(No Model.)

# D. E. DARNELL.

## FURROWER, MARKER, AND COVERER.

No. 312,098. Patented Feb. 10, 1885.

Fig. 1.

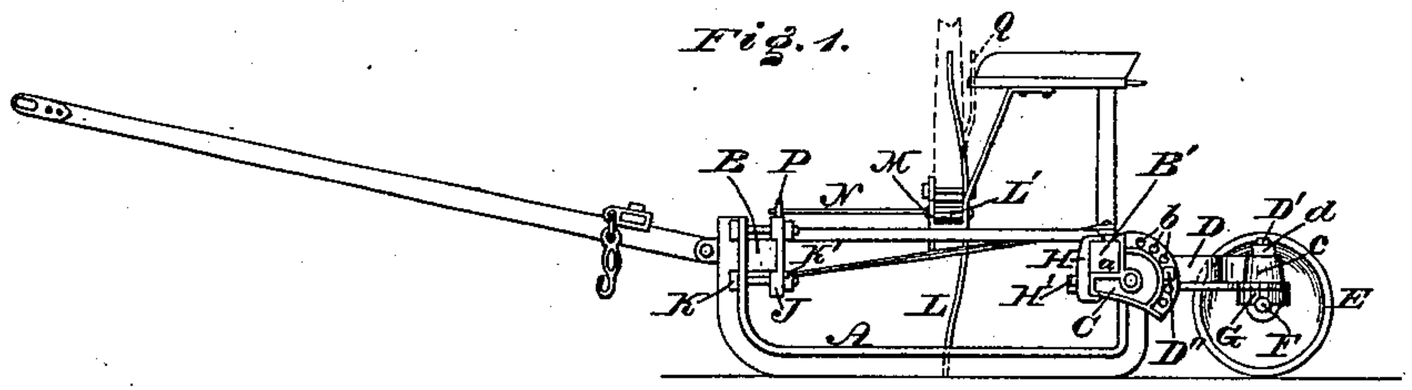



Fig. 2.

