

No. 708,265.

J. A. & C. L. SHUPING.  
PLOW.

Patented Sept. 2, 1902.

(Application filed Aug. 28, 1901.)

(No Model.)

Fig. 1.

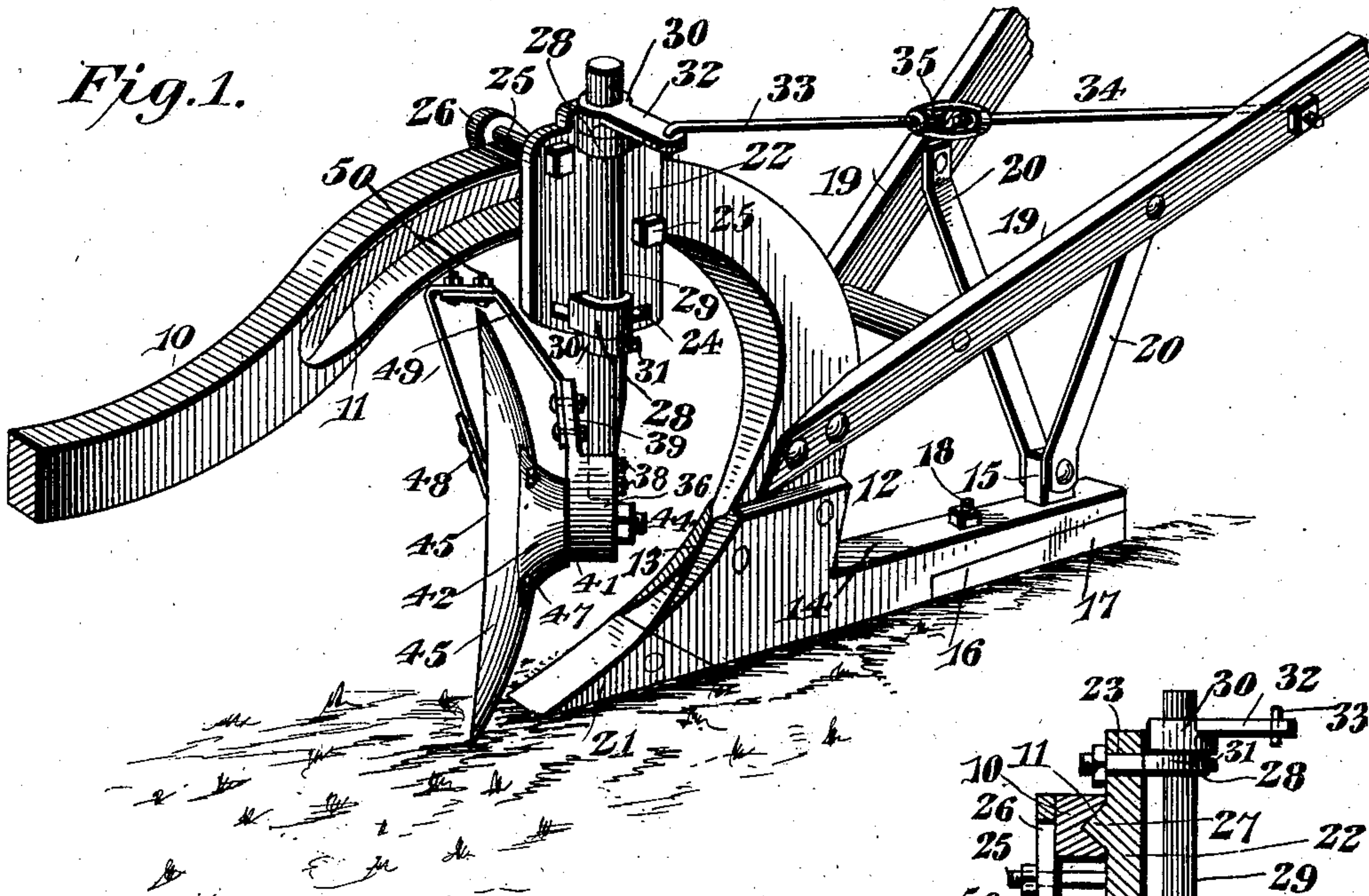


Fig. 3.

