

No. 666,922.

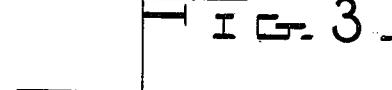
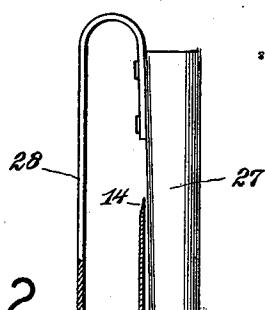
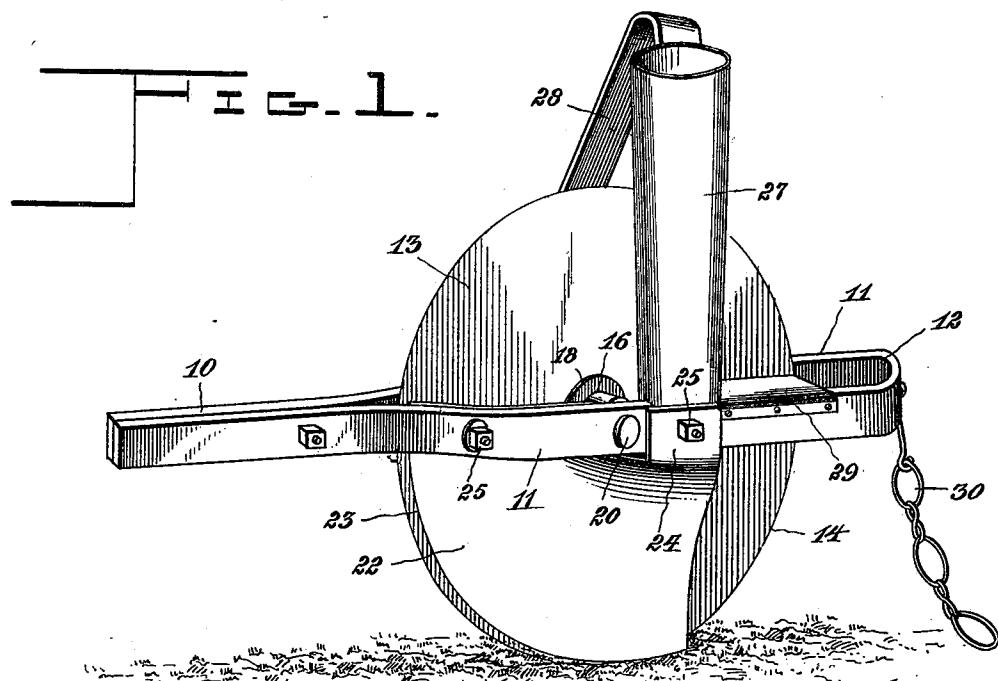
Patented Jan. 29, 1901.

C. DESJARDINS.

GRAIN DRILL.

(Application filed Apr. 11, 1900.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

CHARLES DESJARDINS, OF ST. PIERRE, CANADA.

## GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 666,922, dated January 29, 1901.

Application filed April 11, 1900. Serial No. 12,392. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DESJARDINS, a subject of Her Majesty the Queen of Great Britain, residing at St. Pierre, county of Provencher, Province of Manitoba, Canada, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in grain-drills for drilling wheat and other grain into the ground; and one object in view is the provision of means for opening a furrow and securing the discharge of the grain singly thereinto.

A further object is to provide an improved opener in which a plate assists a disk in forming the furrow and also in keeping the disk in a clean condition, although a supplemental scraper is employed to keep the disk clear from accumulations of soil.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty in the combination and construction of parts will be defined by the claims.

In the drawings, Figure 1 is a perspective view of a furrow-opener and grain-distributer embodying my improvements and adapted for service in connection with an ordinary grain-drill. Fig. 2 is a vertical transverse section through the parts shown by Fig. 1. Fig. 3 is a horizontal section through the disk and its coöperating plate, taken in the plane of the dotted line 33 on Fig. 2 looking in the direction of the arrow.

The same numerals of reference are used to indicate like parts in each of the several figures of the drawings.

To support the operating parts of the furrow-opener and seed-distributer, I employ the horizontal frame, which is designated in its entirety by the numeral 10. This frame may be of any suitable construction; but I prefer to make it of a single piece of bar or strap metal which is bent to form the parallel side bars 11 and the bight or loop 12, the latter connecting the rear ends of the side bars, as shown by Fig. 1.