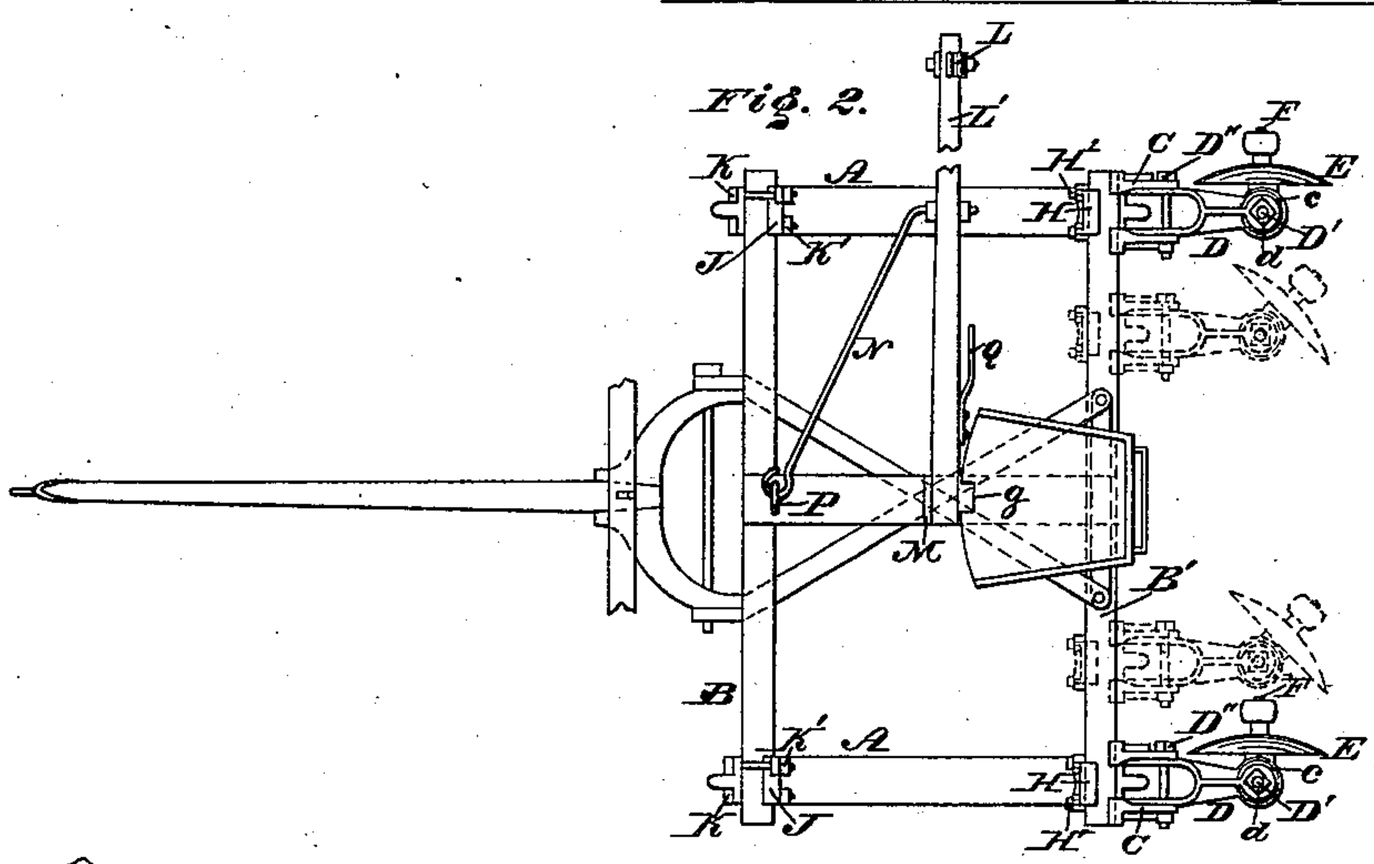



Fig. 3.

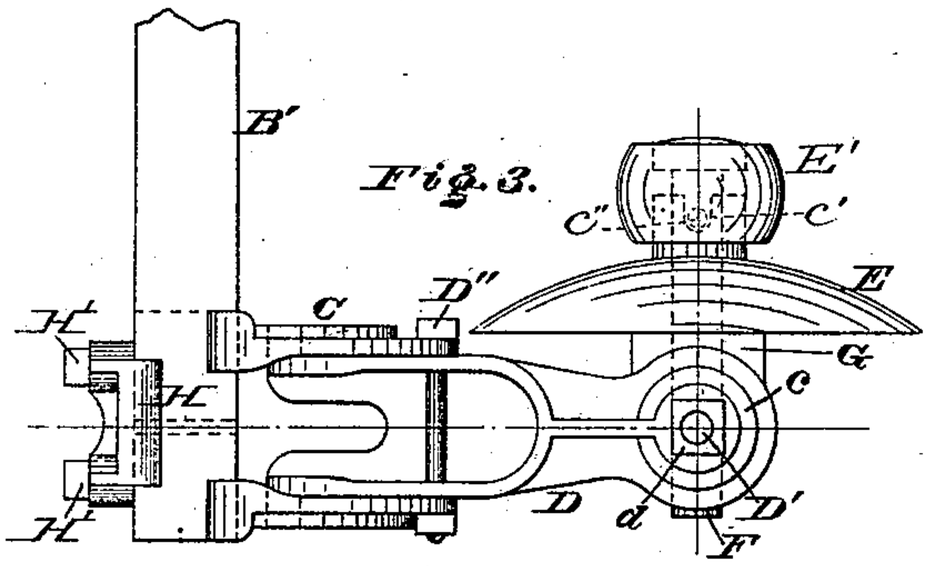



Fig. 4.

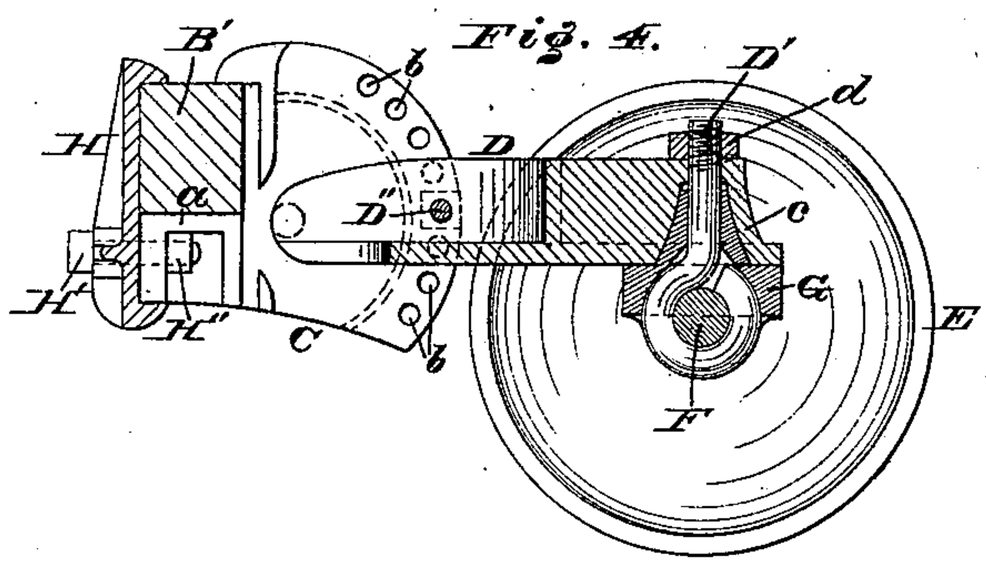



Fig. 5.

