

No. 687,953.

Patented Dec. 3, 1901.

C. DESJARDINS.
GRAIN DRILL.

(Application filed Feb. 11, 1901.)

(No Model.)

FIG. 1.

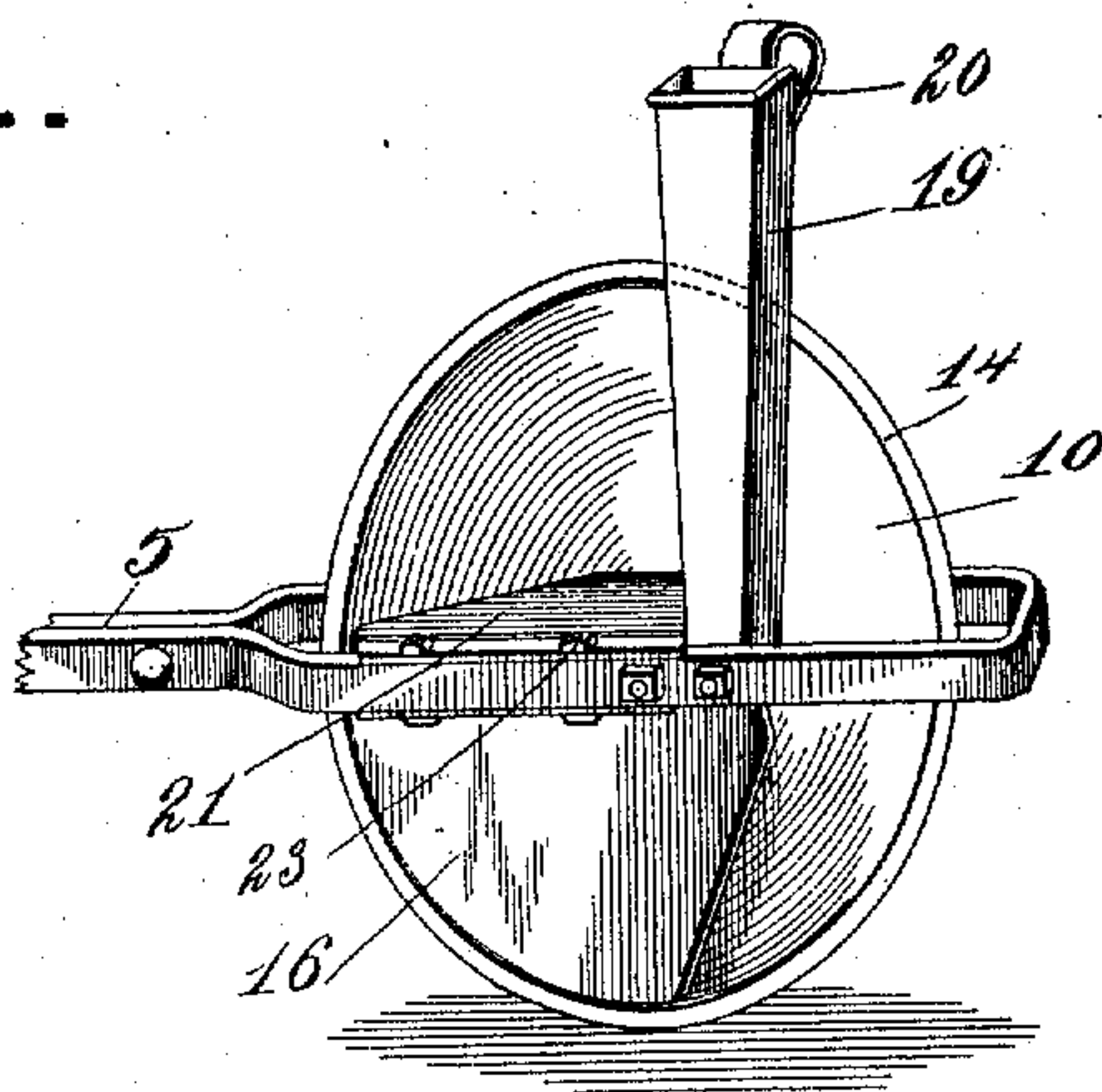


FIG. 2.

