

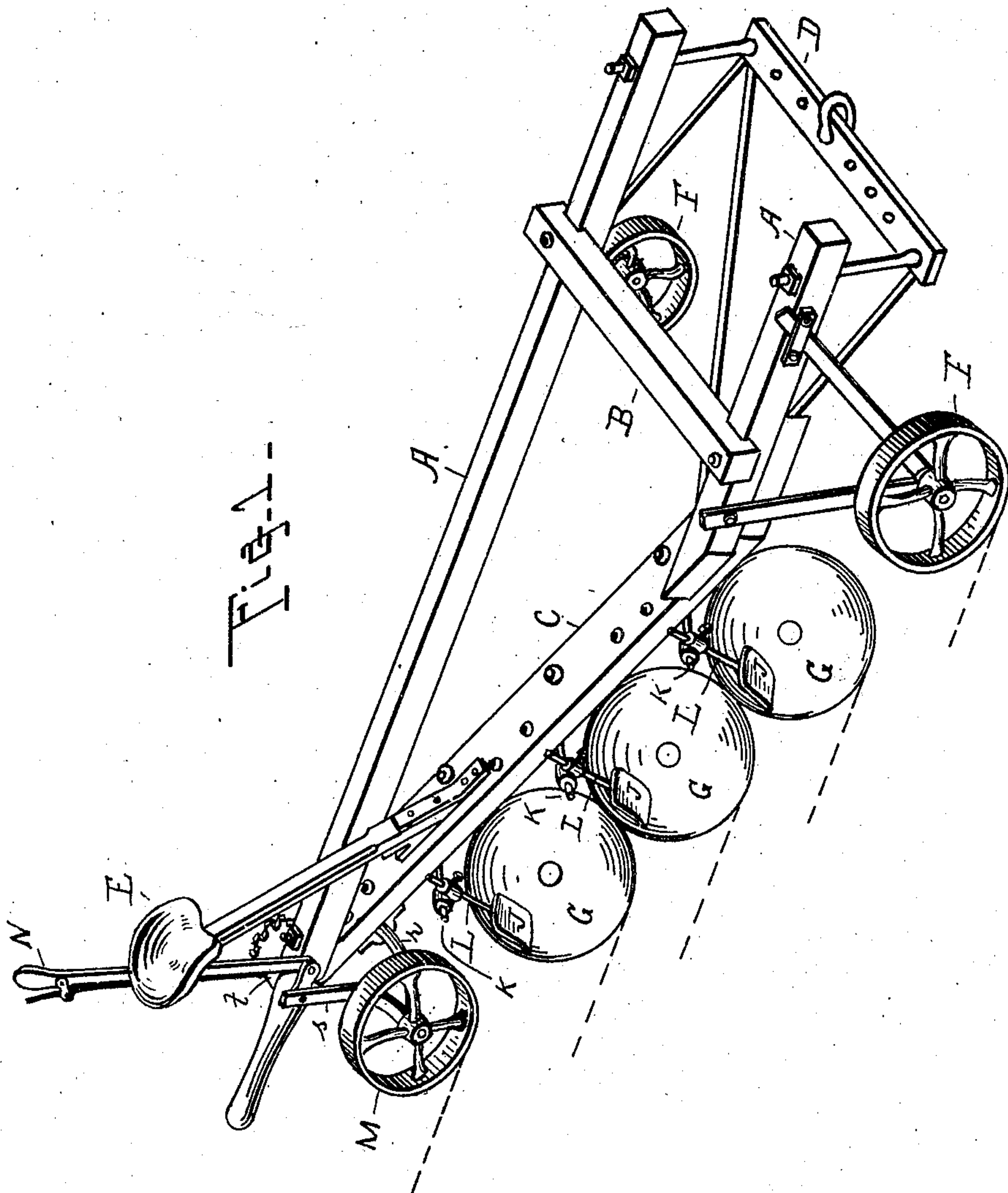
No. 806,322.

PATENTED DEC. 5, 1905.

W. S. COOK.
DISK PLOW.

APPLICATION FILED SEPT. 8, 1903.

