

No. 659,880.

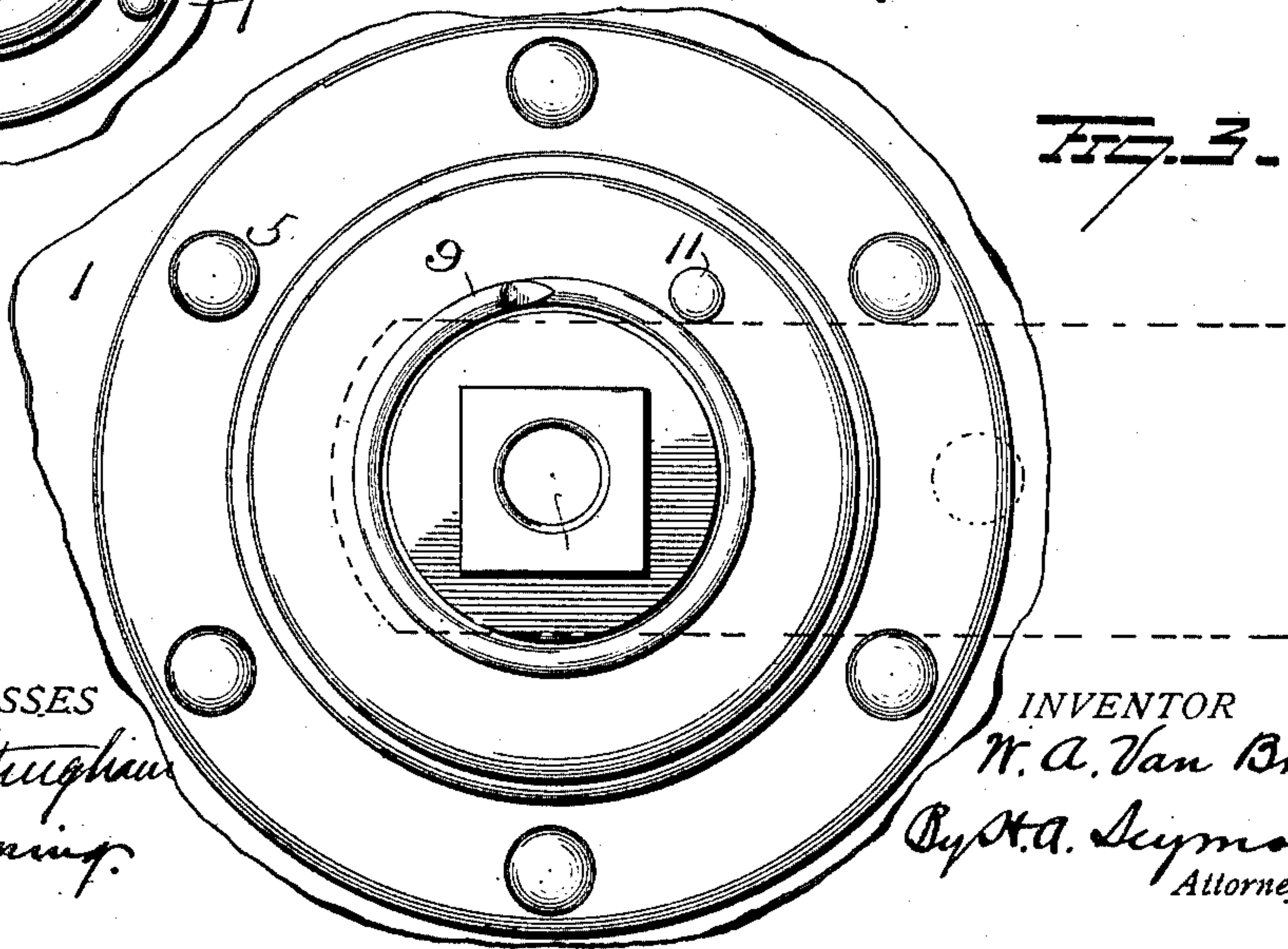