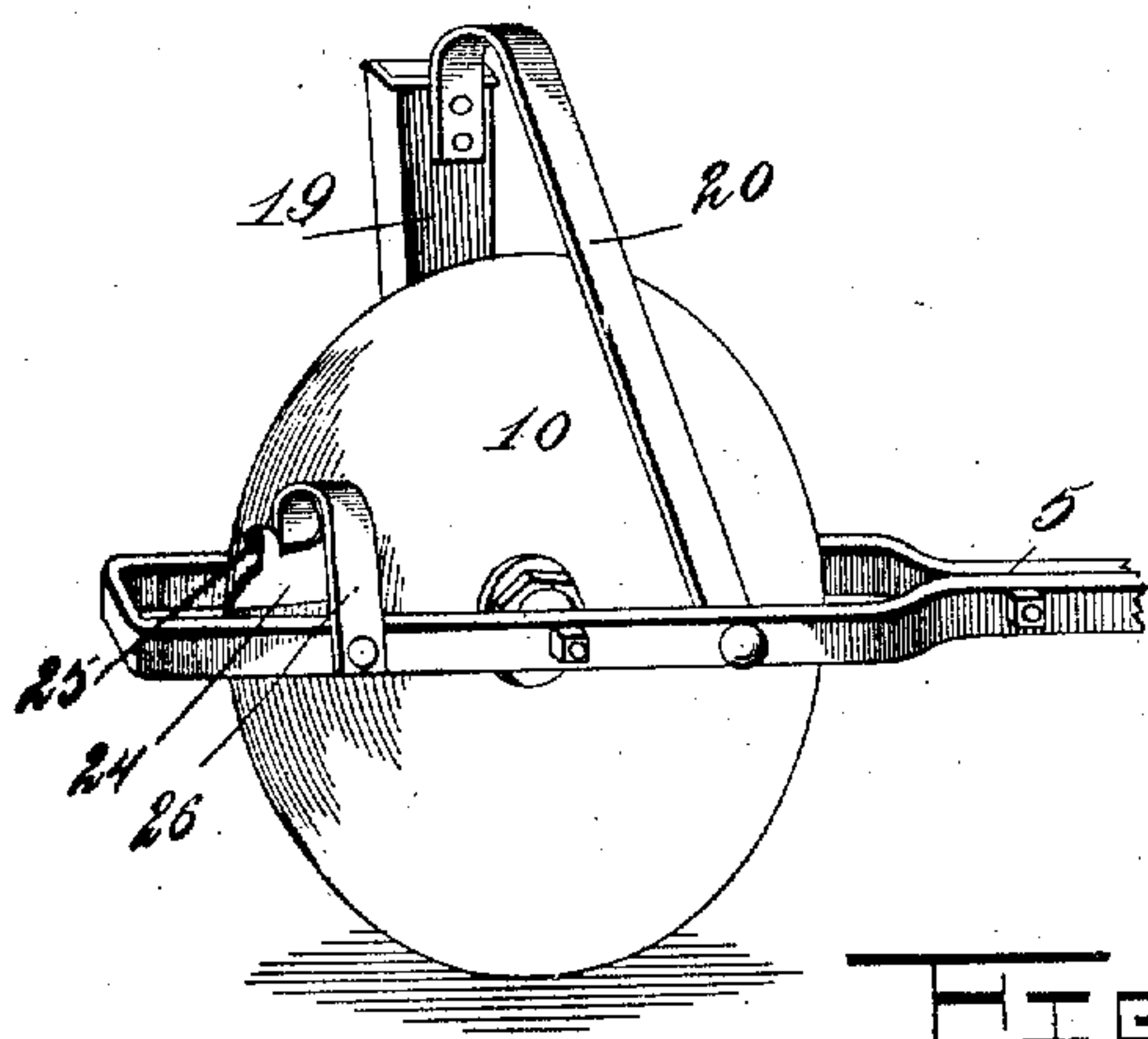


FIG. 3.