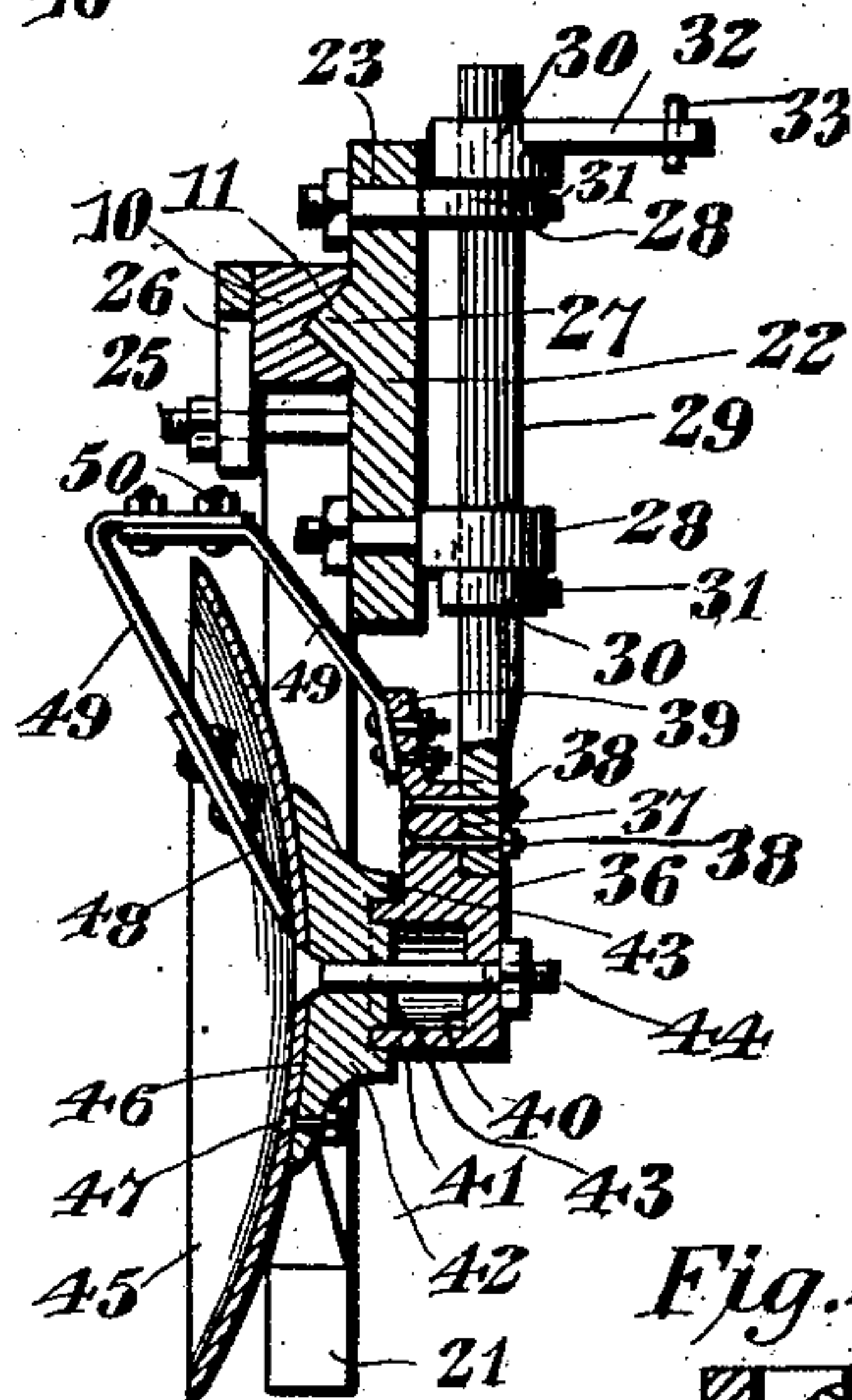


Fig. 2.

