

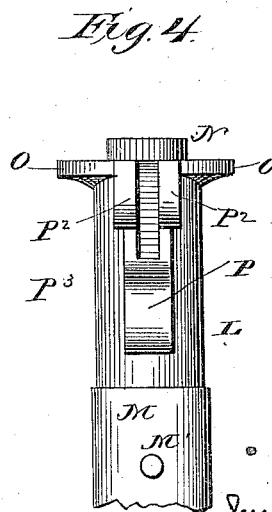
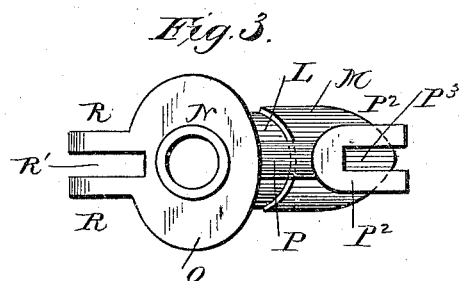
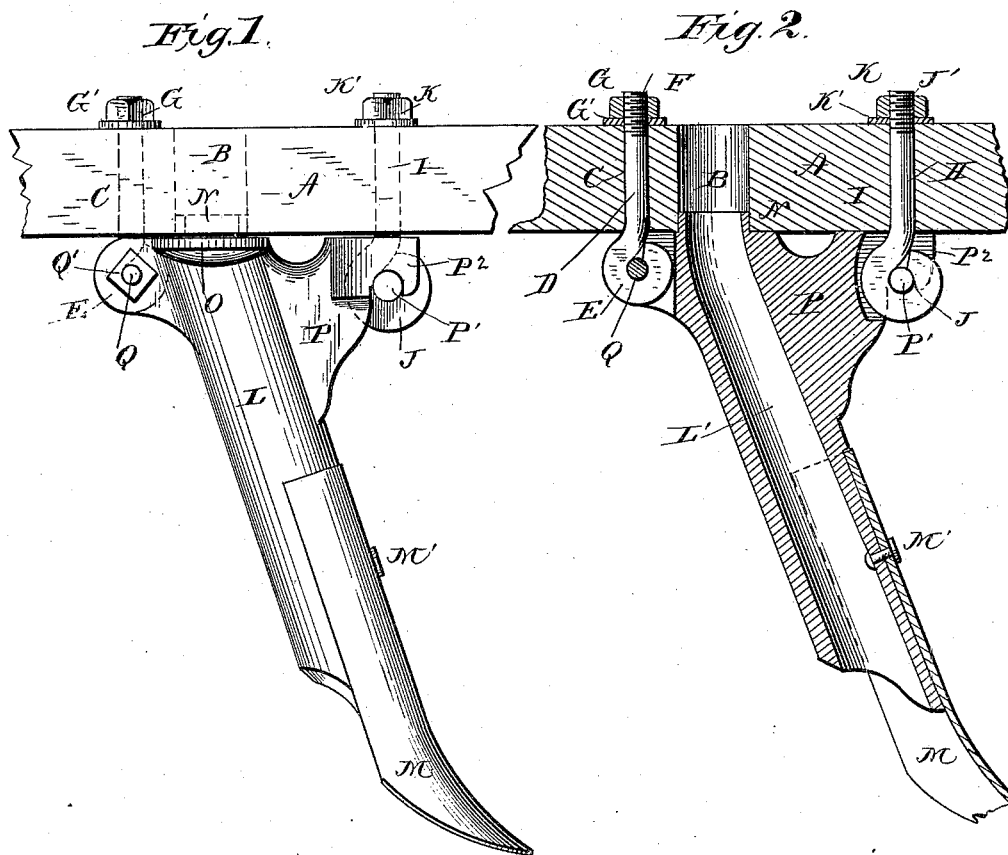
(No Model.)

J. B., W. H., & O. B. JOHNSON.

SEED DRILL TOOTH.

No. 307,658.

Patented Nov. 4, 1884.



WITNESSES
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UNITED STATES PATENT OFFICE.

JESSE B. JOHNSON, WILLIAM H. JOHNSON, AND OSCAR B. JOHNSON, OF INDIANAPOLIS, INDIANA, ASSIGNORS OF ONE-HALF TO CHARLES P. JACOBS, OF SAME PLACE.

SEED-DRILL TOOTH.

SPECIFICATION forming part of Letters Patent No. 307,658, dated November 4, 1884.

Application filed July 28, 1881. (No model.)

