(No Model.)

C. ST. JOHN.

TOOTH HOLDER FOR SEEDERS.

No. 303,465. Patented Aug. 12, 1884.

Fig. 1.

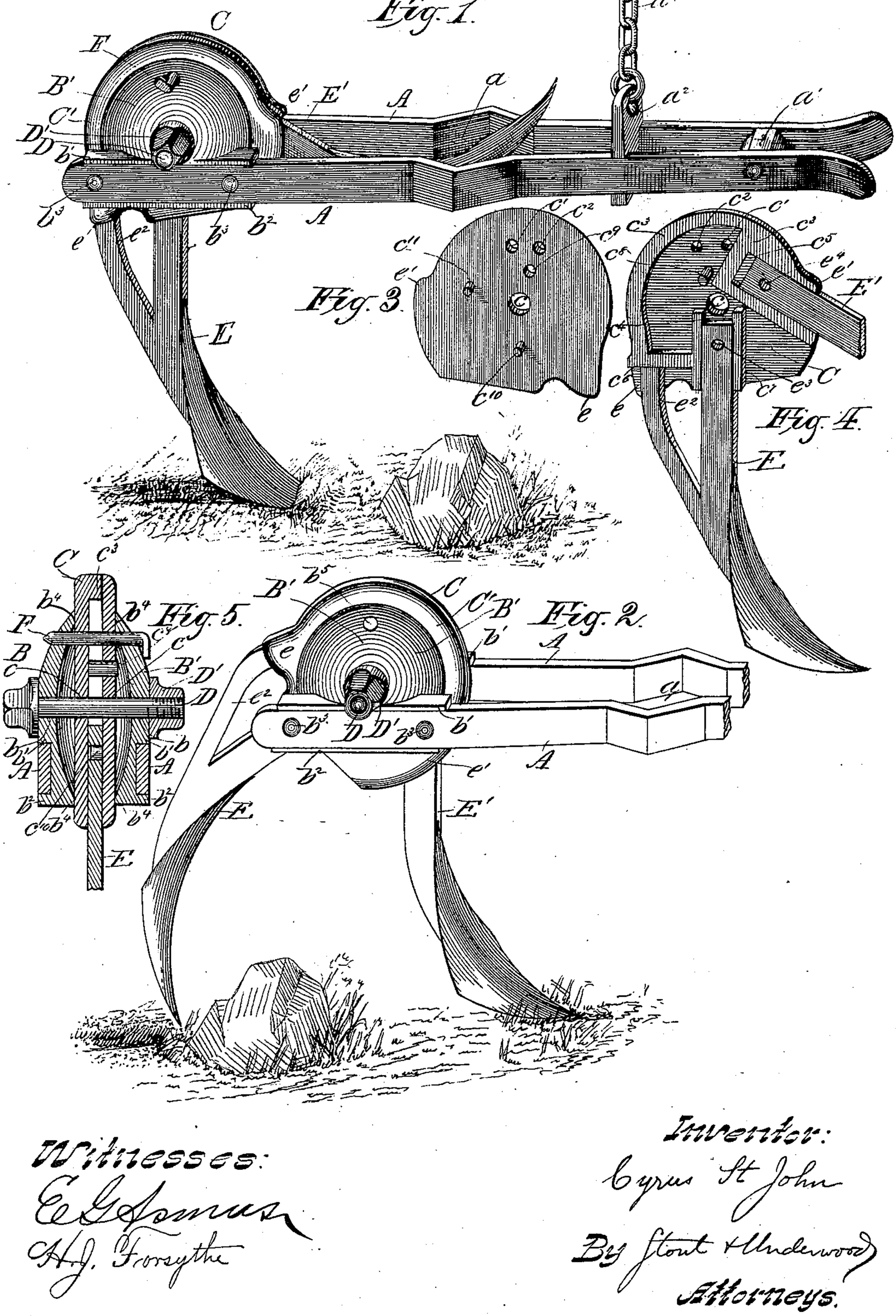

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

CYRUS ST. JOHN, OF HORICON, WISCONSIN.

TOOTH-HOLDER FOR SEEDERS.

SPECIFICATION forming part of Letters Patent No. 303,465, dated August 12, 1884.

Application filed April 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, CYRUS ST. JOHN, of Horicon, in the county of Dodge, and in the State of Wisconsin, have invented certain new and useful Improvements in Tooth-Holders for Seeders, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to holders for seeder or cultivator teeth; and it consists in certain peculiarities of construction, as will be fully set forth hereinafter.

In the drawings, Figure 1 is a perspective view of my device, showing it in position as used, with its teeth stationary. Fig. 2 is a like view of the same as used, with its teeth adapted to slip to avoid an obstruction. Figs. 3 and 4 show the inner construction of the holding-plates of my device, and Fig. 5 is a vertical cross-section through the center of my tooth-holder.

A A indicate the seeder or cultivator beams, which are made double, the space intervening between their parts being widened at *a* to allow of the blade of the teeth E E′ to be received or passed between them when the same are used as slipping or revolving teeth. The sides of the seeder or cultivator beam are connected at their front end by being bolted or riveted to the blocks *a′* and a^2, the latter being perforated in its upward-extending end to receive the usual chain, a^3.

