Dec. 13, 1927. 1,652,925

C. A. BERRY

DRILL ATTACHMENT FOR PLOWS

Filed April 9, 1926

Fig. 1.

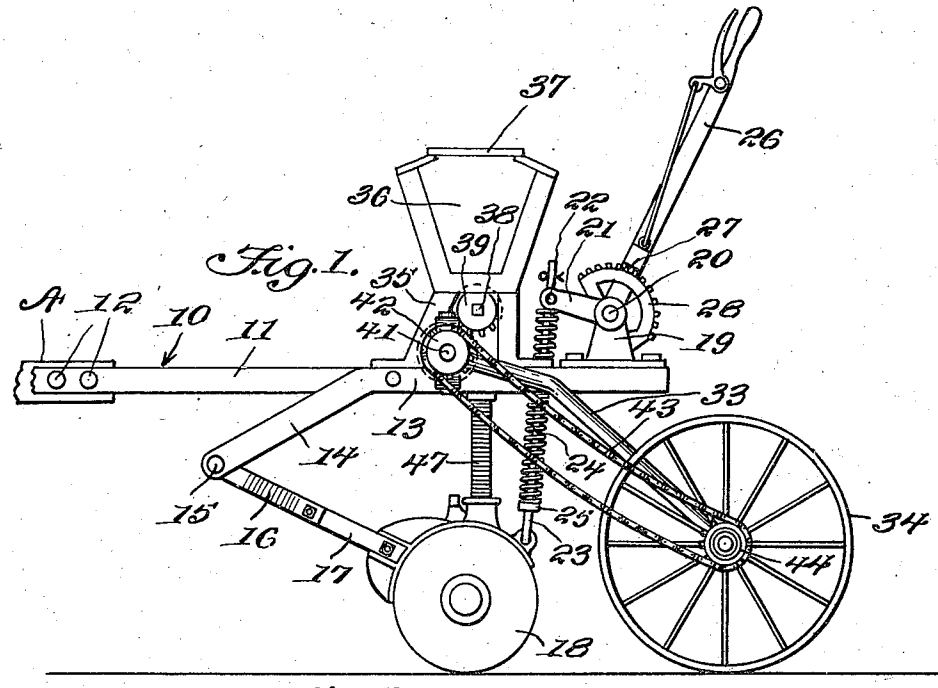


Fig. 2.

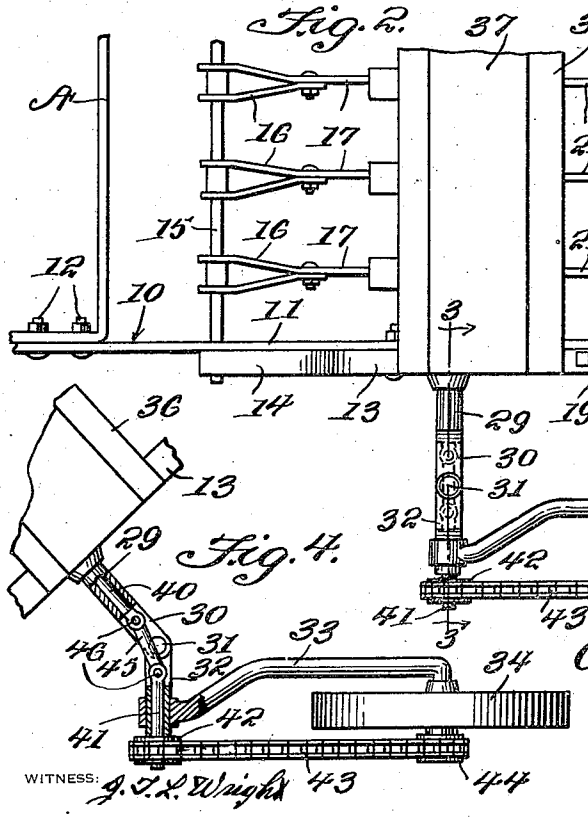


Fig. 3.

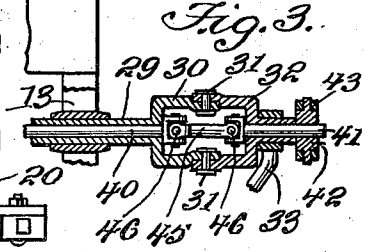


Fig. 4.

Charles A. Berry
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS: J. L. Wright

Patented Dec. 13, 1927. 1,652,925

UNITED STATES PATENT OFFICE.

CHARLES A. BERRY, OF McMINNVILLE, OREGON.

DRILL ATTACHMENT FOR PLOWS.

Application filed April 9, 1926. Serial No. 100,959.

This invention relates to agricultural implements, particularly to planters or seeders, and has for its object the provision of a novel drill attachment to go on already existing plows without necessitating any changes in the structure thereof, it being consequently to produce the machine at less cost than if all the parts had to be built in the first place.

An important object is the provision of a novel machine of this character having a novel arrangement and mounting of the means which carries the ground engaging wheels, the purpose being to avoid side draft and prevent binding of any of the parts when turning corners or making turns, as for instance at the ends of rows.