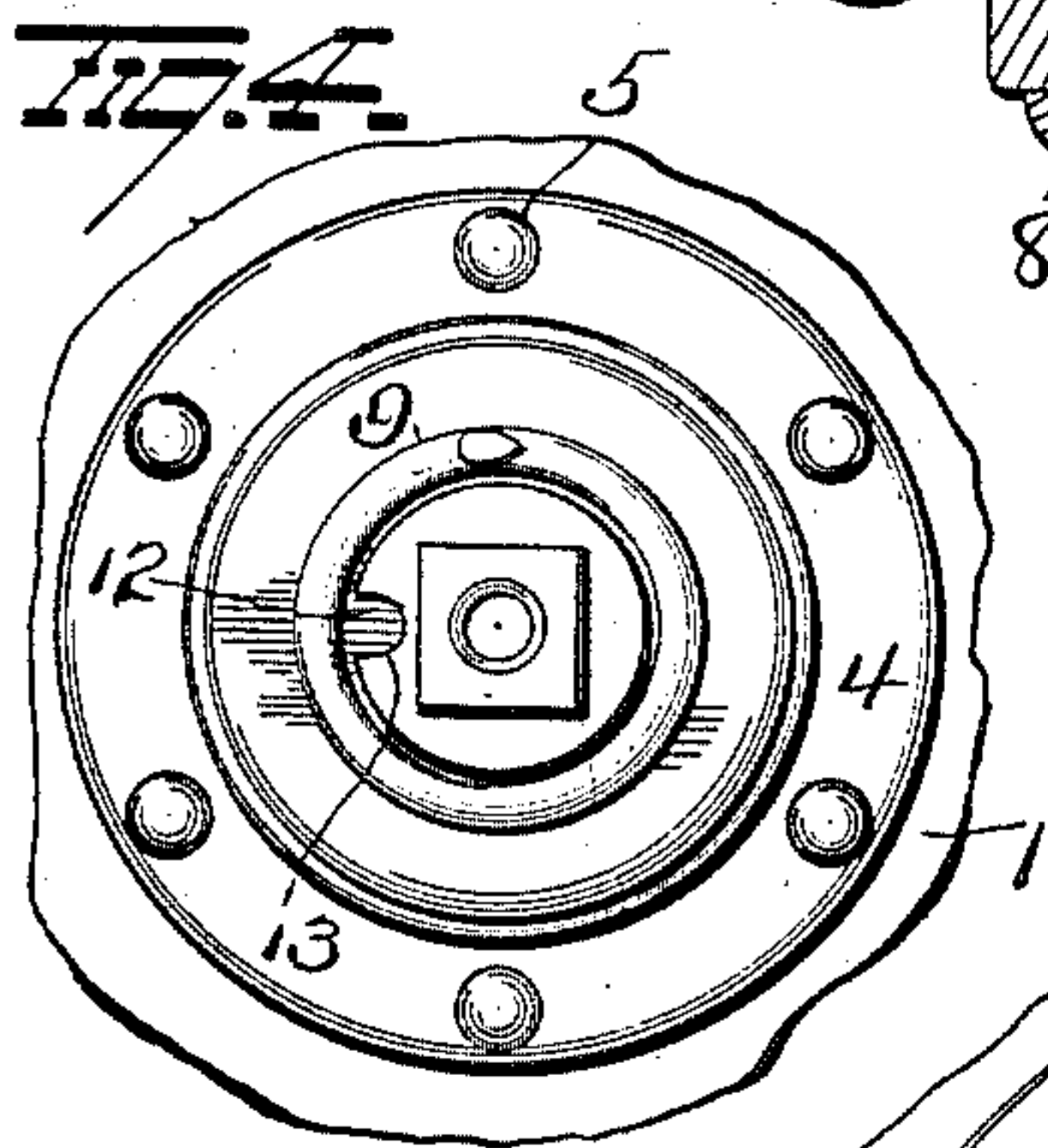
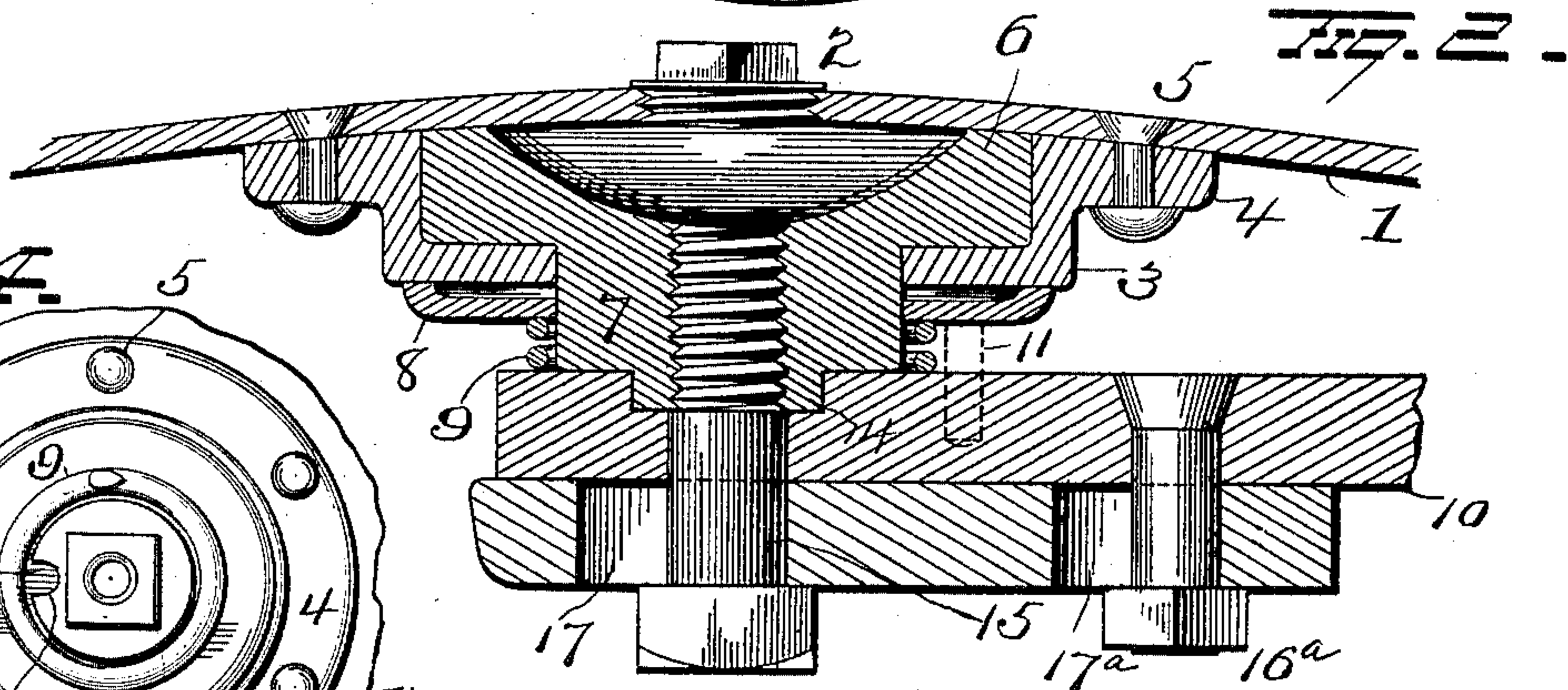
