

No. 666,895.

Patented Jan. 29, 1901.

J. A. CARR & S. H. JONES.

GRAIN DRILL.

(Application filed Nov. 7, 1900.)

(No Model.)

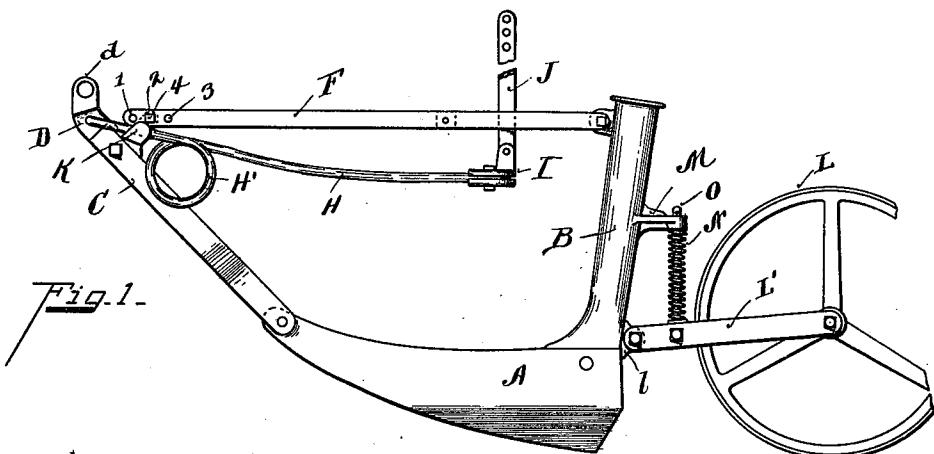


Fig. 1.

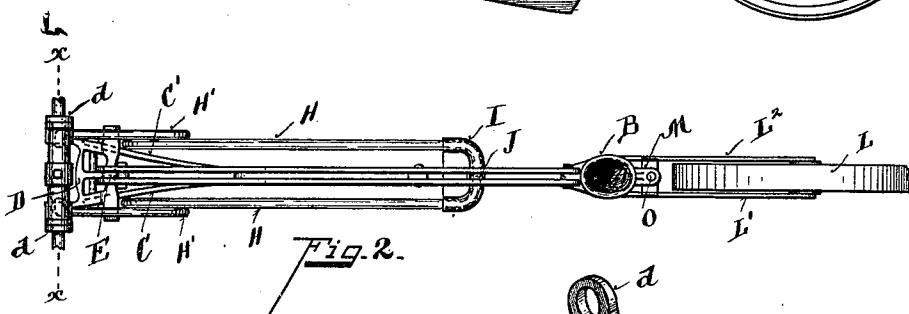


Fig. 2.

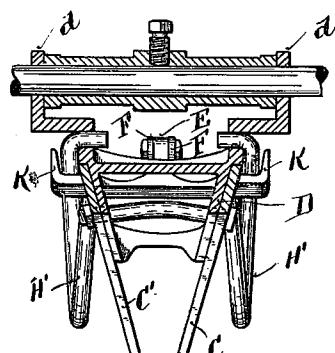


Fig. 3.

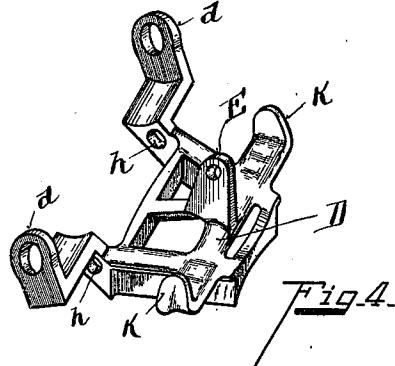


Fig. 4.

Witnesses

Oliver B. Kaiser
Pearl M. Michael

Inventors
James A. Carr and Sylvester H. Jones
By Wood & Wood
Attorneys

UNITED STATES PATENT OFFICE.

JAMES A. CARR AND SYLVESTER H. JONES, OF RICHMOND, INDIANA,
ASSIGNORS TO THE HOOSIER DRILL COMPANY, OF SAME PLACE.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 666,895, dated January 29, 1901.

Application filed November 7, 1900. Serial No. 35,711. (No model.)

To all whom it may concern:

Be it known that we, JAMES A. CARR and SYLVESTER H. JONES, citizens of the United States, residing at Richmond, in the county 5 of Wayne and State of Indiana, have invented certain new and useful Improvements in Grain-Drills, of which the following is a specification.

One object of our invention is to provide 10 mechanism for supporting the shoe and hoe of a grain-drill; also, to provide means for connecting the parts together, so as to obtain a separate action of each shoe; also, to provide mechanism for securing the simultaneous 15 raising of said parts.

Another object of our invention is to provide a stronger support for the hoe and covering devices.

The features of our invention are more 20 fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of our improvement. Fig. 2 is a top plan view of Fig. 1. 25 Fig. 3 is an enlarged section on line $x-x$, Fig. 2. Fig. 4 is a perspective view of the bracket-support.