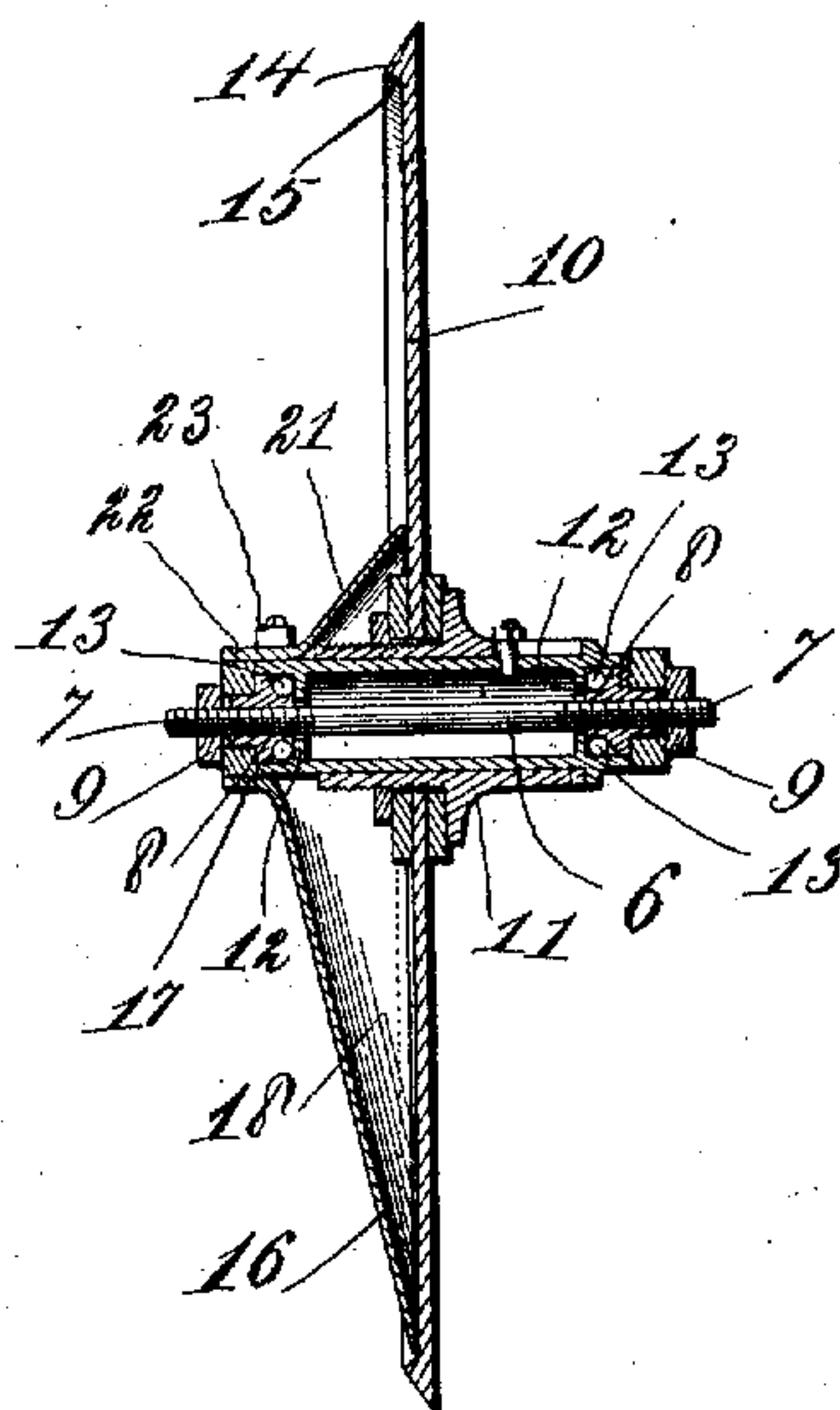


FIG. 4.