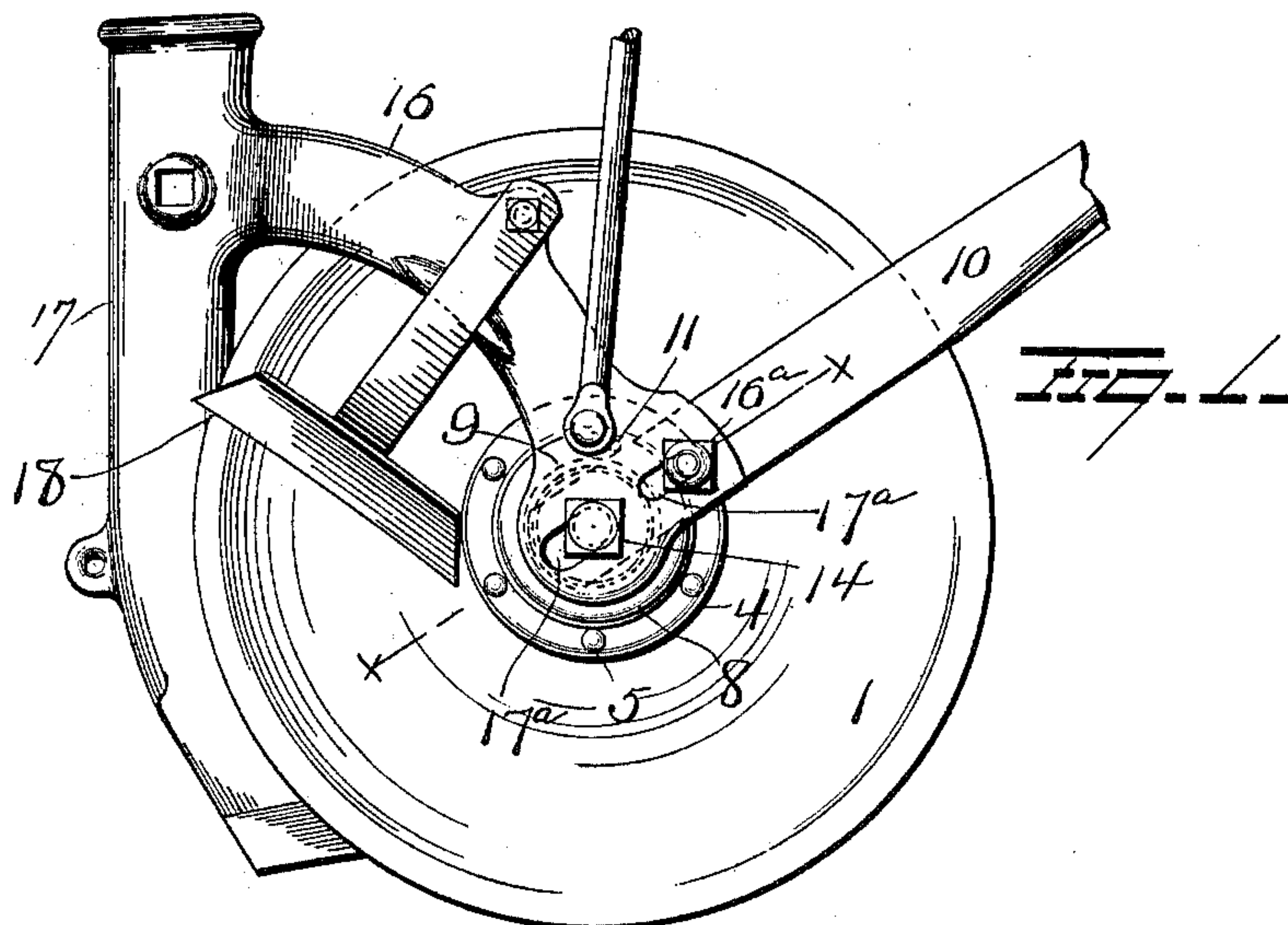
Patented Oct. 16, 1900.