A represents the shoe of an ordinary grain-drill. B, the hoe or seed-tube secured there- 30 to. The front end of said shoe is hinged to draw-bars C C', said bars being rigidly se- cured at their front ends to a bifurcated bracket D. d represents the ears thereof, which are hinged to a central rod of the main 35 frame of the grain-drill. This grain-drill frame is of the ordinary construction. Said bracket D forms a connection and support for all the instrumentalities connecting the tube and shoe to the main frame of the drill. 40 E represents a central support of said bracket, to which are secured a pair of the upper draw- irons F, which are at the rear end bolted to the grain-tube or hold and furnish an upper draft and support for the grain-tube. It will 45 be noted that the draw-irons F straddle a central support E of the bracket, the said draw-irons being provided with the bolt-holes 1, 2, and 3 and the central support E with the bolt-hole through which passes the bolt 50 4. Thus the draw-irons may be adjusted to different lengths, so as to tilt the seed-tube B,

and hence the shoe or hoe if thus used, to dif- 55 ferent angles. The practical result of this is that different conditions of soil require dif- ferent angles of adjustment, and this bracket D admits of the support as well as the ad- justment of the draw-irons. Trashy ground requires one adjustment and ground with lit- tle trash another, and these conditions are easily and efficiently met by means of these 60 adjustable draw-irons.

H represent a pair of arms to form a U- shaped spring for depressing the shoe. Each arm is provided with a spring-coil H', and they are connected to the said bracket D at 65 their front ends. I represents a bracket for supporting the rear ends of said spring-arms. This bracket is hinged to a lifting-lever J, which passes up through the pair of draw- irons F. When said lever J is elevated, the 70 ears of the bracket come in contact therewith and lift the shoe and tube, the forward ends of which are secured to the hinged bracket. Said bracket D is likewise pro- 75 vided with upcurved arms K, which serve to support and limit the downward movement of the spring-arms H. The preferable form of connecting said spring-arms to the bracket is to engage said ends of said arms in the holes h of the bracket D. 80

Two kinds of covering device are employed in connection with the shoe and tube or hoe of a grain-drill.

L represents a covering-wheel journaled in a pair of link-arms L' L², which are hinged 85 to the ear l of the grain-tube or hoe.

M represents a bracket cast integral with the tube and furnishes a support for the compressor-spring N, which is coiled around a central rod O, the lower end of said spring 90 seating on the arms L' L² and the upper end seating against the bracket M. We thus pro- vide a strong and effectual support for the covering-wheel and durable mechanism for securing an independent movement for each 95 covering-wheel.

Covering-chains are sometimes employed in lieu of the covering-wheels, in which case the draw-arms and spring connections of the covering-wheels are detached and the cover- 100 ing-chains are secured directly to the ear l.

By the means herein shown and described

we obtain a more durable support and connection of the grain-tube and its shoe with the main frame of the drill and at the same time obtain the independent yielding of the 5 individual shoes.

Having described our invention, what we claim is—

1. In combination with the hoe and shoe of a grain-drill, a bracket adapted to be pivoted 10 to the same, draw-irons connected to the shoe, draw-irons connected to the tube, both of which are connected to said bracket substantially as specified.

2. In combination with the hoe and shoe of a grain-drill, a bracket adapted to be pivoted 15 to the same, draw-irons connected to the shoe, draw-irons connected to the tube, both of which are connected to said bracket-support, a yielding spring covering-wheel connected to 20 the grain-tube, substantially as specified.

3. In a grain-drill, in combination with the tube and shoe, a bracket, a pair of upper drawing-irons and a pair of lower drawing-irons secured to said common bracket-support, and 25 spring-arms connected to said bracket and to the upper draw-irons, substantially as specified.

4. A connection for a shoe grain-drill consisting of a bracket having ears for hinging 30 the same to the main frame of the grain-drill, and having a support for upper and lower draw-irons and for spring depressing-arms

whereby said parts are all connected to a common support, substantially as specified.

5. In combination with a grain-drill, draw-irons attached to the top and bottom of the grain-tube, a bracket adapted to be hinged to the frame of the drill, means on the bracket for attaching thereto the front ends of the draw-irons, substantially as specified. 35

6. In combination with a grain-drill, draw-irons attached to the top and bottom of the grain-tube, a bracket adapted to be pivoted to the frame of the drill, means on the bracket for attaching the front ends of the draw-irons, 40 a spring pivoted to the bracket, and a shoulder projected from the bracket against which the said spring bears, substantially as specified. 45

7. In combination with a grain - drill, a bracket, draw-irons attached to the top and bottom of the grain-tube at the rear ends and to the bracket at the front ends, and means on the bracket for adjusting the upper draw-irons whereby the grain-tube is tilted to different angles, substantially as specified. 50

In testimony whereof we have hereunto set our hands.

JAMES A. CARR.
SYLVESTER H. JONES.

Witnesses:

F. J. CARR,
H. J. FARMER.