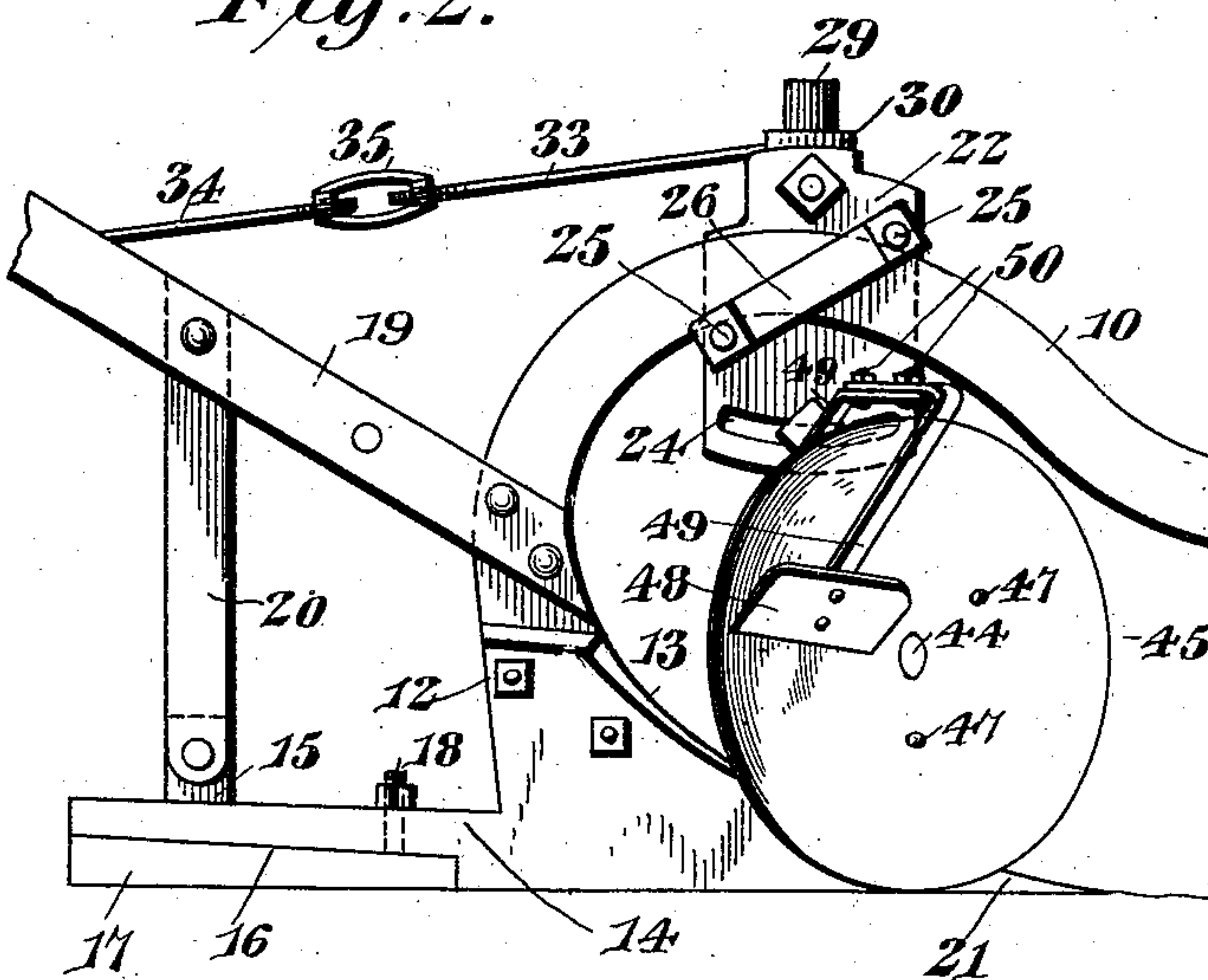


Fig. 4.



Fig. 5.



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# UNITED STATES PATENT OFFICE.

