

O. G. RIESKE.
DISK FURROW OPENER.
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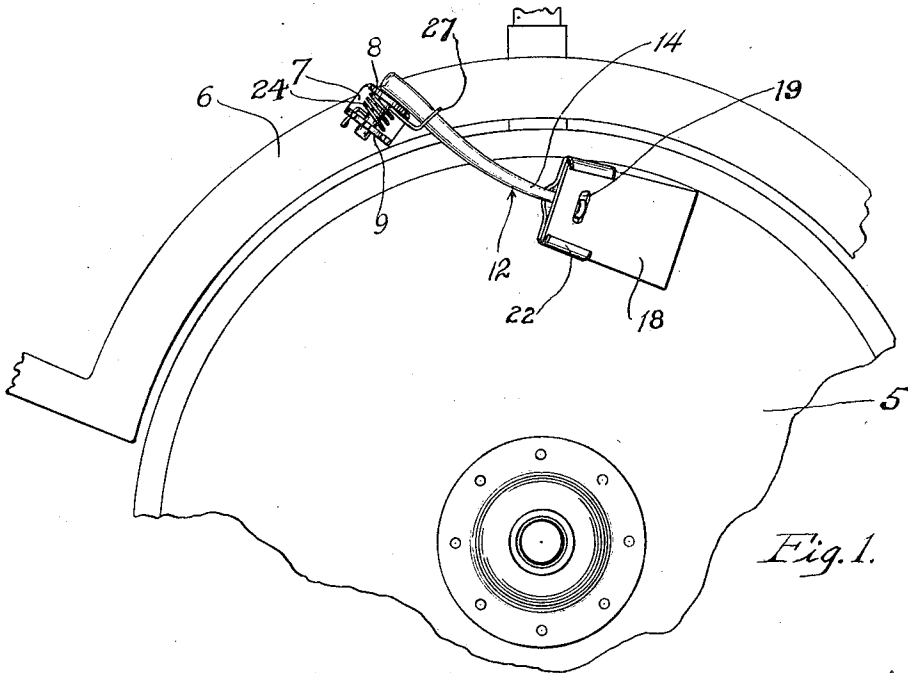
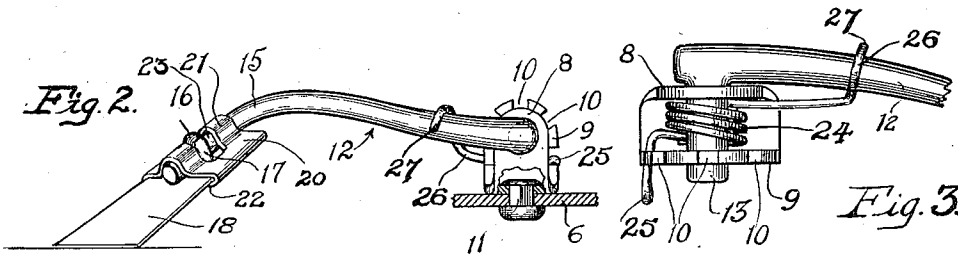


Fig. 1.



Witnesses.
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UNITED STATES PATENT OFFICE.

OTTO G. RIESKE, OF ST. LOUIS PARK, MINNESOTA, ASSIGNOR TO THE MONITOR DRILL COMPANY, A CORPORATION OF MINNESOTA.

DISK FURROW-OPENER.

1,017,109.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, OTTO G. RIESKE, a citizen of the United States, residing at St. Louis Park, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Disk Furrow-Openers, of which the following is a specification.

This invention relates to an outside scraper for use on disk furrow openers, and one particularly intended for cleaning the disk near its periphery.

Objects of the present invention are, to provide a scraper of simple form, the paddle of which can be reversed from time to time in order to insure even wear on both sides of its working edge; to provide an outside scraper which is self-contained and independent of that on the opposite side of the furrow opener or grain drill; to provide a scraper paddle which can be removed and replaced from time to time without the necessity of rejecting other parts of the device and without serious inconveniences; to provide a scraper which will automatically and perfectly adjust itself at every instant to the plane of the disk; to provide simple attaching means for the scraper; to provide adjustable spring tension means for holding the paddle against the disk; and to so proportion and support the scraper as a whole that the best results will be obtained in its use.

Other objects and uses will appear from a detailed description of the invention, which consists in the features of construction and combination of parts hereinafter described and claimed.

Referring to the drawing, Figure 1 shows a side view of a portion of the grain drill with my improved scraper attached thereto; Fig. 2 shows a detail top view of the scraper of Fig. 1; Fig. 3 shows an enlarged detail of the bearing, including the pivotal attachment of the scraper arm to the same and the spring connection between these two parts.

In the embodiment of my invention, I provide a bearing member, which I attach to a stationary portion of the drill frame. I then provide a scraper arm of peculiar shape, which I pivot in the bearing member, and to the free end of which I pivotally at-

tach a scraper paddle. The connection between the scraper arm and the bearing member is of novel construction, in that the spring which serves to press the paddle against the disk serves also to hold the arm in proper engagement with the bearing member.

Referring now to the figures, a disk 5 is rotatably attached to a boot arm 6 in any suitable manner; I do not here concern myself with the details of this attachment. In the construction illustrated, the boot arm is made from pressed steel, and a scraper bearing 7 is secured to the same. This bearing member is preferably a yoke of pressed steel, the outstanding arm 8 of which is plain, but is provided with a bearing hole, and the other outstanding arm 9 of which is provided with a bearing hole in register with that in the arm 8, and is, in addition, provided around its periphery with a number of spring tension adjustment slots 10.