To the rear end of the seeder-beams A is attached the tooth-holder, which is composed of the two frictional disks B B′ and of the holding-plates C C′, held between said disks, both of the plates and disks having a central perforation at *b* and *c* to receive the threaded bolt D, by means of which and of the fastening-nut D′ the device is adapted to hold the teeth in the adjustments they may receive. The frictional disks B B′ are convexed on their outer face, except below their central perforation, *b*, where an upper flange, *b′*, and a lower flange, b^2, are formed. These flanges project horizontally beyond the edges of the disks, and they extend outward to a common vertical plane, the space between them forming a rectangular groove, in which fit the ends of the double beam A, both being secured together by means of the rivets b^3 b^3. The inner faces of the disks B B′ are concaved, so that their rims b^4 alone bear against the outer faces of the plates C C′. Both disks have a perforation, b^5, close to their upper edges, and these perforations coincide with similar perforations, *c′* c^2, made at corresponding points of the plates C C′, these perforations being designed to receive the stop-pin F, whenever it is desired to use a stationary or fixed tooth, which may be either one of the teeth E E′. The holding-plates C C′ are made circular, except at the points of insertion of the teeth E E′. At such points the edges of the plates are extended out, as at *e e′*, to strengthen their bearing-faces. On the inner face of the plate C a series of flanges, c^3, slightly thinner than the teeth ends, are provided, parts of which form the groove or slot c^4 for the tooth E and the groove or slot c^5 for the tooth E′ the circular part of said flange c^3 serving as the bearing-face for the plate C′. The teeth E and E′ are interchangeable, however, and in whichever of the grooves or slots c^4 c^5 is set the tooth E, provided with the strengthening-brace e^2, said brace will squarely rest against a part of the flange c^3 at c^6 if set in the groove or slot c^4, and at c^7 if set in the groove or slot c^5. In order to keep the holding-plates C C′ well together, a stud, c^8, is formed on the inner face of the plate C, the same to be received in the perforation c^9, made at a corresponding point of the plate C′. Shorter studs c^{10} c^{11} are formed at points of this latter plate C′ corresponding with the upper part of the grooves or slots c^4 and c^5 of the opposite plate, C, the same to fit in perforations e^3 e^4, respectively, made in the upper end of the teeth E E′, these studs serving to hold the teeth in place and to prevent them from slipping out of their respective slots when said teeth are used as revolving teeth.

The manipulation of my tooth-holding device varies according to the nature of the ground over which the implement fitted with the said device has to be used. If the ground be absolutely clear of obstructions, either of the teeth E E′ may be used as a stationary tooth. This will be effected by first bringing either of the perforations *c′* c^2 of the holding-

plates C C′ in coincidence with the perforations b^5 of the frictional disks B B′, and then inserting through the coinciding perforations the fastening-pin F. The tooth E in Fig. 1 is represented as the one in use, the auxiliary tooth E′ lying in between the sides of the beam A. Should in such a case an obstruction be met unexpectedly, the driver will be enabled to overcome the same by drawing out the pin F and by slightly unloosening the nut D′. The teeth will then act as revolving or slipping teeth. The tooth E will be carried backward until it is raised sufficiently to pass over the obstruction, while, the tooth E′ being brought in the position previously occupied by the tooth E, the perforations c^2 of the holding-plates C C′ will coincide with the perforation b^5 of the frictional disks B B′. The driver will then insert the fastening pin F in the coinciding perforations, causing the tooth E′ to act now as the stationary working-tooth. The tooth E may be brought back to its position, as shown in Fig. 1, when the implement has reached the head-land.

When the implement is used over ground where obstructions—such as stones, stumps, or the like—are to be met, the pin F is taken out of its place at b^5, and the nut D′ is acted upon by a common key until the friction between the rims b^4 of the frictional disks B B′ and the outer faces of the holding-plates C C′ is sufficient to overcome the resistance of the soil in which the teeth E or E′ will have to work, but not so great but that it would be overcome by meeting an obstruction in its path. In this case the tooth E, as shown in Fig. 2, will slip past the obstruction, and the tooth E′ will thereby come down to take its place.

I have shown the flange c^3 as continuous; but, instead, I may cast the plate C with a series of projections, the sole object being to insure proper bearing-surface on this plate for the other plate, C′.

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

1. In a seeder or cultivator, a tooth-holder having central plates, substantially as described, wherein the teeth are held in position, and frictional disks attached to the end of the seeder or cultivator beams, by means of which and of a bolt passing through the center of both plates and disks and carrying a fastening-nut the working-tooth is adapted to slip when striking an obstruction, the same being replaced in the ground by an auxiliary tooth, substantially as set forth.

2. In a seeder or cultivator, in combination with a beam made in two parts, and having the intervening space *a* for the passage of the tooth blade or point, the frictional disks B B′, having flanges b' b^2, wherein fit the ends of the beam A, and the rivets b^3 b^3, substantially as shown and described, and for the purpose set forth.

3. In a tooth-holder, in combination with the beams A and teeth E E′, the holding-plates C C′, having flanges c^3 c^3, forming the grooves c^4 c^5, substantially as shown and described, and for the purpose set forth.

4. In a tooth-holder, in combination with the beams A A, the disks B B′, and bolt D, having fastening-nut D′, the holding-plates C C′, having flanges c^3 c^3, studs c^{10} and c^{11} of plate C′, and the perforated shanks of the teeth E E′, substantially as shown and described, and for the purpose set forth.

5. In a tooth-holder, in combination with the beams A A, the disks B B′, having the perforations b^5, and the plates C C′, having coinciding perforations c' c^2 and fastening F, substantially as shown and described, and for the purpose set forth.

6. In a seeder or cultivator, in combination with the beams A A, the frictional disks B B′, having the flanges b' b^2, adapted to receive the ends of said beams, connected therewith by suitable rivets, b^3 b^3, substantially as shown and described, and for the purpose set forth.

7. In a tooth-holder for seeders or cultivators, the plates C C′, having flanges c^3 c^3, forming grooves c^4 c^5, adapted to receive the teeth E E′, in combination with the frictional disks B B′, substantially as shown and described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Horicon, in the county of Dodge and State of Wisconsin, in the presence of two witnesses.

CYRUS ST. JOHN.

Witnesses:
COLDEN A. HART,
LOUIS DIETZ.