W. A. VAN BRUNT.
GRAIN DRILL.

(Application filed Aug. 1, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES
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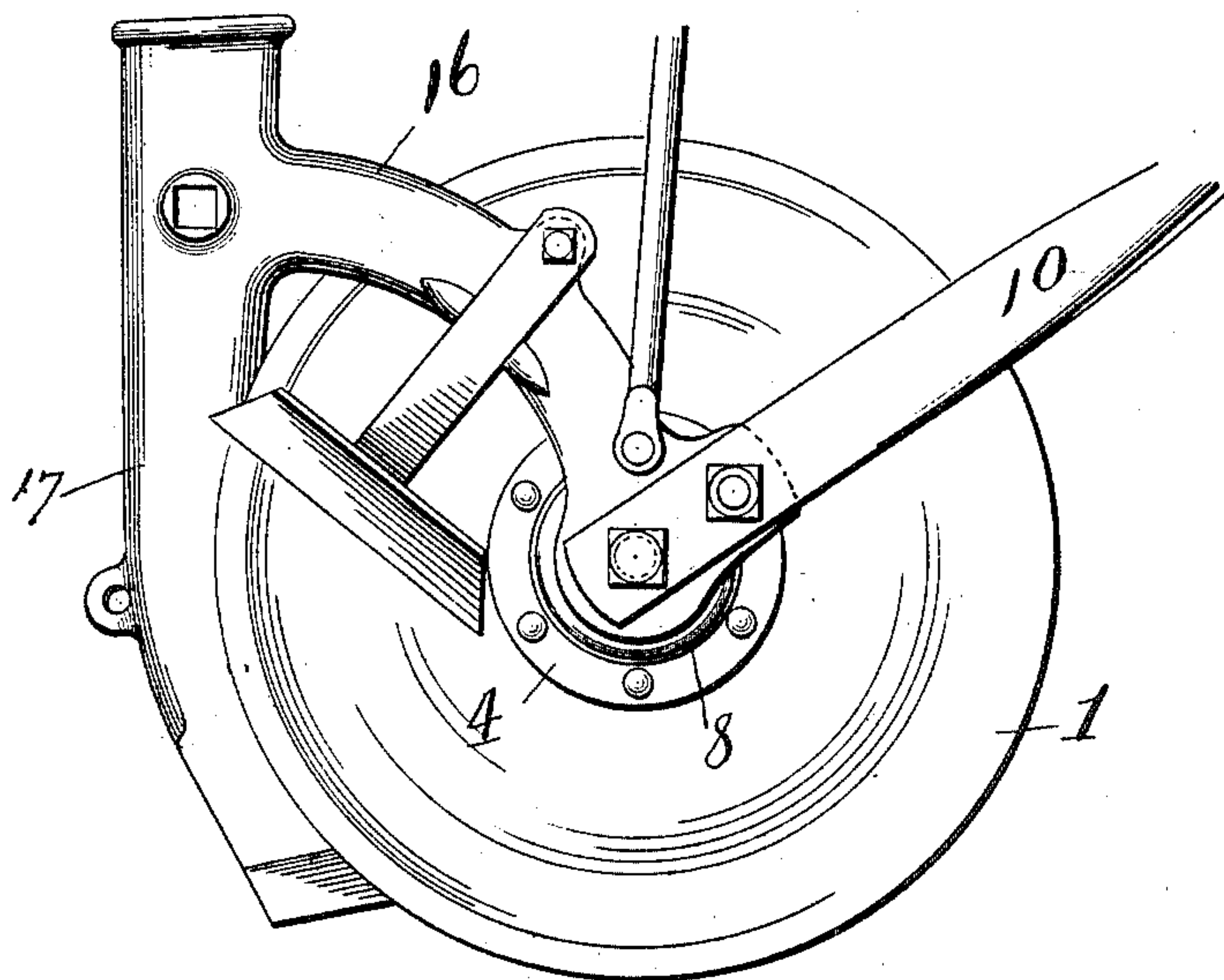
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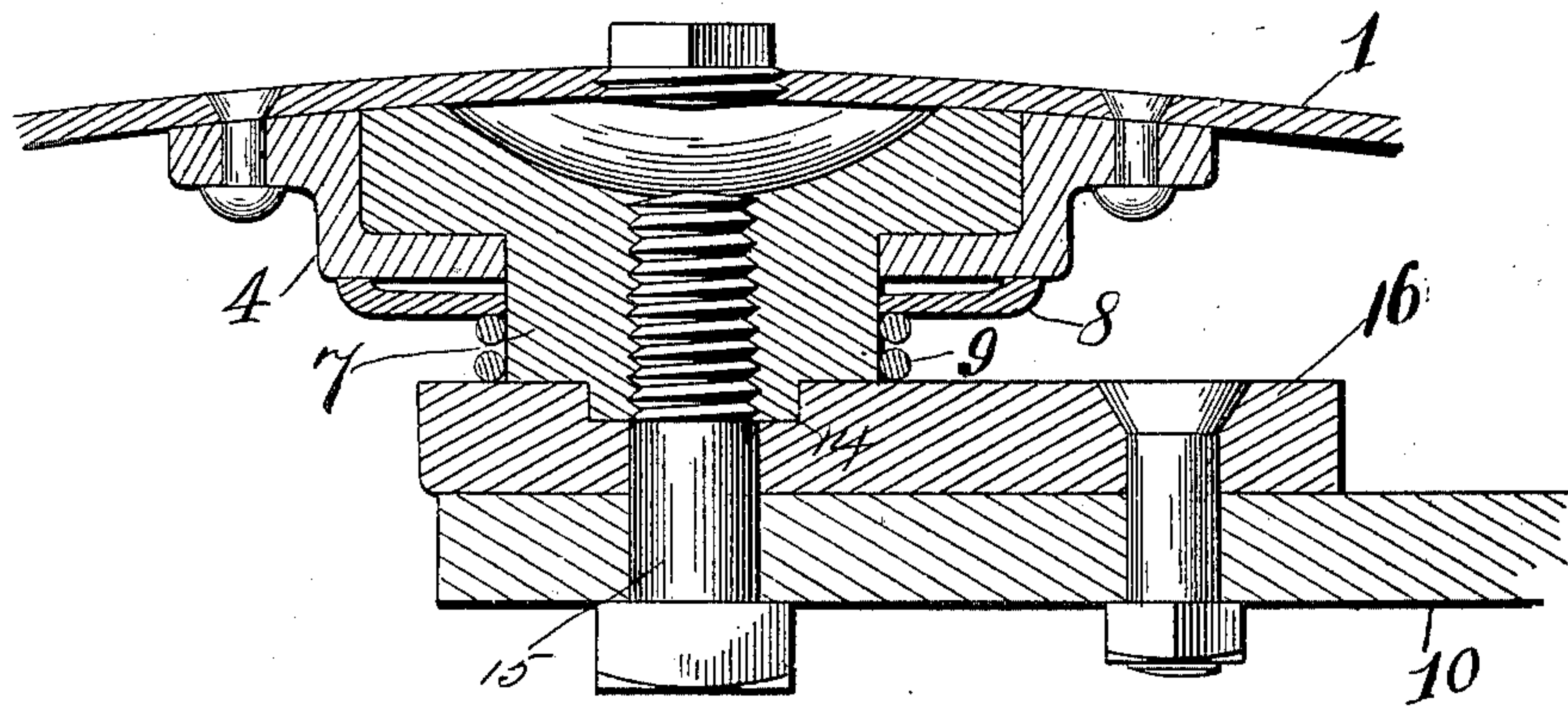
(No Model.)