2 SHEETS—SHEET 1.



Witnesses
J. Corinsson
Chas. S. Baillie

Inventor
William S. Cook
Per A. S. Paré
Attorney

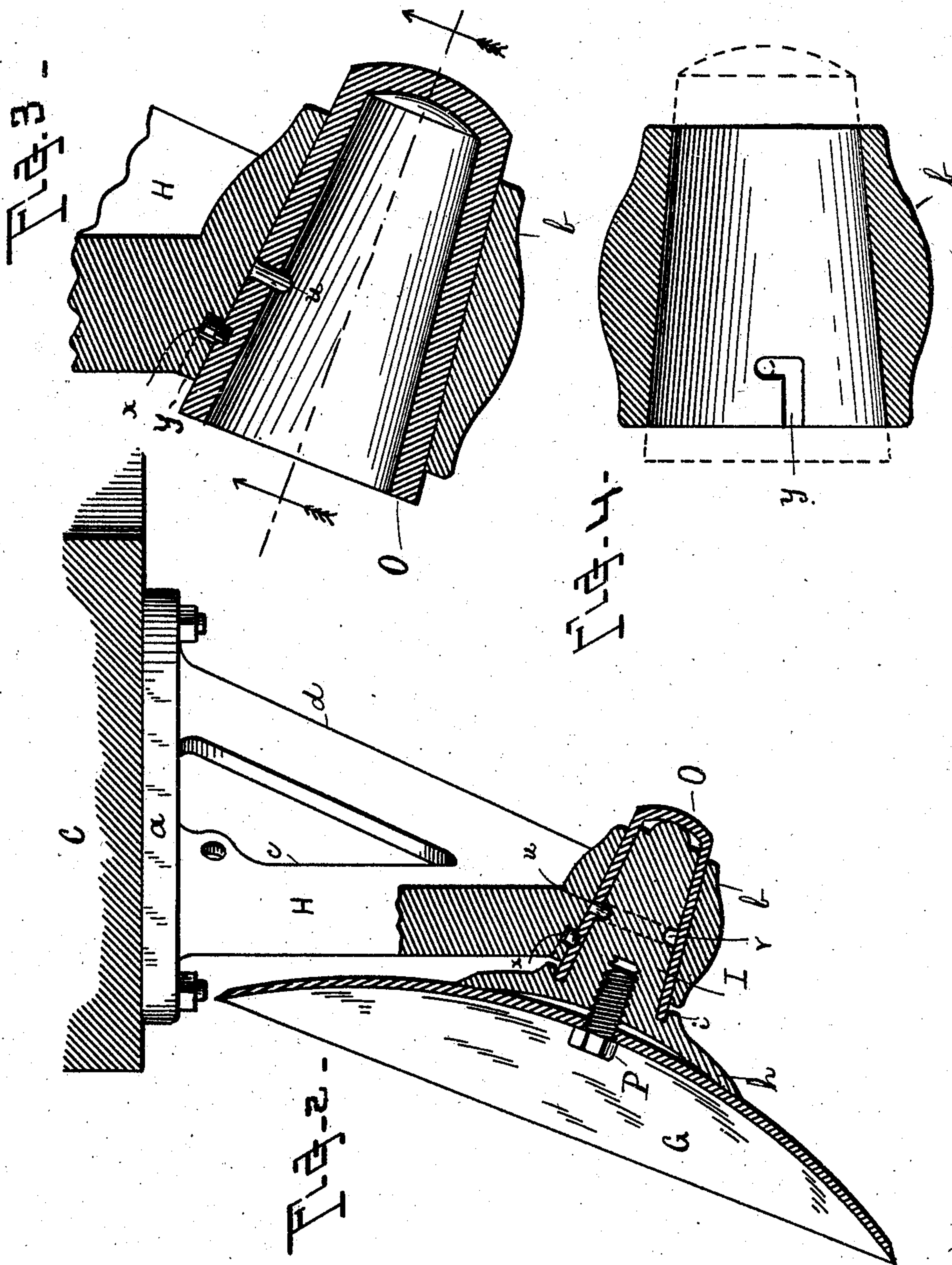
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UNITED STATES PATENT OFFICE.

WILLIAM S. COOK, OF SANTA MARIA, CALIFORNIA.

DISK PLOW.

No. 806,322.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed September 8, 1903. Serial No. 172,377.

To all whom it may concern:

Be it known that I, WILLIAM S. COOK, a citizen of the United States, and a resident of Santa Maria, in the county of Santa Barbara and State of California, have invented certain new and useful Improvements in Disk Plows; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to disk plows, but more especially to the bearings for the disks thereof, and has for its object to provide a bearing which will be protected against access thereto of dust and dirt and will enable the disk mounted in it to rotate with a minimum of friction and the parts readily to be assembled and disassembled.

To this end the invention consists in certain peculiarities in the construction of parts and in certain novel combinations and arrangements of elements, substantially as hereinafter described, and particularly pointed out in the subjoined claims.

Figure 1 is a perspective view of a disk plow embodying my present improvements. Fig. 2 is a sectional elevation through a disk and its journal-bearing embodying my improvements. Fig. 3 is a detail sectional view of the box and shell; and Fig. 4 is a detail sectional view of the box, showing the angular or L-shaped depression thereon.

The same reference-letters designate the same parts in the several views.