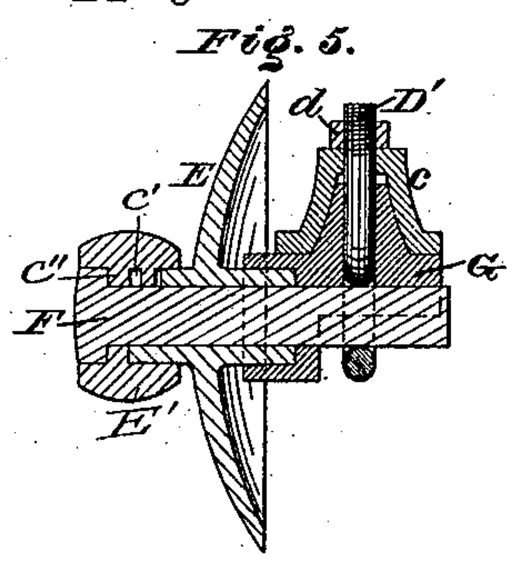
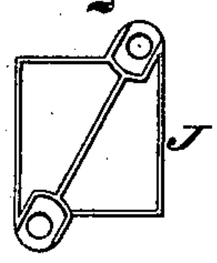



Fig. 6.

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# UNITED STATES PATENT OFFICE.

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## FURROWER, MARKER, AND COVERER.

SPECIFICATION forming part of Letters Patent No. 312,098, dated February 10, 1885.

Application filed April 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID E. DARNELL, a citizen of the United States, residing at Masonville, in the county of Burlington, State of New Jersey, have invented a new and useful Improvement in Furrowers, Markers, and Coverers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of a furrower, marker, and coverer embodying my invention. Fig. 2 is a top or plan view thereof. Figs. 3, 4, 5, and 6 are views of detached parts enlarged, some of the views being in section. Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to improvements in the class of marking-out sleds for agricultural purposes for which Letters Patent of the United States No. 242,115 were granted to me on the 31st day of May, 1881, the improvements consisting of plates for clamping the runners to the transverse beams, adjustable brackets for the shares, and other details, as will be hereinafter set forth.

Referring to the drawings, A represents runners, and B B′ the transverse beams of the frame or body of the sled or carrier of the other parts of the device.

C represents a bracket, consisting of a casting with a shoulder, *a*, to fit the beam B′, and projecting rearward therefrom, the sides of the casting having a row of openings, *b*, arranged in curvilinear direction. To the sides of the casting is pivoted an arm, D, the rear end whereof has a boss, *c*, to receive eyebolts D′, the eyes whereof are below.

E represents a rotary share whose axle F is passed through a rotatable plate, G, placed against the bottom of the boss *c*, said axle F being also passed through the eye of the bolt D′, and secured by the nut *d*, which is fitted to the bolt and tightens against the boss *c*. The groove of the share E has a groove or slot, *c*′, in the end of its hub to receive a tooth or tongue, *c*″, which projects inwardly from a sleeve, E′, the latter being fitted on said hub, whereby, by means of said tooth and slot, the share and sleeve are connected. The axle F is passed through the sleeve and hub of the share, and its head abuts freely against said sleeve, whereby displacement of the latter is prevented, it being noticed that the axle is securely held by the eye of the bolt D′, and thus the share is firmly retained in position, it also being noticed that the share rotates on the axle and the sleeve rotates with the share on the head of the axle, the hub and sleeve thus providing a broad bearing for the share on the axle, and the share is reliably connected with the axle, and the ends of the sleeve are closed, preventing the admission of dirt to the hub and axle of the share. When the bolt D is loosened, the axle, and consequently the sleeve and share, may be removed.

At the forward end of the bracket C is an upright plate, H, which is secured to the casting of the bracket by means of bolts H′ and nuts H″, said bolts passing through the plate H and front wall of the bracket.

