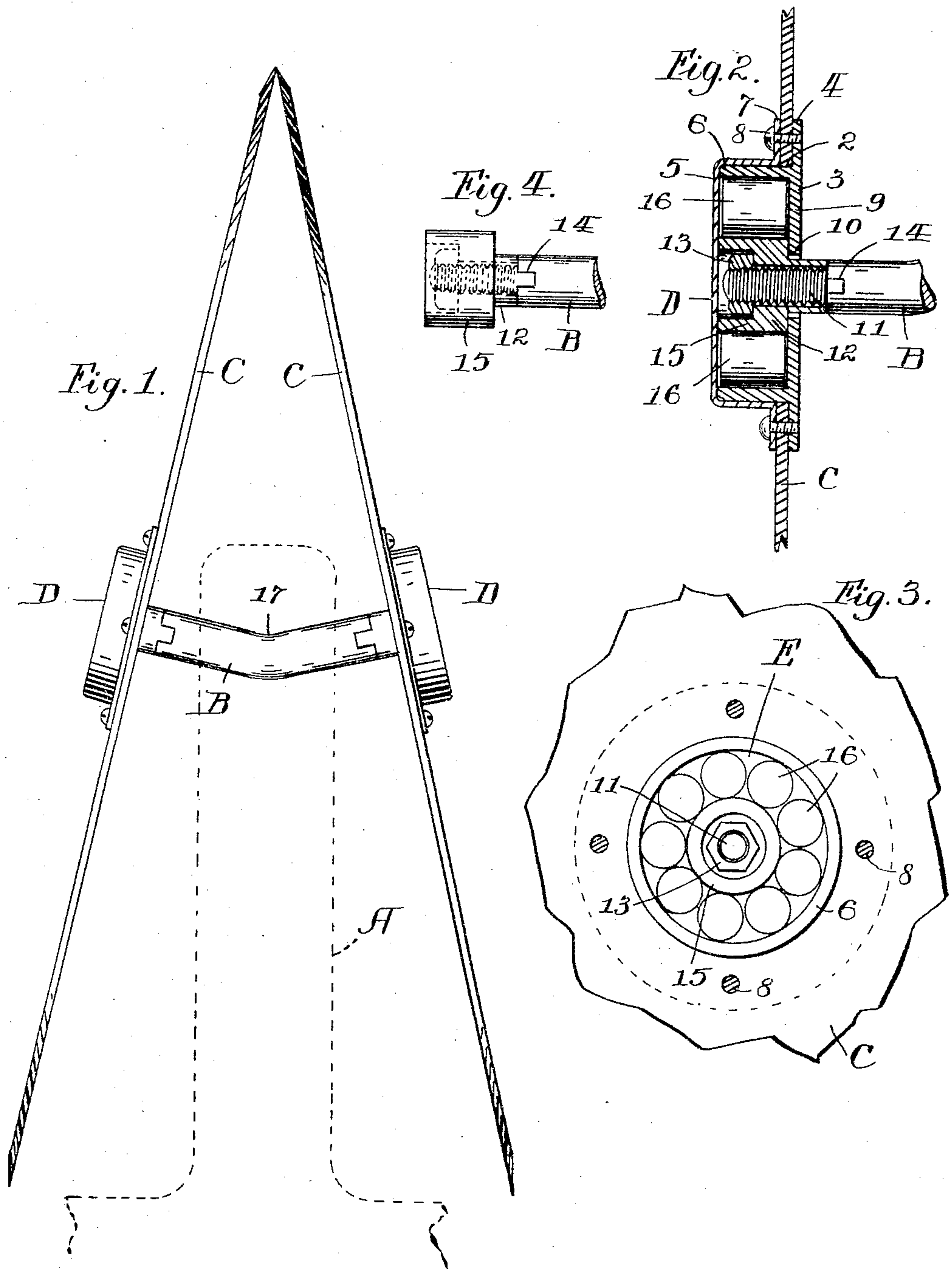


No. 779,571.

PATENTED JAN. 10, 1905.