C designates a plow-beam or other support, to the under surface of which is suitably secured a standard H, the lower end of which is formed or provided with a journal-box b. Said standard H is preferably provided at its upper end with a flange a for convenience in securing it to said beam and preferably comprises a triangular vertical arm c and a brace-arm d, which extend from the flange to said box b. Said journal-box is inclined upwardly toward its front end and projects outwardly from and parallel to the front face of the arm c, while its rear end also projects outwardly from the side face of the arm c and brace-arm d in diagonal manner. Its opening is gradually decreased in diameter from its front end to its rear end. Fixed in said opening is a shell O, the forward end of which is open, while its rear end is closed, and mounted in said shell so as to rotate therein is an axle I, the forward end of which is expanded and en-

gages the rear surface of the disk G. This disk is secured to the forward end of said axle by a screw-bolt P, threaded into a recess in the axle, as shown, or by any other suitable means.

The front face of the flange h, formed by the expanded portion of the axle I, is concaved in order to form a seat for the convex rear surface of said disk; but the curvatures of said surfaces are preferably of different radii to the end that the disk G will be initially seated solely contiguous to the edge of said flange and can thereby be better adjusted than would be the case if it were initially seated at its center, (contiguous to the screw-bolt P.) The rear closed end of said shell sustains the end thrust of the axle and prevents access of dust to the interior of the bearing at the rear, while the bearing is rendered dust-proof at the front by extending the forward end of the shell into a depression i, formed in the rear surface of the flanged portion of said axle.

In order to reduce friction to a minimum, the rear extremity of the axle is convex and engages the closed end of the shell O throughout a portion only of its said extremity, as shown in Fig. 1.

The shell O is fixed against rotation in the journal-box and at the same time is made capable of ready insertion therein and removal therefrom by means of an interengaging angular depression y formed in one part and a pin x projecting from the other part. Preferably the depression y is formed in the box b and is of L shape and extends inwardly and thence at a right angle in the direction of the rotating movement of the axle, as particularly shown in Fig. 3. Thus by inserting the shell with its pin in the forward open end of said depression and forcing the shell rearwardly into the box and then giving it a partial turn it is secured against movement in the box.

The shell is of cone-frustum shape, as is also the axle I, and one of said parts is provided with a projection u, which is received by an annular recess v, formed in the other part, whereby the axle is held in place and permitted to rotate within said shell. Preferably the projection extends from the shell and the recess extends circumferentially around the axle.

The advantages of this invention will be apparent from the above description and need not be further set forth. It will be understood that in practice a plurality of plow-disks G will be mounted with their above-described bear-

ings out of line with each other along the length of the plow-beam C. In Fig. 1 there is shown a plow comprising two longitudinal frame-beams A A, one of which is shorter than the other; a cross-beam B, connecting said beams A A with each other; a diagonal plow-beam C, extending from the rear end of the shorter longitudinal beam to the rear end of the longer longitudinal beam and to the under side of which the standards H are secured; an equalizing-bar D, secured beneath the forward end of the frame by the usual standards and braces; the driver's seat E, mounted upon the rear end of the plow-beam; supporting-wheels F; movable arm *r*, connected with the steering-wheel M; adjusting-lever N, having a pawl and ratchet *t* for fixing it in adjusted position and connected with the steering-wheel by an adjustable bar *s*. There is also shown in said figure a scraper J for each disk G, each of said scrapers being mounted on a rod L, which is adjustably supported on a suitably-held rod K.

Having thus described the invention, what I believe to be new, and desire to secure by Letters Patent, is—

1. The combination with a supporting-standard provided with a journal-box, of means for closing one end of said box, and a plow-disk having an axle mounted to rotate in said closing means and provided with a convex rearward extremity seated against said closing means and engaged throughout a portion only of said extremity by said closing means, substantially as described and for the purposes specified.

2. The combination with the beam of a plow-frame, and a standard supported thereby and provided with a journal-box, of means for making said box dustproof, comprising a shell arranged in said box and having a closed rear end, and a disk having an axle extending into said shell, said axle provided with a convex rear extremity seated against the closed end

of said shell and engaged throughout a portion only of said extremity by said closed end, substantially as described and for the purposes specified.

3. A disk plow, comprising a journal-box, a shell mounted in said box and provided with a closed rear end, a plow-disk provided with an axle mounted to rotate in said shell and having a convex rearward extremity seated against the closed end of said shell and engaged throughout a portion only of said extremity by said closed end, and means for holding the axle in said shell comprising an annular recess in the one part and a projection from the other part extending into said recess.

4. A disk plow, comprising a journal-box, a shell mounted in said box and provided with a closed rear end, means for fixing said shell removably in said box comprising an angular opening in the one part and a pin extending from the other part into said opening, a plow-disk provided with an axle mounted to rotate in said shell and having its rear end seated against the closed end of the same, and means for holding said axle in said shell comprising an annular recess in the one part and a projection from the other part extending into said recess.

5. A disk plow, comprising a standard provided with a journal-box having an angular opening at one end, a shell mounted in said box and provided with a pin received by said opening, a disk having an axle rotatably mounted in said shell and provided with a circumferential groove, and a projection from said shell engaging said groove, substantially as described and for the purposes specified.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 23d day of July, A. D. 1903.

WILLIAM S. COOK.

In presence of—

JAS. W. HERRON,
H. SMITH.