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7.5.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLARD A. VAN BRUNT, OF HORICON, WISCONSIN.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 659,880, dated October 16, 1900.

Application filed August 1, 1900. Serial No. 25,572. (No model.)

To all whom it may concern:

Be it known that I, WILLARD A. VAN BRUNT, of Horicon, in the county of Dodge and State of Wisconsin, have invented certain new and
5 useful Improvements in Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 My invention relates to an improvement in grain-drills, and more particularly to the means for mounting the disk furrow-opener on the drag-bar; one object being to provide means for positively preventing the entrance
15 of dirt or grit between the moving surfaces thereof.

A further object is to provide means for adjusting the boot with relation to the disk as the latter wears away.

20 With these objects in view my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is
25 a view in side elevation, showing the disk furrower and boot secured to the drag-bar. Fig. 2 is a view in section on the line *xx* of Fig. 1. Fig. 3 is a view in elevation of my improvement, the drag-bar and boot being
30 removed. Fig. 4 is a similar view of a modification; and Figs. 5 and 6 are views in elevation and section, respectively, of a modified form.

1 represents the furrow-opener, of concavo-
35 convex disk form, provided centrally with a screw-threaded opening adapted to be closed by the screw-plug 2, the latter having an angular outer end for the attachment of a wrench.

40 Riveted to the concave face of the disk and concentric to the central opening therein is the bearing or box 3. This box 3 is open on its inner face and is provided with a flange 4, the inner surface of which is shaped to form
45 a close union with the face of the disk 1 and is permanently secured to the disk by the rivets 5. The box 3 receives and forms a bearing for the cylindrical hub 6, which snugly fits within the box and forms the bearing on
50 which the box 3, carrying the disk 1, turns. The outer end of the hub 6 is reduced in size, as at 7, and this reduced portion, which is also

cylindrical in shape, passes through a central cylindrical opening in the outer face of the box. The opening in the box and the reduced
55 portion 7 of the hub 6 are made to fit snugly, so as to prevent to a large extent the entrance of any dust between the box and hub, and to further protect these moving surfaces from the entrance of dust and grit I have provided
60 the dust-cap 8. This cap is saucer-shaped and is mounted on the reduced portion 7 of the hub 6, with its outer edge in contact with the outer surface of box 3, near the periphery of the latter. The cap forms a close joint with
65 the hub, while the edge of the cap, which is preferably ground to make close contact with the outer face of the box, positively excludes all dirt and dust at this point. The cap 8 is
70 yieldingly held in contact with the box 3 by the spring 9, the outer end of which latter bears against the drag-bar 10 and is prevented from rotating with the box 3 by the pin or
75 lug 11 bearing against the upper edge of the drag-bar.