In the illustrated construction, the bearing member is riveted to the boot arm by a single non-circular rivet 11, so that its rotation with respect to the boot arm is prevented in the event that the rivet should work loose. The rivet should preferably have a square shank.

The arm 12, which carries the paddle, is of peculiar shape. At its rear end it is formed or provided with a pin 13, which passes through the holes of the yoke and on which it may rotate to compensate for irregularities in the shape of the disk or for wear of the paddle.

Referring to Fig. 1, the arm passes backwardly and down a certain distance, and then curves so that its rear portion 14 lies more nearly horizontal. Reference to Fig. 2 shows that the rear portion then bends inwardly at a comparatively sharp angle, so that its end 15 approaches the disk at the proper angle. A rib 16 on the end portion 15 passes a little more than half way around the arm, but the portion 17 which is not encircled by this rib is formed substantially flat, so that the arm is practically smooth lengthwise at this point. The paddle 18 is preferably wedge-shape and supported with its broad edge against the disk. Near its narrow end it is provided with a slot 19, the

function of which will also presently appear. A pressed steel jaw 20 holds the paddle in pivotal engagement with the end 15 of the arm. The middle portion 21 of this jaw is formed to provide a substantially circular space between it and the surface of the paddle to receive the end of the arm. Its edges 22 are then folded tightly against the edges of the paddle to grip the same securely. A slot 23 of the jaw registers with the slot 19 of the paddle.

The rib 16 projects far enough from the arm to engage the slots 19 and 23 and thus prevents the paddle from being pulled off from the end of the arm.

A spring 24 of peculiar shape serves to force the arm over and keep the paddle in proper contact with the disk. The end 25 of this spring engages one of the slots 10 of the yoke, and the other end 26 presses against the arm. By inserting the end 25 into the proper slot the amount of force thrown on the arm can be regulated to suit requirements.

Evidently, unless special means are provided, the pin end 13 may be pulled away from the yoke. In the present case, I form a hook 27 on the end 26 of the spring. This hook partly encircles the arm in a manner to prevent it from being pulled away from the yoke. Therefore, the spring serves a double function, thus simplifying and cheapening construction and making a more durable structure.

It will be understood that either side of the paddle may be brought into engagement with the disk, so that it will wear evenly on both sides. Furthermore, a double adjustment between the paddle and the disk is secured, by reason of the pivotal support of the arm, and the pivotal attachment of the paddle to the same, so that the paddle will readily adjust itself to all inequalities in shape or position of the disk. It will also be understood that in the construction herein shown and described, the scraper of each disk is independent from that of the other. This is a very desirable feature, for the reason that injury to one scraper will not interfere with the operation of the other, and also because the operation of removing one disk and its scraper is simplified, in that the other scraper is not interfered with.

It will be seen that the scraper construction herein shown and described is one which may be made in an extremely cheap but lasting manner. The yoke or bearing member, being of pressed steel, can be formed from a single piece of metal, and the arm may be cast or stamped from steel or iron. I wish it to be especially understood, however, that I include within the scope of my invention the provision of a construction in which the pressure of the scrapers can be adjusted to suit requirements, a construc-

tion in which the scrapers for the individual disks are separate from each other, and a construction in which the spring serves to hold the arm in place on the yoke or bearing as well as to press the paddle against the disk.

I claim:

1. In combination with a disk implement, a U-shaped yoke rigidly secured to a stationary portion of the implement frame, and having a pair of oppositely disposed holes in the arms of the yoke, and having a plurality of adjustment slots in the periphery of one of the arms, a paddle arm, a pin on one end of the same extending substantially at right angles to the paddle arm and entered through the holes of the yoke arms to bring the paddle arm into engagement with the outside face of the unslotted yoke arm, and a helical spring surrounding the pin between the yoke arms and having one end in engagement with an adjustment slot of the yoke and having its other end in engagement with the paddle arm, the yoke being so positioned on the implement frame with respect to the disk of the same that the working edge of the paddle extends in a suitable direction to clear the disk of dirt, substantially as described.

2. In combination with a disk implement, a U-shaped yoke rigidly secured to a stationary portion of the implement frame, and having a pair of oppositely disposed holes in the arms of the yoke, and having a plurality of adjustment slots in the periphery of one of the arms, a paddle arm, a pin on one end of the same extending substantially at right angles to the paddle arm and entered through the holes of the yoke arms to bring the paddle arm into engagement with the outside face of the unslotted yoke arm, and a helical spring surrounding the pin between the yoke arms and having one end in engagement with an adjustment slot of the yoke and having its other end in engagement with the paddle arm and of hooked formation for holding the paddle arm in engagement with the outer face of the unslotted yoke arm to maintain the pin within the holes of the yoke arms, the yoke being so positioned on the implement frame with respect to the disk of the same that the working edge of the paddle extends in a suitable direction to clear the disk of dirt, substantially as described.

3. In combination with the frame of a disk implement, a U-shaped yoke in engagement with one of the faces of such frame and provided in its arms with a pair of oppositely disposed holes and in one arm with a plurality of adjustment slots, a paddle arm, a pin on the same extending through the holes of the yoke arms, a helical spring surrounding the pin between the yoke arms and having one end in engagement with an

adjustment slot and the other end in engagement with the paddle arm, and a non-circular rivet extending through that portion of the yoke which is in engagement with the
5 face of the implement frame and through the implement frame for maintaining the yoke in engagement therewith, and for

maintaining it against rotation, substantially as described.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."