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## PLOW.

SPECIFICATION forming part of Letters Patent No. 708,265, dated September 2, 1902.

Application filed August 28, 1901. Serial No. 73,621. (No model.)

*To all whom it may concern:*

Be it known that we, JACOB ALEX. SHUPING and CHARLES LUTHER SHUPING, citizens of the United States, residing at Morganton, in the county of Burke and State of North Carolina, have invented a new and useful Plow, of which the following is a specification.

The present invention relates to plows, and particularly that class which employ a disk or revolving moldboard.

One of the principal objects of this invention is to provide an attachment which may be readily secured to any of the well-known forms of plows—as, for instance, a subsoiler—so that several operations may be combined and performed simultaneously, thus dispensing with a separate turning-plow, and consequently the time and labor necessary in using the same.

Another object is to improve the construction of disk plows by providing novel means which are simple and convenient for easily adjusting the plow to the different kinds of work met with.

While the invention may be embodied in a variety of forms, that which is at present considered preferable is shown in the accompanying sheet of drawings and described in the following specification.

In said drawings, Figure 1 is a perspective view of the improved plow. Fig. 2 is a side elevation of the opposite side, and Fig. 3 is a vertical sectional view through the same.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

The attachment is illustrated in connection with a subsoil-plow which comprises, as shown, a gooseneck beam 10, having a longitudinal channel 11 in one face and secured at its rear lower end to a standard 12, said standard being provided with a sharpened shim 13 and a rearwardly-extending shoe 14. This shoe has contiguous to its rear end an upwardly-extending projection 15 and a cut-away portion 16 in its lower face. In this cut-away portion is seated a heel 17, detachably held in place by bolts 18 or other fastening means. Handles 19 are secured to the beam 10 contiguous to its connection with the standard, and braces 20 extend from these

handles to the opposite sides of the projection 15. A detachable point or share 21 of any desired construction may be attached at the front end of the shoe. This construction affords a simple and durable subsoil-plow in which the handles are braced directly with the shoe, and because of the detachable heel this portion may be readily renewed when worn without the necessity of an entirely new standard and shoe.

The turning-plow is shown in the form of an attachment applied to the above-described subsoiler; but it will be readily understood that certain features may be applied to structures originally built as disk plows, and the invention is therefore not to be limited solely to an attachment.

In carrying out the invention, as shown, a base-plate 22 is provided, having a pivot-opening 23 contiguous to its upper end and a slot 24 concentric with this pivot-opening. A clamp is located upon one face of the plate and comprises the bolts 25 and the cross-bar 26, said clamp being arranged to embrace the beam, as shown, and hold the plate in position upon one side thereof. This plate is preferably provided upon its clamping-face with a projection 27, that fits in the channel 11 of the beam, so that a broad bearing-surface will be provided. A pair of aligned eyebolts 28 are secured to the face of the plate opposite the clamp, the shank of one bolt passing through the pivot-opening 23, while that of the other is slidably mounted in the slot 24. The eyes constitute journals in which is rotatably mounted the disk-support in the form of a shaft 29, which shaft is held against longitudinal movement in the eyes by means of an upper and a lower adjusting-collar 30, secured to the shaft by means of set-screws 31. The upper collar, which is located upon the upper eyebolt 28, has a crank-arm 32, to which is secured the means for holding the shaft 29 against its rotary movement. This means, as shown, comprises an extensible rod having one section, as 33, pivoted in the end of the crank-arm, while its other section 34 is secured to one of the handles, a turn-buckle 35 adjustably connecting their adjacent ends in a manner readily understood.

Secured to the lower end of the disk-sup-



porting shaft is a head 36, said head being preferably in the form of a casting having a socket 37, which receives the lower end of the shaft, the two being connected by bolts, as 38.

