

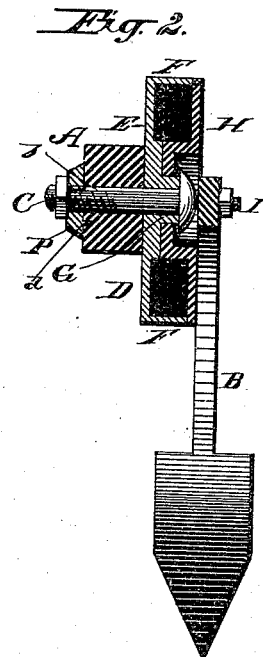
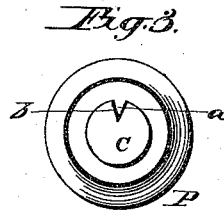
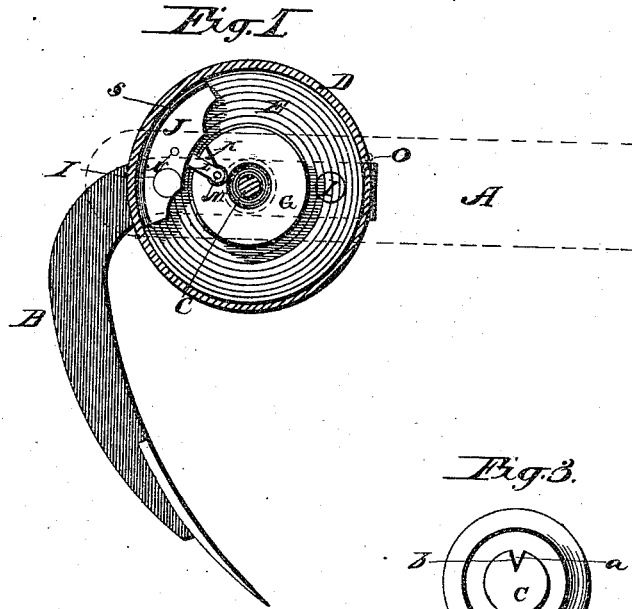
(Model.)

N. S. JOHNSON.

CULTIVATOR TOOTH ATTACHING DEVICE.

No. 305,454.

Patented Sept. 23, 1884.



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UNITED STATES PATENT OFFICE.

NILSON S. JOHNSON, OF BERLIN, WISCONSIN.

CULTIVATOR-TOOTH-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 305,454, dated September 23, 1884.

Application filed May 2, 1884. (Model.)

To all whom it may concern:

Be it known that I, NILSON S. JOHNSON, a citizen of the United States, residing at Berlin, in the county of Green Lake and State of Wisconsin, have invented certain new and useful Improvements in Cultivator-Tooth-Attaching Devices; and I 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices for attaching the teeth of cultivators, seeders, and similar agricultural implements to their draw-bars.

The object of my improvement is to provide a device which will retain the teeth of the implement at the required angle for work with sufficient rigidity for all ordinary purposes, but which will, when the teeth are obstructed, permit them to yield and pass over the obstruction, that otherwise might break them; also, by which devices the teeth of the implement will, as soon as the draw-bars are raised, be free to fall back to their normal position.

My invention is further explained by reference to the accompanying drawings, in which Figure 1 represents a rear side view thereof attached to the side bar, with the bearing-surface of the inclosing-case removed. Fig. 2 is a vertical cross-section of the invention attached to the draw-bar. Fig. 3 is a detail.

Like parts are represented by the same reference-letters throughout the several views.

A is the draw-bar.

B is the shank of the cultivator-tooth.

C is a retaining-bolt.

D is an inclosing-case. The case D consists in the plate E, sides F, and stud or shoulder G. The case D is secured firmly against the side of the draw-bar by the bolt C, the head of which bears against the front end of the shoulder G.

The front plate, H, is supported at its center by and upon the shoulder G, around which it is adapted to move freely when the teeth are inclined rearward or forward, while the head of the bolt C projects over the edges of the shoulder G far enough to retain said plate

H upon said shoulder, while it in no way interferes with the movement of said front plate.