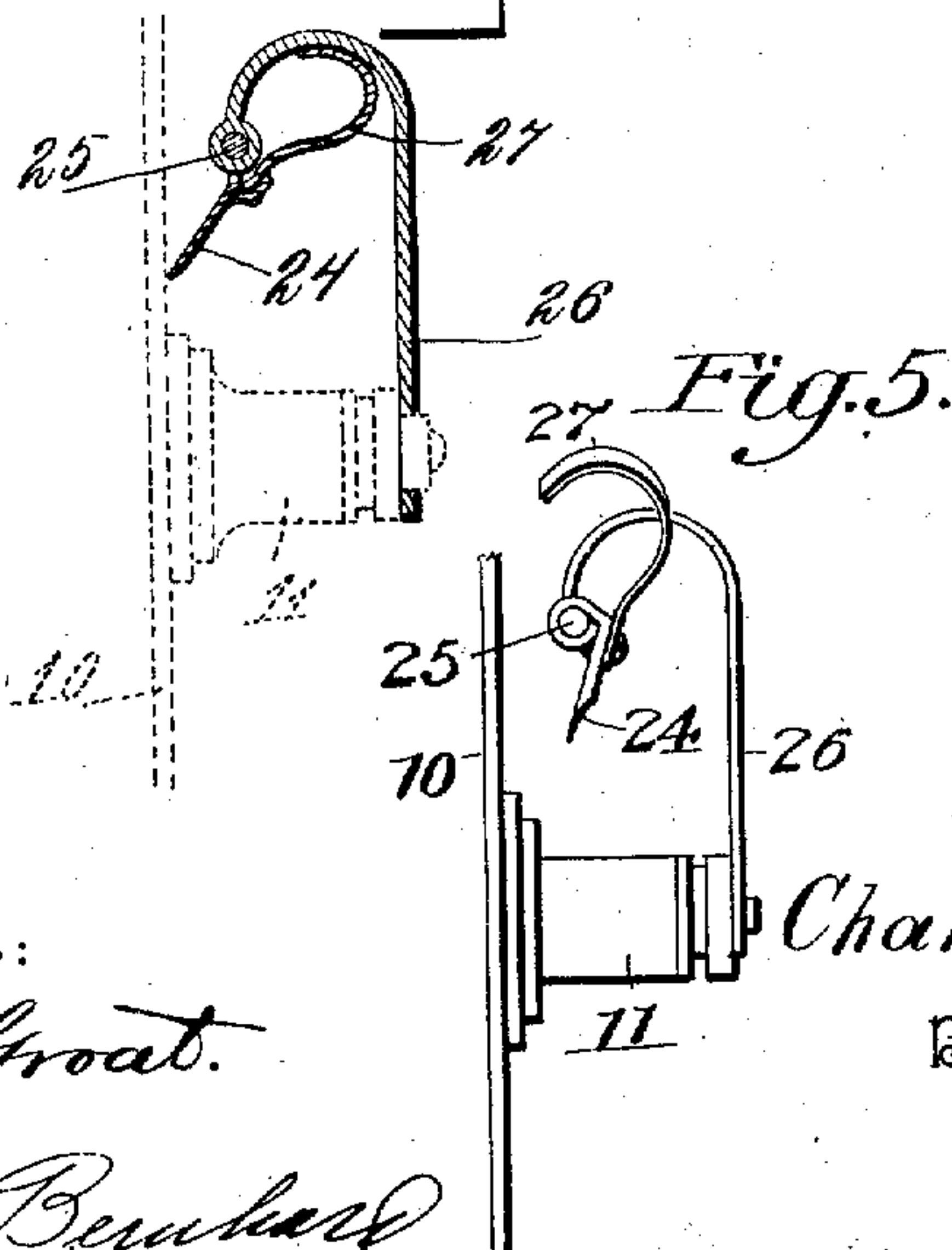


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES DESJARDINS, OF ST. PIERRE, CANADA.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 687,953, dated December 3, 1901.

Application filed February 11, 1901. Serial No. 46,832. (No model.)