Another object is to provide a device of this character having a plurality of movably mounted furrow openings provided with lever operated means for controlling the height thereof with respect to the surface traveled over so that the degree of penetration may be varied to meet different conditions or circumstances.

An additional object is to provide a device of this character which will be comparatively simple and inexpensive in manufacture, easy to install and control, positive in action, efficient and durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction and arrangement of parts to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of the attachment applied to a portion of a plow frame.

Figure 2 is a fragmentary plan view.

Figure 3 is a cross section taken on the line 3—3 of Figure 2, and

Figure 4 is a fragmentary plan view with parts broken away and in section illustrating the pivotal movement of the wheel carrying arms.

Referring more particularly to the drawings, the letter A designates a portion of a plow frame to which the invention is applied. In carrying out the invention, I provide a frame structure designated generally by the numeral 10, which structure may include any desired number of longitudinally extending bars 11 bolted or otherwise secured at 12 to the plow frame A as clearly indicated. Secured to the outer side of each of the longitudinal frame members 11 is a bar or frame member 13 having a downwardly curved forward portion 14 serving as supporting means for a transversely arranged shaft or rod 15 on which are pivoted the forked forward ends 16 of rearwardly extending downwardly inclined arm members 17 which carry ground engaging disks 18 which act as furrow openings.

It is intended that the depth of penetration by means of these furrow openings should be varied and for this reason I have provided upstanding bearing members 19 mounted on the rear ends of the members 13 and serving as a support for a rock shaft 20 which carries crank arms 21 with which are pivotally connected at 22 depending rods 23 in turn pivotally connected with the supporting means for the disks 18 so that the latter may be raised or lowered, as the case may be. A coil spring 24 is provided in surrounding relation for each of the rods 23 and has one end abutting against a collar 25 on the rod so that normally the disks 18 will be urged downwardly while being capable of upward movement. The operating means comprises a suitable hand lever 26 secured to the shaft 20 and carrying a grip release latch 27 cooperating with a notched segment 28. Obviously, by shifting the lever 26 forwardly or rearwardly, as the case may be, the position of the disks may be varied.

Secured to and forming part of the frame 11 and extending transversely with respect thereto are hollow axle members 29 terminating at their outer ends in U-shaped members 30 with which are pivotally connected, at 31, similar U-shaped members 32 on the forward ends of rearwardly and downwardly inclined arms 33 upon the lower ends of which are journaled ground engaging wheels 34. Mounted above the frame 10 on suitable brackets 35 is a hopper 36 for the grain or other seed to be planted, this hopper having its top open and normally closed by a removable cover 37 whereby access may be had to the interior for refilling purposes. This hopper may be provided with any suitable dropping mechanism, not shown, operated by a shaft 38 driven by means of a gear 39 meshing with a suitable gear on a shaft 40 journaled through the hollow axle members 29. The axle members 29 are suitably mounted below the end portions of the hopper and each contains a shaft 40. Journaled through the hub portions of the arm members 33 are stub shafts 41 and one thereof

carries a sprocket 42 peripherally engaged by a chain 43 which is in turn engaged about a sprocket 44 carried by one of the ground engaging wheels 34. Located within the U-shaped members 30 and 32 is a short section 45 of shafting having universal joint connections 46 with the stub axle members 41 and with the shaft 40.

In the operation, it will be readily apparent that when the machine is drawn along the ground the ground engaging wheels 34 equipped with the sprockets 44 will act to drive the stub shaft 41, shaft section 45 and shaft 40 which latter forms parts of the operating mechanism for whatever seed dropping device is provided within the hopper. It should of course be understood that any suitable dropping boot 47 may be provided for receiving the seeds discharged from the hopper and conducting them to the furrows formed by the disks 18. When making turns or rounding corners, it is clear that the arms 33 carrying the ground engaging wheels 34 may swing freely upon the axle members 29, the provision of the shaft sections and universal joints connecting the same permitting corresponding movement of the drive shafting without binding and without necessitating throwing out the operating mechanism at any time. It is therefore clear that the device may make turns at the ends of rows or may follow uneven rows or travel in a curved path without interfering with the seed dropping action, it being therefore obvious that there will be no unplanted areas such as occurs when the ordinary type of seed drill is used. Furthermore, ample means has been provided for raising and lowering the furrow openers for regulating the depth of penetration and consequently the depth of the furrows, depending upon the nature of the seeds planted. It is really believed that the construction, operation and advantages will be readily apparent to one skilled in the art without further explanation.

While I have shown and described the preferred embodiment of the invention, it should be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claim.

Having thus described the invention, I claim:—

In a drill attachment for a plow including a frame, and a hopper, drive means comprising a hollow axle mounted below the end of the hopper and extending longitudinally thereof and terminating at its outer end in a U-shaped member, a hollow shaft having a U-shaped portion pivotally connected with said first named U-shaped member, an arm on the hollow shaft carrying a ground engaging wheel, a shaft journaled through the hollow axle, a shaft journaled through the hollow shaft, a link pivotally connecting both of said last named shafts within the confines of said U-shaped member and the U-shaped portion whereby to define a universal joint connection, a drive device carried by the ground engaging wheel, and a drive device carried by the second named shaft and operatively connected with the first named drive device.

CHARLES A. BERRY.