

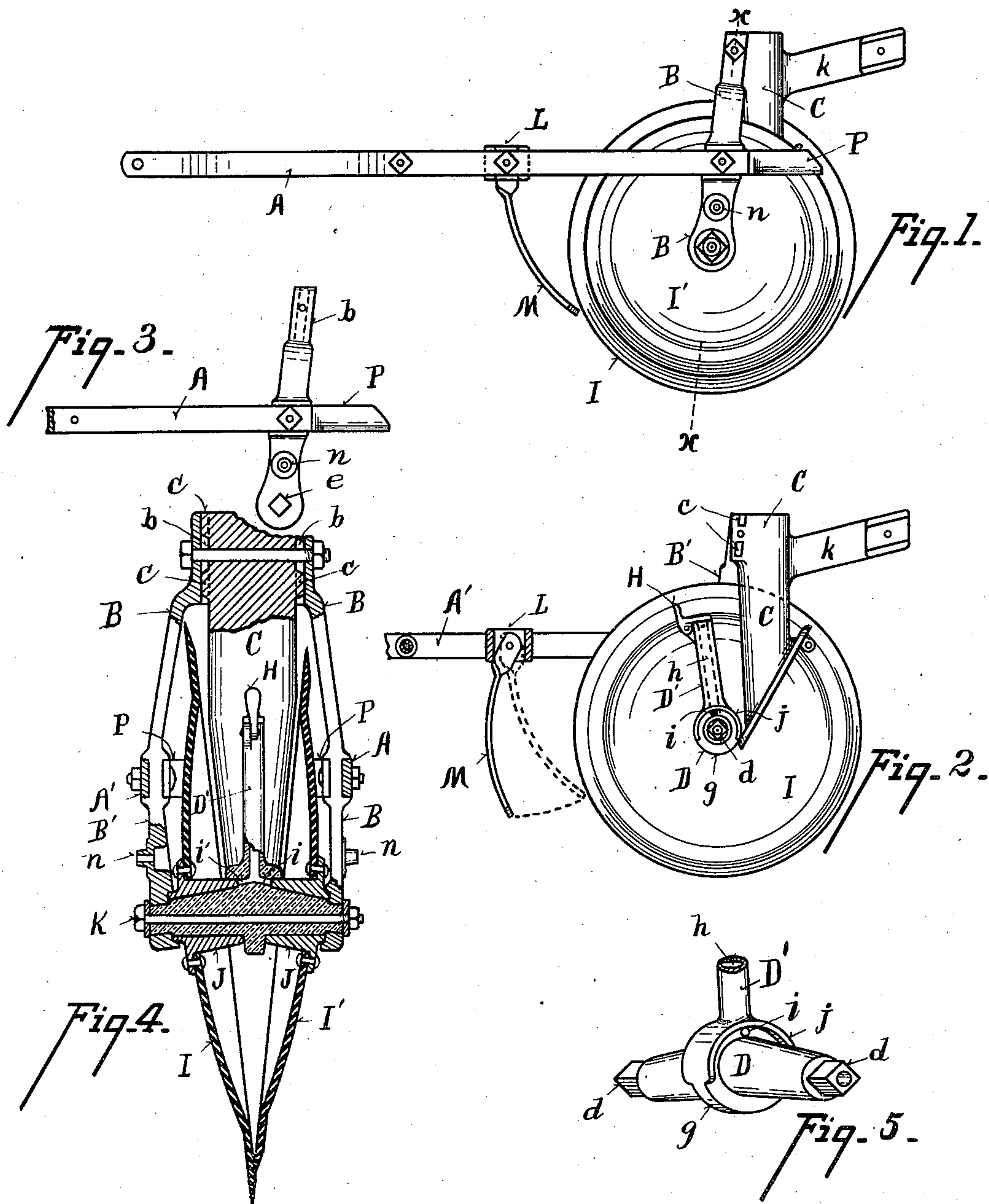
No. 620,370.

Patented Feb. 28, 1899.

W. W. SCHULTZ.
SEEDING MACHINE.

(Application filed Dec. 24, 1898.)

(No Model.)



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

WALTER W. SCHULTZ, OF RICHMOND, INDIANA, ASSIGNOR TO THE WAYNE WORKS, OF SAME PLACE.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 620,370, dated February 28, 1899.

Application filed December 24, 1898. Serial No. 700,207. (No model.)

To all whom it may concern:

Be it known that I, WALTER W. SCHULTZ, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Seeding-Machines, of which the following is a specification.

My invention relates to improvements in seeding-machines employing a pair of rotary disks upon inclined axes.

The object of my invention is to provide novel means of constructing the supporting parts of said disks and their drag-bars, so as to cheapen the cost of manufacture and at the same time make the said parts readily renewable, improving the strength and durability of said structure.

The features of my invention will be more fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my improvement attached to the drag-bar of a grain-drill. Fig. 2 is a sectional elevation of Fig. 1 with one of the disks and section of drag-bar removed. Fig. 3 is a section of drag-bar attached to its hanger-bracket. Fig. 4 is a central vertical section on line X X, Fig. 1. Fig. 5 is a perspective view of the duplex stub-axle.

A A' represent the two sections of the drag-bar, the forward ends of which are hinged to the ordinary grain-drill frame in the usual manner.

B B' represent hanger-brackets of the form shown.