To all whom it may concern:

Be it known that I, CHARLES DESJARDINS, a subject of His Majesty the King of Great Britain, residing at St. Pierre, county of Prov-
5 encher, 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
10 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 of that class which employ a revol-
15 tible colter-disk in connection with a seed tube or spout; and the objects of the invention are, first, to provide a guard or furrow-opener adapted to prevent the accumulation of earth in the seed-distributing space, as well as to serve as a scraper and assist in keeping
20 clean that surface of the colter-disk which faces the plowed land, and, secondly, to provide a scraper which is held yieldably in contact with the opposite face of the colter-disk.

With these ends in view the invention con-
25 sists in the novel construction and arrangement of parts, which will be hereinafter fully described and claimed.

In the drawings hereto annexed, forming a part of this specification, Figure 1 is a per-
30 spective view of a portion of a grain-drill embodying my present improvement looking at one side of the colter-disk. Fig. 2 is a similar view looking at the opposite face of the colter-disk. Fig. 3 is a transverse section through the
35 roller-bearing support for the colter-disk and representing the furrow-opener and the fender or guard in cross-section. Fig. 4 is a detail view of the parts comprising the scraper, illustrating a part of the colter-disk and its
40 hub by dotted lines. Fig. 5 is a detail view similar to Fig. 4, but showing the scraper in its inoperative idle position.

The same numerals of reference denote like parts in each of the several figures of the draw-
45 ings.

5 designates the frame, which is shown as consisting of side bars joined together at their rear ends and bolted or otherwise united at their front ends. The detailed construction
50 of the frame, however, is not material. This frame supports a transverse axle 6, which is

externally threaded at its end portions, as at 7. Said axle receives the ball-bearing cones 8, which are screwed on the threaded por-
tions of the axle and are fitted in suitable 55 openings provided in the sides of the frame, as clearly shown by Fig. 3, and upon the end portions of said axle are screwed the clamping-nuts 9, which bear against the
60 outside of the frame and maintain the axle securely in a stationary position, whereby the axle and the cones are held in place on the frame. The colter-disk 10 is clamped in
any approved way upon a hub 11, and this 65 hub is provided with internal cups 12, which surround the axle and are disposed in opposing relation to the cones 8, said opposing
faces of the cups and cones forming ball- 70 races adapted for the reception of the bearing-balls 13, all as clearly shown by Fig. 3. As the axle is supported fixedly in the frame, and as the hub of the colter-disk is mounted
loosely on the axle through the medium of the bearing-balls, it is clear that the colter-
disk is capable of free rotation on the axle 75 and within the frame, thus reducing the friction and wear on the colter-disk. This colter-disk consists of a flat plate of steel cut to the
appropriate circular shape and having its 80 working edge reinforced by a steel rim 14, which is welded to the disk or united therewith in any approved way, although the disk
and the rim may be formed as integral parts. This rim is offset laterally from one face of
the disk, so as to produce a shallow recess 15, 85 and the edge of the rim is beveled, as represented by the drawings, so as to have the rim flush with one face of the disk, while its beveled portion projects laterally from the
other side of the disk and produces the an- 90 nular recess 15.

The furrow-opener 16 is in the form of a plate and is disposed in cooperative relation to one surface of the disk, the top edge of said plate
being flanged, as at 17, and fastened to one side 95 bar of the frame 5. One edge of this furrow-opener is curved, so as to fit in a part of the recess 15 of the colter-disk; but the lower rear portion of this furrow-opener is deflected
laterally or offset from the colter-disk in 100 order to produce a tapering throat or space through which the grain deposited in the

chamber 18 by the seed spout or tube 19 is free to escape. The space 18 is produced by the coöperative disposition of the furrow-opener 16 to one side of the colter-disk 10, as shown by Fig. 3, and with this space communicates the lower portion of the spout or tube 19, the latter being stayed in place by the brace 20, having its upper end secured to the tube and its lower end attached to one side of the frame. (See Fig. 2.)

It will be understood that the curved front edge of the furrow-opener 16 lies in the annular recess 15, so that the rim 14 of the colter-disk projects beyond the plane of the front edge of the furrow-opener, thus bringing the furrow-opener and the disk in such relation that the rim 14 excludes the admission of dirt to the space 18, besides minimizing the friction and wear on the furrow-opener itself, which is exposed to the action of the earth when the drill is in operation.