Instead of employing a pin or lug 11, as
above explained, the cap 8 may be provided with a projecting finger 12, resting in a slot
80 13 in the reduced portion 7 of the hub 6, as shown in Fig. 4.

The outer end of the reduced portion 7 of the hub 6 is preferably made angular, as at
85 14, to enter a similarly-shaped socket in the adjacent face of the drag-bar 10, and these two parts are locked together by the screw-bolt 15.

Carried by the drag-bar is the bracket 16, preferably integral with the boot 17. This bracket is secured against the outer face of the drag-bar by the bolts 15 and 16^a, which
90 pass through elongated slots 17^a in the bracket, so as to permit the boot to be moved or adjusted toward the disk as the latter wears away. The bracket 16 is curved near its upper end, so as to bring the boot adjacent to
95 the convex face of the disk.

With this construction it will be seen that all the bearings and moving surfaces of the device are on the concave side of the disk, thus leaving the convex side, against which
100 the soil is thrown by the adjacent disk of the gang, completely closed, while the concave side, which carries the bearings, is fully protected by the dust-cap.

The face of the hub 6 adjacent to the disk is recessed, as shown, to form an oil-chamber. The oil is fed in through the opening closed by the removable plug 2 and thoroughly lubricates the adjacent surfaces of the box and hub.

In the construction shown in Figs. 1 and 2 the hub is connected directly with the drag-bar and the boot is carried by the bracket 16, the spring 9 holding the dust-cap in position by its engagement with the drag-bar. In the construction shown in Figs. 5 and 6 I have provided the bracket 16 with a recess to receive the hub, so that in this modified construction the spring 9 rests between the dust-cap 8 and bracket 16, the drag-bar being secured to the outer face of the bracket, substantially as shown in my application Serial No. 9,261, filed March 19, 1900.

It is evident that many slight changes might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction herein shown and described; but,

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

1. The combination with a disk and a bearing-box secured thereto, of a hub seated within the box, and a spring-pressed dust-cap mounted on the hub and bearing against the box.

2. The combination with a disk and a bearing-box secured thereto, of a hub seated within the box and having a reduced end which passes through the opening in the box, and a spring-pressed dust-cap mounted on the hub and bearing against the box.

3. The combination with a disk and a bear-

ing-box secured thereto, of a hub secured to a drag-bar and seated within the box, and a spring-pressed dust-cap mounted on the hub and bearing against the box.

4. The combination with a disk and a bearing-box secured thereto, of a drag-bar, a hub carried thereby and seated in the box, a saucer-shaped dust-cap mounted on the hub and bearing against the box and a spring for yieldingly holding the cap in contact with the box.

5. The combination with a disk and a bearing-box secured thereto, of a drag-bar, a hub carried thereby and seated in the box, a saucer-shaped dust-cap mounted on the hub and bearing against the box, a spring for yieldingly holding the edge of the cap against the box and means for preventing the cap from rotating with the disk.

6. The combination with a disk and a bearing-box secured thereto, of a drag-bar, a hub carried thereby and seated in the box, a spring-pressed cap for preventing the entrance of dust to the inside of the box, and a bracket carrying a boot, the said bracket being adjustably secured to the drag-bar.

7. The combination with a disk having a central screw-threaded opening, a screw-plug for closing said opening and a bearing-box secured to the concave side of the disk, of a drag-bar, a hub carried thereby and provided with a recess the latter coinciding with the opening in the disk, and a yielding dust-cap interposed between the drag-bar and box and bearing against the latter.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLARD A. VAN BRUNT.

Witnesses:

F. W. ANDERSEN,
F. H. DAVIS.