To the front surface of the plate H is rigidly attached the shank B of the tooth by bolts I I, whereby as the tooth is inclined backward or forward it carries with it the front plate, H. To prevent the tooth from being thrown back by contact with the soil in ordinary work, it is provided with an eccentric friction-bearing, J, which is attached to the front plate by arm L. The arm L is secured at one end to the plate H within the recess K by the pivot M, and at the other end to the eccentric J by the pivot N. When the tooth is in position for use, it is thus retained by the eccentric-bearing J, which is brought in contact with the inner surface of the sides F of case D. Said case is held in place by the bolt C against the draw-bar with sufficient force to overcome all ordinary resistance to the tooth when at work. When, however, the tooth is brought against a solid stationary object, the friction of the cap against the draw-bar will be sufficiently overcome to permit the cap to turn before breaking the tooth or shank, and the tooth will be thrown back until it passes over the obstruction. When the tooth is thus drawn back, the plate H, to which it is secured, turns with it, thus bringing the lower side or bearing of the recess K against the arm L, whereby the arm L, with the eccentric J, is moved upward, carrying with them the cap D, the cap D being moved by the frictional contact of the eccentric against the inner surface of the annular sides F. When the tooth has escaped the obstruction and the rear end of the draw-bar is elevated free from the ground, the tooth drops back into its normal position of its own gravity, causing the front plate, H, to which it is attached, to turn with it, whereby the lower bearing of the recess K moves away from the arm L, thus ceasing to support the eccentric, and as the lower end of said arm L is drawn downward by the turning of the plate H said eccentric is drawn inward from the sides of the inclosing-case and out of contact therewith, when it drops of its own gravity back into position for again holding the tooth.

O is a stationary pin, which is rigidly affixed to the side of the draw-bar and projects over the horizontal front end of the shank B, and thus limits the upward movement of the shank

and the forward movement of the tooth, stopping them when the draw-bar is raised at the desired point of adjustment.

To prevent the bolt C from turning as the tooth and shank are inclined forward and rearward, it (said bolt) is provided with a retaining-washer, P, having a V-shaped projection or lug, *a*, which is fitted into a V-shaped longitudinal groove, *b*, formed in the side of the bolt C.

To the under side of the washer P is attached a short pin, *d*, which projects into the side of the draw-bar, and thus prevents it from turning, while the lug *a* of the washer projects into the groove *b*, and thus holds the bolt C.

The friction of the case D and the draw-bar may be increased at any time in case the draw-bar becomes smooth or the resistance of the soil requires by simply turning down the nut upon the bolt C.

The surface of the eccentric is preferably covered with leather, rubber, or other yielding bearing, which will more readily than the metallic surface of the block adhere to the surface of the inclosing-cap. The eccentric may, however, be made of wood or metal, with or without the bearings, as desired.

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

1. In an agricultural implement, the combination of the tooth-shank B, plate H, cap D, retaining-bolt C, and eccentric friction-bearing J, said eccentric J being secured by pivotal bearings to the plate H, and adapted, as

said plate is turned backward by contact of the tooth with an obstruction, to engage against the inner surface of and turn the cap D, and, as the plate H and shank B are thrown forward, to be thrown out of contact with and turn independently of said cap D, the friction of the cap D against the draw-bar serving to hold said cap and tooth in place for work, substantially as and for the purpose specified.

2. In an agricultural implement, the combination of the tooth-shank B, plate H, secured together by bolts I I, cap D, having hub or shoulder G and annular sides F, retaining-bolt C, adapted to serve the twofold purpose of holding said cap in contact with the draw-bar and to retain the plate H upon the hub G, eccentric J, and arm L, said eccentric being secured to plate H by the lever L, which lever is pivoted at one end to said eccentric, and at the other end to the plate H, all substantially as and for the purpose specified.

3. The combination of cap D, bolt C, having groove *b*, plate H, retained upon the hub G of said cap by and between the head of bolt C and said cap, washer P, having lug *a*, engaging in said groove *b*, and pin *d*, engaging in the surface of draw-bar A, all substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

NILSON S. JOHNSON.

Witnesses:

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W. F. KOLB.