To still further carry out the operation of excluding the dirt from admission to the grain-space 18, I have provided a fender 21, the same consisting of a plate which is flanged, as at 22, and is arranged to rest upon the top edge of one side bar of the frame 5, said fender being disposed in advance of the spout or tube 19. I prefer to attach the flanged edge 17 of the furrow-opener and the flanged edge 22 of the fender to one side bar of the frame by the use of through-bolts, which are indicated at 23 in Figs. 1 and 3, although the parts may be secured individually, if desired. The fender 21 is bent or inclined upwardly from the frame and arranged so that its edge will engage with one surface of the colter-disk, whereby the fender is so intimately related to the disk as to exclude the dirt from entering the grain-chamber 18 through the upper part thereof, and said fender is also adapted to serve as a scraper in clearing the surface of the colter-disk on one side thereof. The other surface of the colter-disk is kept in a clean condition by a scraper 24, the same having a hinged connection at 25 with the curved upper end of a short post or arm 26. This arm is secured to a part of the frame 5 in any suitable way and is arranged in a position to support the scraper in active relation to the disk 10. (See Fig. 4.) The pivotal connection of the scraper to the arm permits the scraper to have a limited movement laterally with respect to the colter-disk; but said scraper is held in its active position by the action of the spring 27, which is shown as attached to the scraper near its hinged connection with the arm, said spring bearing against the curved portion of the arm 26 in a manner to normally force the scraper inwardly and into engagement with the colter-disk. The spring is also housed within the curved end of the arm, so as to be protected thereby from accumulations of dirt, thus in a measure keeping the

spring clear from interference by the lodgment of the soil thereon.

The spring 27 is shown by Fig. 5 as having a pivotal connection with the pivoted scraper-blade, and in this figure the spring is shown adjusted to its inoperative position, so that it is free from the overhanging end of the arm 26, thus allowing the scraper to assume the idle position shown. Said spring, furthermore, may be compressed and turned on its pivotal connection with the scraper-blade in a manner to bring the spring into the position shown by Fig. 4, wherein the free end of the spring bears against the overhanging arm, and said spring is thus made to force and hold the scraper-blade to its working position.

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 therefrom.

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

1. The combination with a frame, of a colter-disk revolubly mounted in the frame and provided with a rim forming a recess in one face thereof, a furrow-opener supported by the frame and having a curved edge partly disposed within said recess and the rim of said disk, said furrow-opener forming with the disk an intermediate grain-chamber, and a fender also supported by the frame and disposed close to the disk, whereby the fender closes the top of the grain-chamber, substantially as described.

2. The combination with a frame, of a colter-disk revolubly mounted therein, a furrow-opener secured to the frame and forming a grain-chamber with the disk, and a fender secured to the frame, disposed in coöperative relation to one surface of the disk, and closing the top of the grain-chamber, substantially as described.

3. The combination with a frame, and a colter-disk revolubly mounted therein, of a furrow-opener attached to the under side of the frame and disposed in coöperative relation to one surface of the disk, and a fender secured to the top side of the frame and inclined therefrom toward said disk and over the open top side of a grain-chamber which is formed between the disk and the furrow-opener, substantially as described.

4. In a grain-drill, the combination with a revoluble disk, of a scraper-support, a scraper pivotally mounted on the support, and a pressure-spring interposed between the pivoted scraper and the support to normally hold the latter in engagement with the disk, said spring being shiftable from its operative position and adapted to release the scraper and

allow it to assume an idle relation to the disk, substantially as described.

5 In a grain-drill, the combination with a frame, and a colter-disk, of a scraper-support mounted on said frame, a scraper hinged to said support, and a spring pivoted to the scraper and bearing against the support to normally maintain the scraper in coöperative relation to one face of the disk, said spring
10 being shiftable out of engagement with the

support and thereby permit the scraper to assume an idle position, substantially as described.

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

CHARLES DESJARDINS.

Witnesses:

JOSEPH LAMOUREUX,

OVIDE PREFONTAINE.