

(No Model.)

A. G. HILL.
DISK HARROW.

No. 464,317.

Patented Dec. 1, 1891.

FIG. 1.

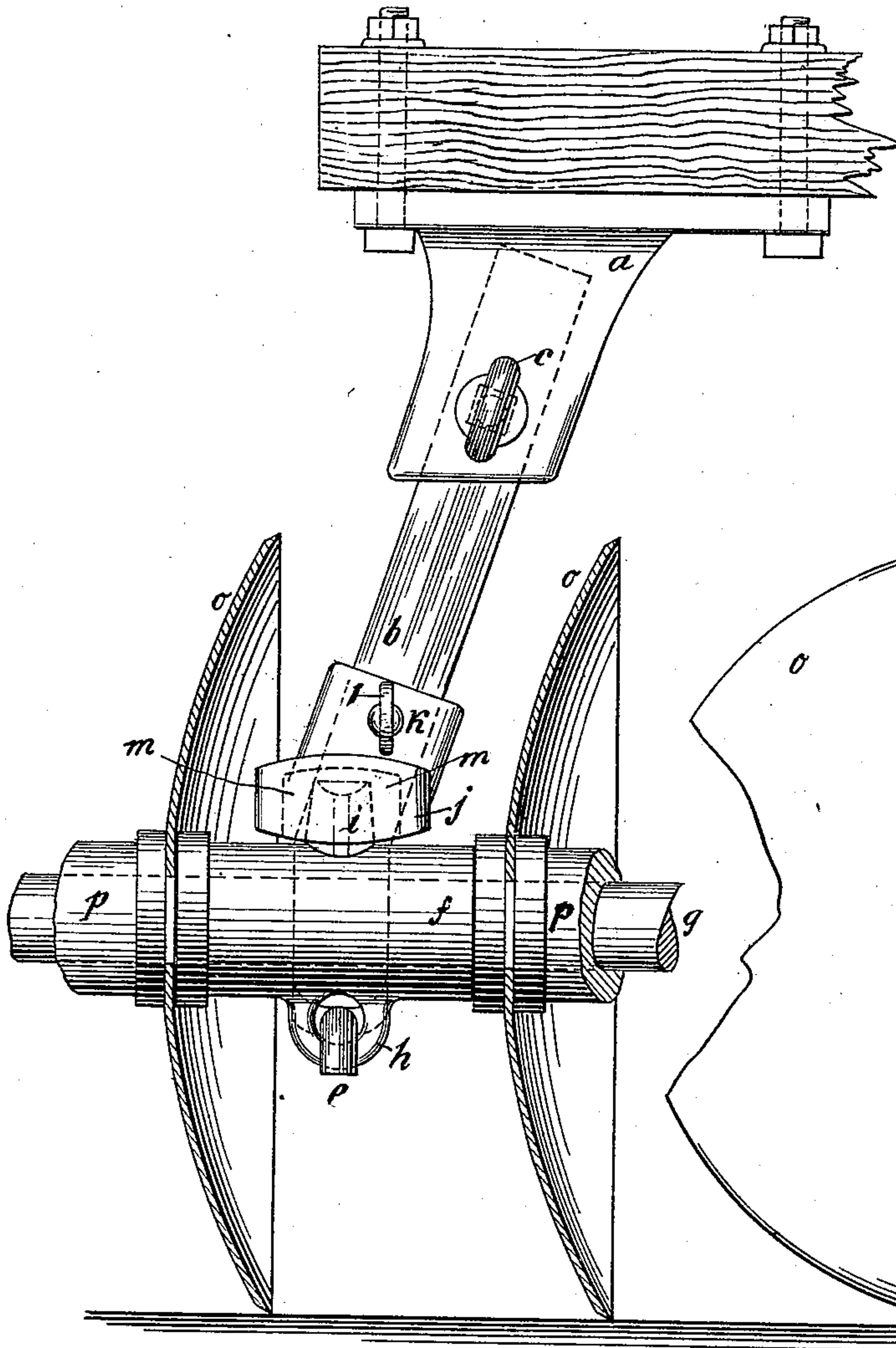
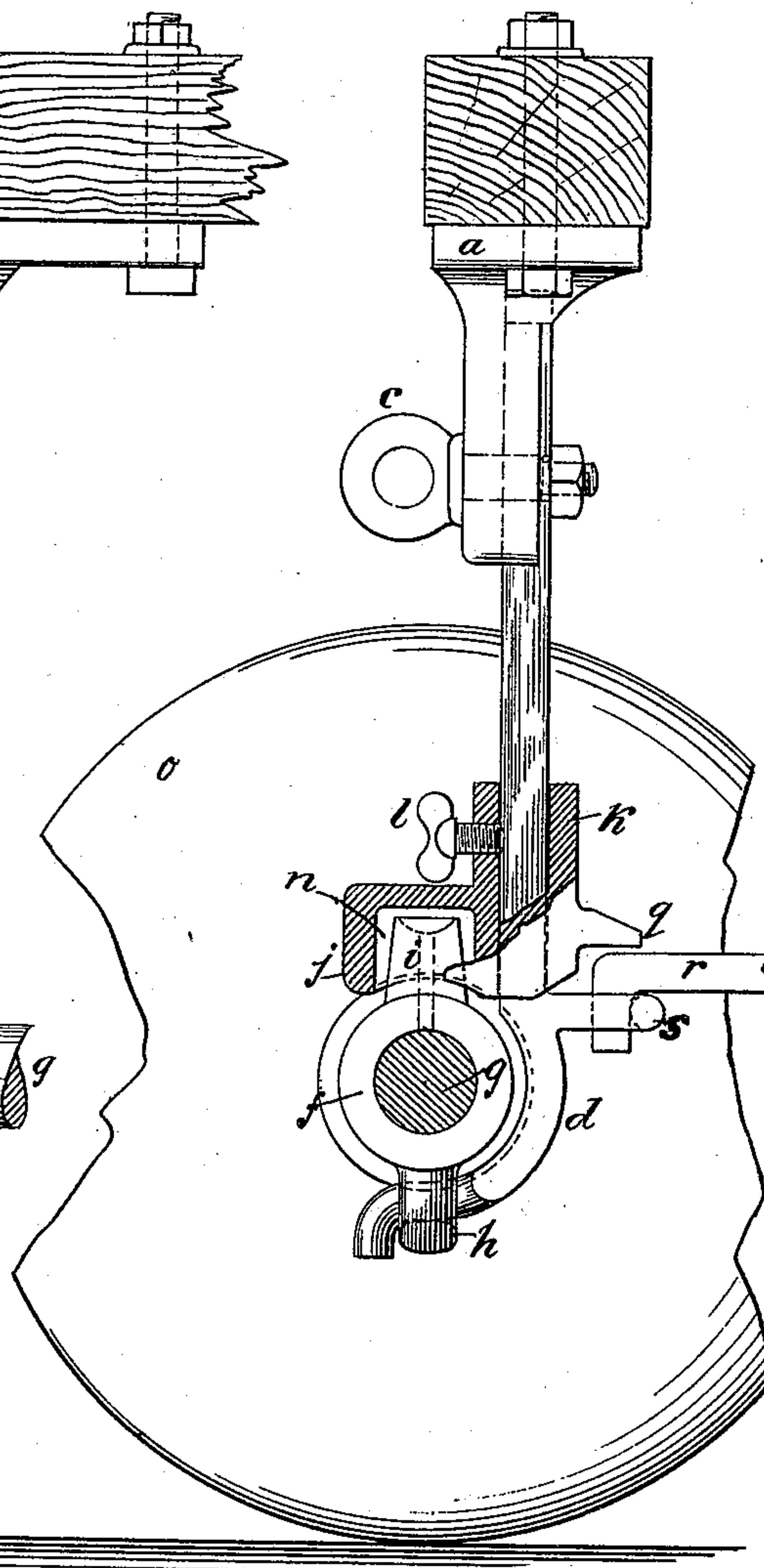


FIG. 2.



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.

10 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
15 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,
20 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
25 of the disk-gang axle on the lower portion of the hanger, the hanger constructed at its lower end of a curved shape.

30 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.

35 *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.

40 *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*,
45 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
50 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
55 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
60 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
65 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*,
70 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
75 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
80 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
85 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.
90

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.
100

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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