In order to secure the runners A to the beams B, I employ clamping-plates J, which are fitted to the beams B B′ on the sides opposite to the upper ends of the runners, and clamped by means of bolts K and nuts K′, the bolt-openings in the plates being formed in extensions in diagonal corners of the plates, whereby the runners may be firmly connected with the beams, and provision is made for setting or adjusting the runners nearer to or farther from each other, according to requirements.

When the device is used as a furrower, as shown in Fig. 2, two brackets and shares, with the appurtenances thereof, are employed, the beam B′ occupying the shoulders *a* of the brackets, and the plates H connecting the brackets with said beam, the rear plates, J, being dispensed with. In this case the ends of the runners are passed through vertical openings in the brackets and rested against the beam B′, so as to be tightened or clamped to the beam and brackets by the bolts and nuts H′ H″.

When the device is used as a coverer, the brackets and shares are in the position shown by the dotted lines, Fig. 2, the rear ends of the runners are secured to the beam B′ by means of the plates J, bolts and nuts K K′, and the brackets are connected with the beam

by the clamp H and bolts and nuts H′ H″. Either share may be vertically adjusted by removing the holding-bolt D″, which is passed through an opening of the series of openings *b* of the bracket and the arm D. The arm D may be raised or lowered as required, and when the proper adjustment is obtained the bolt D″ is fitted in the respective openings of the series *b* and has its nut tightened, whereby the arm D is firmly held and prevented from shifting. The adjustment of the share so as to set its concave face in different directions is accomplished by means of the bolt D′, which may be rotated when the nut *d* is loosened, said nut being afterward tightened when the share is adjusted.

L represents a marker the bar or rod L′ whereof is pivoted to an ear, M, secured to the central longitudinal beam of the sled or carrier, whereby said bar may be placed on the right or left side, as desired. A brace, N, is securely attached at one end to the bar and hooked at the other end to an eye, P, on the front of the sled, whereby the bar is sustained and enabled to endure the strain to which it is subjected. On the driver's seat or another raised part of the sled or carrier is a notch, *g*, and connected with the bar L′ is a spring or spring-latch, Q, so disposed that when it is required to hold the marker upright or inoperative it is thrown up and the spring Q engages with the seat, thus locking the bar with the seat and controlling the marker, it being seen that this is readily effected owing to the peculiar construction of the latch, which consists of a piece of spring metal, one end of the same being fastened to the bar, while the other part, which is bent and free, is set out from said bar. When the bar is raised, this spring is depressed as it comes in contact with the seat, and so remains until it reaches the notch *g*, which permits the tension to be released and the free end of the spring to drop and be retained therein. By pressing against the spring Q it leaves the notch *g*, whereby the marker is free to be lowered to either side. Furthermore, the latch is connected with the rear side of the bar, and the notch *g* is at the front of the seat, it being evident that the marker and the fastening therefor are in front of the driver, where they can be readily seen and most conveniently operated. When the marker is lowered, the driver can easily reach the same and raise it to inoperative position, the leg of the driver on the relative side being thrown aside of the seat until the bar is upright. When the marker is secured by the notch and is to be released therefrom, the driver may readily press the latch from the notch *g*, and then guide the bar to the right or left, as required.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The runners A and the plates J, in combination with the beams B, interposed between said plates and said runners, the bolts K, which pass through said runners and said plates above and below said beams, respectively, and the nuts K′, whereby said plates may be tightened or loosened in their clamping action on said beams, substantially as set forth.

2. The beam B′ and plate H at the front thereof, in combination with a bracket, C, provided with a shoulder, *a*, which passes under said beam and is bolted to said plate, an arm, D, which is pivoted to said bracket, a share which is carried by said arm, and a pin which passes through said arm and into any one of a segmental series of holes, *b*, in said bracket, for the purpose of regulating the vertical position of said share, substantially as set forth.

3. The front plate, H, and bracket C, in combination with the beam B′, which is clamped between said plate and bracket and rests on said shoulder, an arm pivoted to said bracket, and a share carried by said arm, substantially as set forth.

4. The arm D, having the socket *c* formed in its end, in combination with a bracket clamped thereto, the share E, the axle F, the rotatable plate G, the eyebolt D′, in which said axle is journaled, and the nut *d*, substantially as set forth.

5. A rotary share connected with a stationary axle by means of a rotary sleeve which is interlocked with the hub of said share, the axle passing through both hub and sleeve, and having its head freely abut against the latter, substantially as and for the purpose set forth.

DAVID E. DARNELL.

Witnesses:
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A. P. GRANT.