To all whom it may concern:

Be it known that we, JESSE B. JOHNSON, WM. H. JOHNSON, and OSCAR B. JOHNSON, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Seed-Drill Teeth; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to seed-drill teeth; and it consists in the parts which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of the device attached to a fragment of the drill-stock. Fig. 2 is a central vertical section of the parts shown in Fig. 1. Fig. 3 is a top plan view of the tooth, and Fig. 4 is a front elevation of the same.

Like letters indicate like parts throughout the several views.

The letter A represents the drill-stock, provided with the opening B for the reception of the hose from the top and the admission of the tooth-collar from below.

C is an opening in the stock for the reception of bolt D. Said bolt is provided with eye E on its lower end and a threaded upper end, F. G is a nut, and G' a washer, on bolt D.

H is an opening in the stock forward of the opening B.

I is a bolt through opening H.

J is an eye on said bolt, and J' is the threaded end thereof, provided with nut K and washer K'.

L is the tooth, provided with opening L'.

M is the point or shovel on the tooth, secured thereto by bolt and nut M'.

N is a collar on the upper end of the tooth, and O is an elliptical flange projecting outward from the base of the collar N.

P is a lug projecting forward from the upper end of the tooth. This lug is provided with hook ends P² P², between which (in the recess P³) the eye J fits.

P' is a wooden break-pin through the eye J.

Q is a bolt which passes through openings

in the lugs R R and through the eye of the bolt C. The eye E of the bolt C fits into the recess R' between the eye-lugs R R.

Q' is a nut on the threaded end of bolt Q. The bolt Q is a pivot, upon which the tooth may be turned back from its position, as shown in Figs. 1 and 2, when the pin P' is broken or withdrawn. The hook ends P² P² of the lug P lie against the under side of the stock A, and they inclose the eye J in the recess P³ between them. When thus arranged and the pin P' inserted through the eye J, the hooks P² P² are over said pin. Then by screwing down the nut K the bolt H and pin P' are drawn upward, and the upper sides of the hooks P² P² drawn tightly against the under side of the stock, and the tooth thereby held firm and secured. By this means the tooth may be tightened when it becomes loose on the stock. The rear pivot-bolt, C, may also be drawn up and the tooth secured in like manner.

The object of this invention is to attach the tooth directly to the under side of the drill-stock without the intervention of a plate between tooth and stock. Heretofore certain machines in this class have been constructed with a plate immediately under the drill-stock. To the under side of this plate the tooth is secured by cross-pins or bolts, the plate being bolted to the stock. By this arrangement the plate could be rigidly united to the stock; but when the tooth became loose upon the plate it could not be tightened. We remedy this defect by attaching our tooth to the stock by means of eyebolts passing vertically through the stock. By this arrangement we do away with the plate and produce a simple and effective device. The upper surface of the arms P² and R are in a plane with the upper surface of the elliptical flange O, whereby a substantial flat surface is presented to the under side of the drill-stock, thus aiding in the prevention of lateral play of the tooth.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A drill-tooth provided with hook-arms on its upper front side and two projecting arms on the rear upper side thereof, said rear arms

having an intervening recess for the reception of the eye of the rear bolt, and also provided with cross-openings for the transverse pivotal bolt, in combination with the eyebolts I D, the cross-bolt Q, and pin P', substantially as described, and for the purpose set forth.

2. A drill-tooth provided with two hook-arms on its upper front side, and two projecting arms on the rear upper side thereof, said rear arms having an intervening recess for the reception of the eye of the rear bolt, and also provided with cross-openings for the transverse pivotal bolt, the upper end of the drill being provided with the broad flange O, the upper surface of the front and back arms being in a plane with upper surface of said flange, whereby a series of flat even surfaces are presented to under side of the drill-stock, and lateral play of the tooth prevented, in combination with the stock provided with the openings C B H, the eyebolts D I, bolts Q, and pin P', substantially as described, and for the purpose set forth.

3. A drill-tooth provided on its upper side

with the collar N, lateral flange O, and front and rear arms, P² R, in combination with the stock A, having drill-opening B, bolt-openings C H, the eyebolts D I, cross-bolts Q, and pin P', substantially as described, and for the purpose set forth.

4. A drill-tooth provided on its upper front side with hook-arms P², and on its rear upper side with arms R, having cross-bolt openings therein, in combination with the stock A, having drill-opening B, bolt-openings C H, the eyebolts D I, cross-bolts Q, and pin P', substantially as described, and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JESSE B. JOHNSON.
WM. H. JOHNSON.
OSCAR B. JOHNSON.

Witnesses:

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