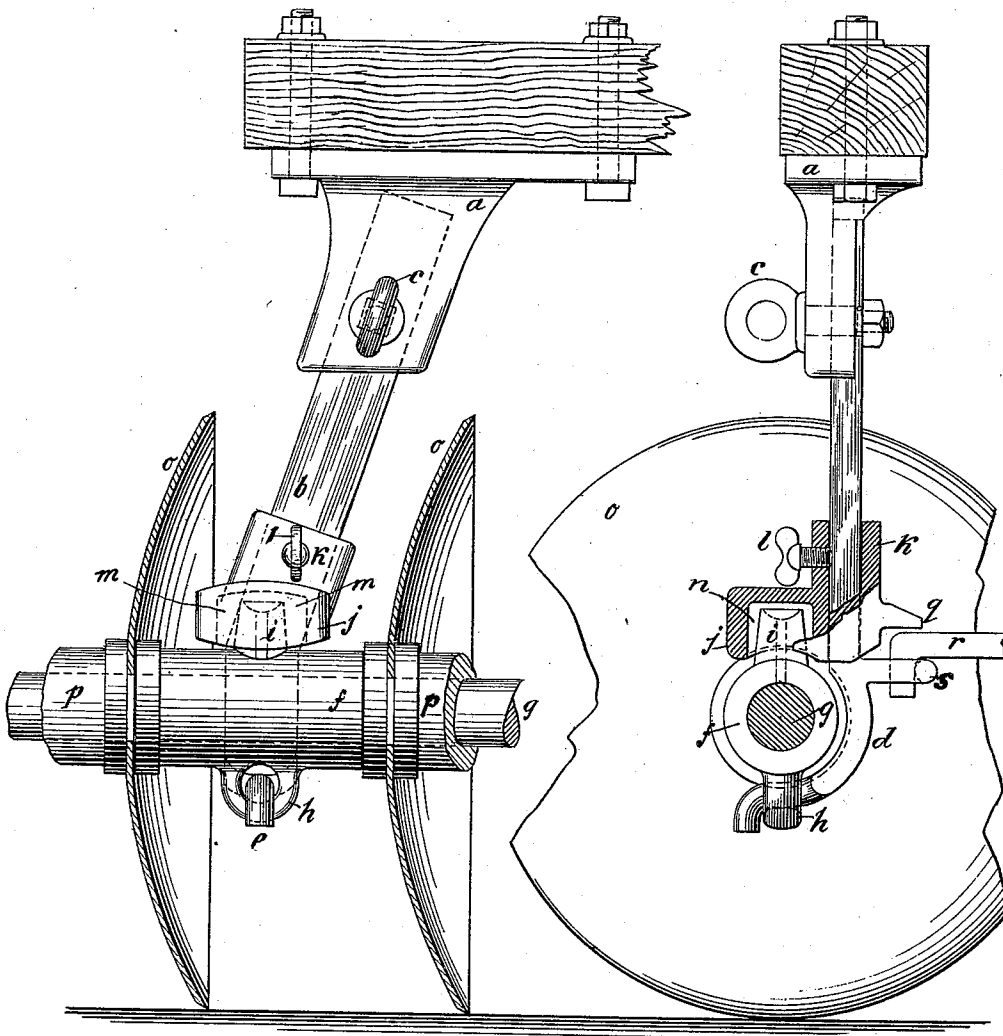
A. G. HILL.
DISK HARROW.

No. 464,317.

Patented Dec. 1, 1891.

FIG. 1.

FIG. 2.



WITNESSES:

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DISK HARROW.

SPECIFICATION forming part of Letters Patent No. 464,317, dated December 1, 1891.

Application filed December 22, 1890. Serial No. 375,420. (No model.)

To all whom it may concern:

Be it known that I, ANDREW GEORGE HILL, a citizen of the United States, and a resident of the city of Prescott, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Disk Harrows, of which the following is a specification, reference being had to the drawings forming part thereof.