13 designates the disk, which is provided with a beveled or sharpened cutting edge 14. This disk is fitted on the hub 15, which is provided with an annular shoulder 16 and with a male screw-thread 17. Washers 18 are fitted on the threaded portion of the hub, so as to bear against opposite sides of the disk, one of said washers arranged to impinge the annular shoulder 16 of the hub. A nut 19 is secured on the threaded portion 17 of the hub to bear against the other washer 18, and this nut operates to clamp the disk and both washers firmly against the shoulder of the hub. An axle 20 passes loosely through the hub and through the side bars 11 of the frame, the ends of said axle being externally threaded for the reception of the nuts 21, whereby the axle is held firmly in the frame, and the disk is journaled idly on said axle, so as to rotate freely thereon.

22 designates a plate which occupies an inclined relation to the vertical disk 13. This plate has a segmental sharpened edge 23, which is applied against one face of the disk 13, near the circumference thereof. The upper edge of this plate, at the rear portion thereof, has a lip 24, through which passes a bolt 25, so that the rear part of the plate is clamped against the frame by a nut of the bolt. The front portion of the plate is attached to one of the side bars 11 by other bolts 25, and this plate is thus firmly secured to the frame, so as to remain stationary thereon, while the disk is free to rotate on the axle. The lower and inner portion of the curved edge 23 of the stationary plate is beveled or inclined, as shown by Fig. 3, to form the opening or throat 26, the latter providing for the escape of seed singly from the space between the disk and the plate which coöperates therewith. The grain from the hose or force-feed distributer of an ordinary grain-drill is discharged into the boot 27, which is arranged at one side of the disk 13 and at the rear edge of the stationary plate 22, so as to discharge the grain in the space between said parts. The grain drops upon or is caught by the lower part of the inclined stationary plate 22, and in the rotation of the disk and by reason of the inclination of the plate the grain is discharged singly through the opening or throat 26 into the furrow, which is opened by the sharpened

edges of the disk and the stationary plate. The upper portion of this boot is stayed by a brace 28, one end of which is fastened to the boot, and its lower end is attached to one side 5 bar of the frame. The stationary plate 22 operates with the disk in opening the furrow, and it also serves in a measure as a means for keeping one face of said disk in a condition free from accumulations of soil. To prevent 10 the disk from carrying soil upwardly and dropping the same between the plate and its front portion, I may employ the small scraper 29, which is fastened to one side bar of the frame at a point in rear of the plate and the 15 boot, said scraper arranged for its inner edge to sweep against the rear portion of the revoluble disk. The position of this scraper, however, is not important, and it may be arranged on the frame in other positions than 20 the one shown, so as to engage with other portions of the disk.

A drag 30 is connected to the rear bight 12 of the frame, and it is shown as consisting of a series of links loosely connected together 25 and arranged to have certain of the links trail on the ground over the furrow, so as to agitate the soil and throw the same over the furrow to cover up the seed deposited therein.

My improvements may be used in connection 30 with any of the well-known types of grain-drills or with grain-drills of any suitable construction, it only being necessary to connect the drag-bar to the front end of the frame 10. In view of this fact I have not considered 35 it necessary to illustrate the improved furrow-opener applied to a grain-drill.

The improved device is simple and durable in construction, is efficient and reliable in operation, and may be manufactured at a low 40 cost.

The rotary disk serves to cut down any

weeds or growths in the path of the machine and to open the furrow in hard soil.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts, while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary 45 therefrom.

Having thus described my invention, what I claim as new is—

1. In a grain-drill, a furrow-opener comprising a frame, made from a single length of 55 metal and doubled upon itself to form the side bars and the bight, a disk journaled in the frame, an inclined plate fastened to the frame in coöperative relation to the disk, a boot arranged to discharge into the space between 60 the disk and the plate, and a drag connected to the bight of the frame, substantially as described.

2. A furrow-opener for grain-drills comprising a frame having the side bars, an axle-bolt secured in said side bars, a shouldered hub fitted on the axle-bolt between the side bars and having the disk clamped thereto, an inclined plate fastened to one side bar and having a lug 24 attached to one end of the 70 axle, a boot, and a horizontal scraper fastened to one side bar in rear of the axle-bolt and extending therefrom for its inner end to lie contiguous to one face of the disk, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

CHARLES DESJARDINS.

Witnesses:

OVIDE PREFONTAINE,  
PAUL CHENARD.