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YIELDING DEVICE FOR DISK PLOWS

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Fig. 1

Fig. 2

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By their Attorneys.
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Witnesses
Harry Ospahl
E. L. Simpson
To all whom it may concern:

Be it known that we, MARTIN ANDERSON and MARION F. OGDEN, citizens of the United States, residing at Stanley, in the county of Ward and State of North Dakota, have invented certain new and useful Improvements in Yielding Devices for Disk Plows; and we do hereby declare the following to be 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.

Our invention relates particularly to disk plows, but generally to agricultural implements employing disks to open furrows in the ground.

The invention has for its object to provide a simple and efficient yielding support for disks, which, under normal conditions, will hold the disks in operative position, but, under abnormal strains, such as produced when running against a rock or a root, will yield and prevent breaking of the disks.

The invention is illustrated in the accompanying drawings, wherein like characters indicate parts throughout the several views.

Referring to the drawings, Figure 1 is a plan view, showing a portion of the beam 40 of a gang disk plow, and illustrating the improved yielding disk-support applied thereto; and Fig. 2 is a vertical section taken on the irregular line $x^2 + x^2$ of Fig. 1.

The plow beam 1, which may be of any suitable construction, is shown as of the customary I-beam construction.

The disks 2 are shown as journaled to bearing plates 3, which, in turn, are rigidly secured to the rear outer extremities of bearing brackets 4, which bearing brackets are shown as made up each of two heavy flat metal bars having laterally bent overlapped inner end portions, which, as hitherto arranged, have been rigidly bolted to the vertical web of the beam 1. In applying our invention to this standard construction so far described, the inner end or base portions of the brackets 4 are connected to the vertical web of the beam 1 by nutted bolts 5 and strong coiled springs 6, two of each of which are preferably employed in connection with each bracket. Both of these bolts 5 are passed through holes in said beam flanges, and one thereof is passed through but one, while the other is passed through both of the inner end portions of the two bars that make up the bracket 4. The coiled springs 6, at their inner ends, press against the vertical web of the I-beam 1, while the outer extremities thereof, as shown, press against washers 7, which, in turn, are adjustable held by the ends of the bolts 5 and, hence, are capable of adjustment to vary the tension of the springs, as may be required at different times for different conditions of soil.

With the arrangement above described, it is evident that when a disk is thrown against an obstruction, the displacement of which requires such force as will probably break a disk, the bracket that supports the disk will yield and rock approximately as indicated by dotted lines in Fig. 1, and thus allow the disk to clear such obstruction. The tension of the springs 5 will be so set that in the ordinary plowing action the brackets will support the disks in the same manner as if the said brackets were rigidly secured to the plow beam.

The value of a device of the kind above described will be appreciated by all persons familiar with the use of disks in plows, cultivators, seeders or other machines employing disks for action on the ground. The yielding device adds but very slightly to the cost of a plow or machine and, as above illustrated, may be applied to a disk-plow of standard construction, simply by the substitution of long bolts and springs for the short bolts usually employed.

What we claim is:

1. In a device of the kind described, the combination with a beam, of a disk, and a bracket yieldingly connecting said disk to said beam with freedom for lateral movements, substantially as described.

2. In a device of the kind described, the combination with a beam, of disk supporting brackets, disks journalied to the extended portions of said brackets, and bolts and cooperating springs yieldingly connecting the base ends of said brackets to said beam, substantially as described.

3. In a device of the kind described, the combination with a beam, of disk supporting brackets having laterally extended bases, disks journalied to the extended portions of said brackets, long nutted bolts extended through perforations in the bases of said brackets and through said beam, and coiled springs surrounding said bolts, reacting...
against said beam and against said bolts and normally holding the base ends of said brackets against said beam, but adapted to yield under abnormal strains to permit rocking movements of said brackets, substantially as described.

4. In a device of the kind described, the combination with a beam, of disk supporting brackets, disks journaled to the extended portions of said brackets, and adjustable spring devices connecting said brackets to said beam, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

MARTIN ANDERSON.
MARION F. OGDEN.

Witnesses:
W. E. BARBER,
GEORGE HAMMILL.