B. ARMBRUSTER.  
DISK SEED DRILL.

APPLICATION FILED OCT. 28, 1903.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

BERNHART ARMBRUSTER, OF ST. PAUL, MINNESOTA.

## DISK SEED-DRILL.

SPECIFICATION forming part of Letters Patent No. 779,571, dated January 10, 1905.

Application filed October 28, 1903. Serial No. 178,811.

*To all whom it may concern:*

Be it known that I, BERNHART ARMBRUSTER, a citizen of the United States of America, and a resident of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Disk Seed-Drills, of which the following is a specification.

My invention relates to improvements in disk seed-drills, and relates more particularly to the mechanism for journaling the disks on the frame of the machine.

The object of this invention is to produce an improved construction which reduces the wear of the parts of the journal and increases the strength of the connections between the frame and the disks.

To the above ends my invention consists, primarily, of an axle for supporting the disks and roller-bearings connected with said axle and disks.

This invention further consists of the features of construction and combination of parts hereinafter more particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a pair of disks, showing the frame on which said disks are mounted indicated by broken lines. Fig. 2 is a detail sectional view of one of the bearings by which each disk is journaled upon the shaft. Fig. 3 is a side view of Fig. 2, showing the bearing-cap removed; and Fig. 4 is a detail view of the clutch on the shaft.

In the drawings let A represent a portion of the frame of the machine; B, the axle, which is attached to said frame in any suitable manner; C C, the disks, and D D the roller-bearings by which said disks are journaled upon the ends of said axle or shaft. The disks are of ordinary construction and are provided with a central opening 2, through which the cup 3 of the bearing projects. This cup is formed with the flange 4. A cap or housing 5 fits over the projecting portion 6 of the cup and is also formed with the flange 7. The disk is fastened between the flanges by means of the screws 8. The center of the cup 9 is

perforated at 10, so that the cup turns loosely around the axle. Each end of the shaft has a threaded stud 11, on which the bearing 12 is attached by means of the nut 13 and the toothed connection 14. This bearing is formed with a cylindrical head 15, which rests freely between the walls of the cup and cap. A series of rollers 16 are placed in the runway E, which is formed by the inner walls of the cup and cap and the cylindrical surface of the head. In practice I construct parts of my invention out of steel, which is hardened for this purpose, although it is obvious that any suitable material may be used.

By the construction above specified a strong journal is produced which reduces the wear of the parts and prevents lateral movement of the disk on the shaft.

The shaft or axle which I have shown is curved at 17 for the purpose of holding the disks at an angle, as shown. I have usually cast this shaft in the frame A; but it is obvious that it may be attached in any suitable manner.

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

1. A device of the class set forth, consisting of a pair of disks arranged at an angle to each other, an axle curved between its ends, a frame between said disks and attached to said axle, roller-bearings between said disks and the ends of said axle, housings over said bearings, and means for attaching said housings to the outer faces of said disks.

2. A device of the class set forth, consisting of a pair of disks arranged at an angle to each other, an axle curved between its ends and roller-bearings between the ends of said axle and disks, said bearings consisting of heads, means for detachably fastening said heads to the ends of said axle, cups, means for fastening said cups to said disks; said cups and heads forming runways, series of rollers in said runways, housings, and means for fastening said housings over said cups.

3. A device of the class set forth, consisting of a pair of disks C C arranged at an angle to each other, an axle B curved between its ends,



a frame between said disks and attached to  
said axle, and roller-bearings between the  
ends of said axle and disks; said bearings con-  
sisting of a pair of cylindrical heads 15,  
5 threaded studs 11 on the ends of said axle,  
threaded nuts by which said heads are fas-  
tened in place, toothed connections between  
said heads and ends of said axle, cups 3 on  
the sides of said disks to form runways  
10 around said heads, series of rollers in said

runways, and housings over said cups and on  
the sides of said disks.

In testimony whereof I have signed my name  
to this specification in the presence of two sub-  
scribing witnesses.

BERNHART ARMBRUSTER.

Witnesses:

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F. G. BRADBURY.