C represents the seed-tube. Said tube is provided with lugs *c* on opposite sides of the front and top portion thereof. These lugs engage in recesses *b*, formed at the top end of the hanger-brackets. It will be observed that the hanger-brackets are attached to the drag-bars near the central portion thereof and that they curve upward and project above the disks, so as to form a proper support for the seed-tube, which depends downward between the disks, as shown in Fig. 4. These hanger-brackets likewise extend downward below the drag-bars for sufficient distance to form hanger-supports for the duplex axle D. The ends of this axle-piece are preferably pro-

vided with polygonal-sided projections *d*, which seat and engage in similar-shaped orifices *e* of the hanger-brackets B B'. A shoulder is formed upon said axle-piece at each end thereof. The face of said shoulders are inclined in vertical line and parallel with the plane of the revolution of the respective disks. The inner faces of the hangers opposite the axles are inclined in a similar plane with that of the shoulder thereon, and they are preferably recessed, so as to receive the ends of the respective axles.

The duplex axle is provided with a central dividing-flange *g* to form a bearing-support for the disk-journals.

D' represents an upwardly-projecting stem.

h represents an oil-passage reaching from the top of the stem downward to the hub and terminates in branch conduits forming exit-orifices *i i'* under the guards *j* of the respective hubs.

H represents a pivoted cap for covering the oil-passage.

I I' represent disks provided with sleeve-hubs J, secured to the disks. These hubs journal upon their respective stub-axles. The axles are shown tapering, which is the preferred form of construction.

K represents a coupling-rod or tie-bolt for rigidly securing the said stub-axle firmly within its seats in the respective hanger-arms B B'.

L represents a spacing-block separating the drag-bars and provided with an elongated mortise forming a seat in which is pivoted loosely the fender M, which is allowed to move freely back and forth the distance shown by dotted lines, Fig. 2. The edges of the shanks of the fender serve as stops to limit the said movements. Normally this fender hangs in the position shown in Fig. 1. It is readily moved forward for clearing out clods or other substances, which are sometimes accidentally caught in between said disks.

The seed-tube C is provided, as shown, with a rearwardly-extended arm *k*, to which is attached the ordinary covering-chain. When it is desired to employ covering-wheels, they are connected to the pivots *n* on the hanger-brackets B B'.

It will be observed in this construction that the seed-tube, duplex stub-axle, and hangers,

which form the supports for the seed-tube and disks, are made of separate pieces and are readily detachable for renewal. The stub-axes wear out much more rapidly than the other parts of the seeding device. They are readily renewed and at small cost. By the construction herein shown I am enabled to obtain a very strong and rigid structure at a comparatively small expenditure of metal.

By constructing the duplex stub-axle and the hanger-brackets in the form herein shown I am enabled to use a straight tie-rod, thereby equalizing the strain centrally around the axis of said bolt, and at the same time the rotary frictional strain is sustained by the arms of the hanger-brackets, which are braced and supported by the drag-bars attached centrally thereto, making the said several parts lighter, stronger, and more durable than the means hitherto usually employed.

Having described my invention, what I claim is—

1. In a seeding-machine, the combination with parallel drag-bars, hanger-brackets secured to each of said drag-bars and projecting above said drag-bars and forming a support for the seed-tube and with downwardly depending arms forming axial supports for a pair of seed-disks journaled within said arms, substantially as specified.

2. In a seeding-machine, the combination with parallel drag-bars, hanger-brackets secured to each of said drag-bars and projecting above said drag-bars and forming a support for the seed-tube and with downwardly depending arms forming axial supports for a pair of seed-disks, substantially as specified.

3. In combination with parallel drag-bars, depending hanger-brackets connected to each of said bars respectively and depending downwardly therefrom and a duplex stub-axle the ends of which are seated in said hanger-arms and detachably connected thereto, substantially as specified.

4. In combination with parallel drag-bars, depending hanger-brackets connected to each of said bars respectively and depending downwardly therefrom and a duplex stub-axle the ends of which are seated in said hanger-arms and detachably connected thereto and the axes of said stubs are respectively inclined to

the horizontal plane and form a journal for inclined rotating disks mounted thereon, substantially as specified.

5. In a seeding-machine the combination of parallel drag-bars, vertical hanger-brackets connected to each of said bars, a seed-tube detachably connected to the upper end of said brackets, a duplex stub-axle the ends of which are seated in the lower ends of said brackets and detachably connected thereto, a pair of inclined disks journaling upon said stub-axle and rotating in a plane outside of the seed-tube, substantially as specified.

6. In a seeding-machine, the combination of parallel drag-bars, hanger-brackets connected thereto, a pair of revolving disks having their journal-supports detachably connected to said brackets, a seed-tube detachably connected between the upper end of said hanger-brackets and depending downward between the plane of rotation of the inclined disks, substantially as specified.

7. In combination with parallel drag-bars, hanger-brackets connected to each of said drag-bars, a duplex stub-axle having its ends seated in said brackets and detachably connected thereto, substantially as specified.

8. In a seeding-machine, a duplex stub-axle provided with a central flange forming a line of division between the respective axes, the ends of which are adapted to be detachably secured to hanger-supports and an oil-stem having divided discharge-orifices rigidly connected to said division-flange, substantially as specified.

9. In a seeding-machine the combination with parallel drag-bars having suitable hanger-bearings supporting two inclined revolving disks, the spacing-block L located between said drag-bars and provided with an elongated mortise and the fender M provided with a shank loosely pivoted in the recess of the spacing-block, the edges of the shank serving as stops to limit the movement in each direction, substantially as specified.

In testimony whereof I have hereunto set my hand.

WALTER W. SCHULTZ.

Witnesses:

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