5 This head, furthermore, has an offset scraper-supporting ear 39 at its upper end and a horizontal socket 40, surrounded by an annular bearing-flange 41. A disk-bearing is rotatably mounted upon this head and preferably  
10 comprises a casting 42, having a pair of spaced annular flanges 43, that embrace the flange 41 of the head and provide a groove for the reception of the same. A pivot-bolt 44 passes centrally through the disk-bearing 42 and  
15 the socket of the head, thus pivotally securing the two together. The disk (designated 45) is preferably concavo-convex and is fastened to a suitably-formed seat 46 in the disk-bearing 42 by means of a plurality of bolts  
20 47. By this means it will be seen that the disk may be removed for the purposes of repairing or sharpening or replacing when worn out without the necessity of an entire new bearing. The scraper is shown at 48, said  
25 scraper being provided with a cutting edge that bears against the operative face of the disk and having a shank which is secured to the ear 39 of the head 36. This shank is made in two sections 49, one of which is attached to the scraper-blade, the other to the  
30 ear, the two sections being adjustably connected by bolts, as 50.

In attaching the device to an ordinary gooseneck beam it is only necessary to place the  
35 plate against one side, with the clamp-bolts 25 embracing the same, and by securing the clamp-bar upon said bolts the entire device is fastened in place. One end of the extensible holding-rod is then secured to the handle, and by turning the connecting-buckle 35  
40 the angular disposition of the disk may be changed, so that as broad a cut or furrow as desired may be obtained. In order to adjust the disk to the proper depth of penetration,  
45 it is only necessary to loosen the set-screws of the adjusting-collars 30, thus releasing the shaft, so that it may be raised or lowered. When the proper position has been obtained, by again tightening the set-screws the disk  
50 is held in such position. In like manner by moving the lower eyebolt in the slot the angle of the shaft may be changed without in any manner altering the position of the plate on the beam. By this construction all the  
55 necessary adjustments are provided for in the simplest manner, and the entire structure has proven by actual experience to be satisfactory in every respect.

From the foregoing it is thought that the  
60 construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape,  
65 proportion, and minor details of construction may be resorted to without departing from

the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a disk plow, the combination with a base, of means located upon one side of the base for securing the same to a beam or similar support, an adjustable disk-carrier movable in a vertical plane and journaled upon the oppositesides of the base, a disk mounted upon the carrier, and means connecting the base and disk-carrier to hold the latter against its vertical swinging movement. 75 80

2. In a disk plow, the combination with an upright base having a slot that passes horizontally through said base, of means for attaching the base to a beam or similar support, a disk-carrier movably mounted on the base, and a holding device for the disk-carrier, said device being mounted upon the disk-carrier and engaging in the slot of the base whereby said carrier may be adjusted in a vertical plane. 85 90

3. In a disk plow, the combination with an upright base-plate having a slot that passes horizontally through said base-plate, of a clamp for attaching the base-plate to a plow-beam or similar support, an eyebolt pivotally mounted upon the plate, an eyebolt movably mounted in the slot, and a disk-carrier passing through the eyebolts and being thereby adjustable in a vertical plane. 95

4. In a disk plow, the combination with a vertically-disposed base-plate having a horizontally-disposed slot in its lower portion and a pivot-opening in its upper portion, of a clamp located upon one face of the plate for attaching the same to a plow-beam or similar support, an eyebolt pivoted in the upper opening of the plate, an eyebolt movably mounted in the slot, and a disk-carrier passing through the eyebolts whereby said carrier may be adjusted in a vertical plane. 100 105 110

5. In a disk plow, the combination with a disk-carrier, of means for securing the carrier to a plow-beam or similar support, said carrier having a movable connection with the securing means, and an extensible holding device fastened to the carrier to hold the same against movement. 115

6. In a disk plow, the combination with a disk-carrier, of means for securing the same to a plow-beam or similar support, said carrier having a rotatable connection with the said means, and an extensible holding device fastened to the carrier for holding the same against movement. 120

7. In a disk plow the combination with a base, of means for securing the same to a beam or similar support, a disk-carrier shaft rotatably mounted on the base, and an adjustable holding device secured to the shaft and arranged to be fastened to a portion of the plow to hold said shaft against movement. 125 130

8. In a disk plow, the combination with a



base, of means for securing the same to a beam or similar support, a disk-carrier shaft rotatably mounted on the base and provided with a crank-arm, and an extensible holding device connected to the crank-arm for holding the shaft in different positions.