This invention principally relates to, first, in a disk harrow, the combination of a main beam down-hanger containing a curved and hooked lower end with a disk-gang-axle journal containing a loop on its underneath side for engaging with said hook end and a lug on its upper side, and a casting capable of vertical movement upon the down-hanger having a recess on its lower side for retaining the lug of the disk-gang-axle journal; second, in a disk harrow, the combination, with a main-beam down-hanger contained on the lower portion of the hanger, of a casting removable from the upper portion of the hanger and containing means to aid in retaining the journal of the disk-gang axle on the lower portion of the hanger, the hanger constructed at its lower end of a curved shape.

In the drawings, Figure 1 is a rear view of a down-hanger and of a portion of the disk-gang connected therewith; and Fig. 2 is a vertical cross-section of the same, taken in the line *x x* of Fig. 1.

a is one of two castings bolted to the underneath side of the main beam of the harrow. The one shown is for the left-hand down-hanger to be attached to.

b is the down-hanger, the upper end of which is bolted to the casting *a* by the bolt *c*. The eye of this bolt, facing to the rear, serves as a means for connecting one end of the scraper-beam link. The lower portion *d* of the down-hanger is curved rearwardly, and at its extreme lower end *e* downwardly, so as to partly embrace and retain the journal *f*, within which revolves the disk-gang axle *g*. The journal forming a bearing for this axle has an eye *h* at its lower portion, through which the end *e* of the hanger passes. At its upper portion it has a lug *i*, which is retained in a recess of a casting *j*, containing a hollow stem *k*, through which latter passes the up-

per portion of the hanger *b*. A set-screw *l* on the hollow stem *k* serves to lock this movable casting *j* in its proper position on the hanger that it may retain the journal on the lower portion of the hanger.

When it is desired to remove the journal from the down-hanger, the set-screw *l* is unscrewed, and the casting *j* can then be moved upon the down-hanger, and thus by releasing the lug *i* the journal can be turned in a downward direction, thereby releasing the eye *h* from the hook-shaped lower end *e* of the down-hanger.

In case of breakage of the casting *j* the upper end of the down-hanger can be drawn through its hollow stem *k*, after releasing the down-hanger from the casting *a*, so as to replace such casting with another. In order to permit of the vertical movement of the ends of the disk-gang, there is an elongated recess *m* in the casting. This limits the vertical play or movement of the disk-gang. The width of this recess in the other direction—namely, at right angles to the axle of the disk-gang, (see Fig. 2 at *n*)—is just sufficient to allow easy clearance to the faces of the lug *i*, and so as not to cause any binding action when the gang is given a working angle. In the lug *i* is an oil-stem, by means of which the axle-bearing is lubricated.

The disks *o o*, &c., are rigidly connected to spacing-spools *p p*, which latter in turn are rigidly secured to the axle of the disk-gang turning within the journal. The upper portion of the down-hanger should be inclined, the left-hand one to the left, as shown in the drawings, and the right-hand one to the right, in order that the outer portions of the disks may be equally distant from the down-hanger as they are being rotated. This permits of the inner and outer ends of the disk-gang to alternately rise and fall without coming into contact with the upper portion of the down-hanger.

On the front side of the casting I may place a projecting lug *q*. This will prevent the hooked end of the disk-gang brace *r* from coming out of the eye *s* on the down-hanger during the working of the harrow.

I claim—

1. In a disk harrow, the combination of a

- down-hanger containing a curved and hooked lower end with a disk-gang-axle journal containing a loop in its underneath side for engaging with said hook end, and a lug on its upper side, and a casting capable of vertical movement upon the down-hanger, having a recess on its lower side for retaining the lug of the disk-gang-axle journal, substantially as described.
- 10 2. In a disk harrow, the combination of a main beam, a down-hanger provided with a casting on the lower portion thereof, said casting being removable from the upper portion of the same and constructed to aid in retaining the journal of the disk-gang in engagement with the curved lower end of said hanger, substantially as described. 15

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Witnesses:

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