9. In a disk plow, the combination with a plow beam and handle, of a disk-carrier rotatably mounted on the beam, and an extensible connection between the carrier and handles to hold the former against movement.

10. In a disk plow, the combination with a plow beam and handles, of a disk-carrier shaft rotatably mounted on the beam and having a crank-arm, a holding-rod connecting the crank-arm and the handles and comprising sections, and a turnbuckle adjustably connecting the adjacent ends of the sections.

11. In a disk plow, the combination with a base, of means for securing the base to a plow-beam or similar support, a disk-carrier having a pivotal and rotatable connection with the base, a holding device carried by the base for preventing the pivotal movement of the carrier, and means for holding said carrier against rotary movement.

12. In a disk plow, the combination with a base, of means for securing the base to a plow-beam or similar support, a disk-carrier having a horizontal pivotal and a vertical rotatable connection with the base, a holding device carried by the base for preventing the pivotal movement of the carrier, and means for holding said carrier against rotary movement, said means being located adjacent to the pivotal connection between the carrier and the base.

13. In a disk plow, the combination with a vertically-disposed base-plate, of a clamp for attaching the plate to a beam or similar support, a pair of horizontally-projecting eyebolts secured to the plate, one of said bolts having a slidable connection therewith, a disk-carrier shaft journaled in the eyebolts and having a crank-arm and an extensible holding device secured to the crank-arm.

14. In a disk plow, the combination with a base, of aligned bearings movably mounted upon the base, and a disk-carrier journaled in the bearings and longitudinally adjustable therein.

15. In a disk plow, the combination with a vertically-disposed base, of horizontally-projecting aligned bearings movably mounted upon the base, a disk-carrier journaled in the bearings and longitudinally adjustable therein, and devices engaging the outer sides of the journals to hold the carrier against its longitudinal movement.

16. In a disk plow, the combination with a vertically-disposed base, of horizontally-pro-

jecting aligned bearings movably mounted upon the base, a disk-carrier journaled in the bearings and longitudinally adjustable therein, devices engaging the outer sides of the journals to hold the carrier against its longitudinal movement, one of said devices being in the form of a crank-arm, and means engaging said crank-arm to prevent the rotation of the carrier in the journal.

17. In a disk plow, the combination with a disk-carrier, of means for securing the same to a beam or similar support, said carrier having a vertical longitudinal adjustment upon the securing means, a head attached to the carrier, a disk rotatably mounted on the head, and a scraper also secured to the head.

18. In a disk plow, the combination with a disk-carrier, of a head located upon the carrier and having an annular bearing-flange, a disk-bearing carrying the disk and having spaced flanges that embrace the flange of the head, the inner flange being spaced from the adjacent face of the head, and a pivot fastener passing through the head and disk-bearing.

19. In a disk plow, the combination with a disk-carrier, of a head located upon the carrier and having an annular bearing-flange, said carrier being also provided with a scraper-support, a disk-bearing carrying the disk and having spaced flanges that embrace the flange of the head, a pivot fastener passing through the head and disk-bearing, and a scraper secured to the support of the carrier-head.

20. In a disk plow, the combination with a suitable frame, of a rotatable disk-carrier journaled upon the frame, extensible means secured at one end to a fixed portion of the frame, and at the other end to the carrier for holding said carrier against its rotary movement.

21. In a disk plow, the combination with a fixed support, of journal-bearings mounted upon the support and movable in a substantially vertical plane, and a disk-carrier journaled in the bearings and rotatable upon a substantially vertical pivot-axis.

22. In a disk plow, the combination with a beam having a channel, of a base-plate having a projection fitting in the channel, means for securing the base-plate upon the beam, and a disk-carrier rotatably mounted upon the base-plate.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JACOB ALEX. SHUPING.  
CHAS. LUTHER SHUPING.

Witnesses:

A. M. INGOLD,  
G. M. COLLETT.