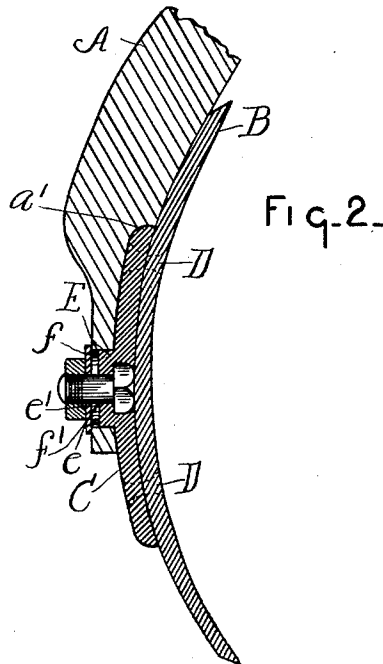
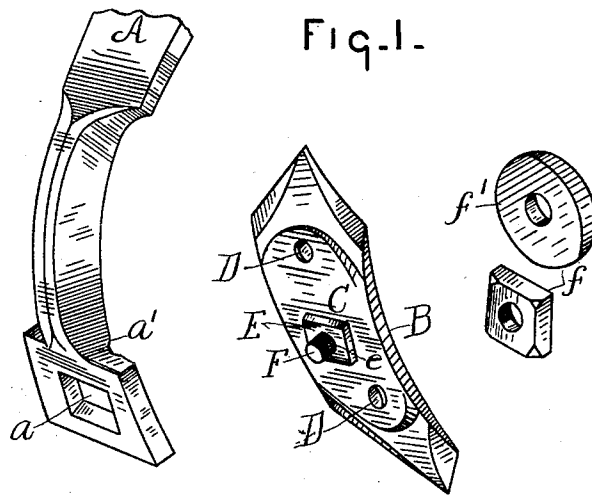


(No Model.)

C. D. WISELOGEL.
CULTIVATOR OR HARROW TOOTH.

No. 462,675.

Patented Nov. 3, 1891.



WITNESSES
F. Clough.
M. A. Reev.

INVENTOR
Christian D. Wiselogel
by *Parker & Burton*
his Attorneys.

UNITED STATES PATENT OFFICE.

CHRISTIAN D. WISELOGEL, OF ALBION, MICHIGAN, ASSIGNOR TO THE GALE MANUFACTURING COMPANY, OF SAME PLACE.

CULTIVATOR OR HARROW TOOTH.

SPECIFICATION forming part of Letters Patent No. 462,675, dated November 3, 1891.

Application filed July 11, 1891. Serial No. 399,137. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN D. WISELOGEL, a citizen of the United States, residing at Albion, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Teeth for Harrows, Cultivators, &c., of which the following is a specification.

My invention relates to cultivators; and its purpose is to provide an improved form for the shank for supporting the tooth and improved methods of engaging the tooth with the shank, and an improved form for the tooth, whereby it is adapted to the improved form of engagement with the shank.

My invention relates specifically to that form of tooth and method of engaging the tooth where the bolt holding a tooth to the shank has its support back of the tooth to avoid exposing it to the wear of the tooth, and where the tooth may be removed from the shank without removing the bolt and breaking or disturbing the polished surface of the tooth; also, in further provision for avoiding a shearing strain on the bolt holding the tooth.

In the drawings, Figure 1 shows the shank, plate for holding the tooth, &c. Fig. 2 shows the parts assembled.

In the drawings, A is the shank, which is formed, as shown, by taking a flat bar of iron and forging the section between the upper point of support and the point of engagement with the tooth, so as to bring the greatest weight of cross-section in the direction of the strain incident to the work. The lower section of the shank is provided with the opening *a*, rectangular in form. B is an independent plate, formed as shown and provided on the back with the lug or projection E, adapted to fill the orifice *a* in the shank, but not of sufficient depth to extend entirely through the orifice. Extending through the plate B and through the lug or projection E is the plate F, having its head countersunk in the face of the plate B. To the face of the plate B is riveted by rivets D the tooth B'. This engagement between the tooth B' and the plate B is permanent, and the polishing of the wearing-face of the tooth B' is over

the head of the rivets D and adapted to leave a perfectly smooth surface on the face of the tooth. When the tooth and plate are thus engaged, the bolt F is also permanently engaged with them, and these parts so assembled are engaged with the shank by inserting the projection E in the rectangular opening *a* in the shank, and the washer *f'* is passed over the bolt and the nut *f* screwed on and the whole tightened to place. The washer *f'* is of sufficient size to cover the opening *a*.

The projection E, as I have stated, is not of sufficient depth to extend entirely through the orifice *a*, so that the tightening of the nut *f* does not bring the face of this projection against the washer *f'*, but rather seats the projection E firmly in the orifice *a* and brings the plate B firmly against the front of the shank. It is manifest that this construction brings the shearing strain of the tooth and its supporting parts on the projection E rather than on the bolt F, leaving the bolt F merely holding the tooth in its place on the shank. The rectangular form of the projection serves further to avoid twisting of the tooth sidewise. This feature is materially aided by the construction of the shank A, in which the forged portion *a*² is extended forward around the point *a'*, so as to fit the plate B and to bring the tooth B' at its upper portion back against the shank and avoid a space for the accumulation of debris between the shank and the tooth.

It is manifest that the tooth and its attachment may be removed and reversed and still retain the full value of my special method of engaging it with the shank and utilize the special form of the shank shown.

What I claim is—

1. The combination of a shank A, having angular perforation *a* extending clear through the same, a cultivator-tooth point provided with a block or casting engaged therewith and having an angular projection E, adapted to fit within and project partly through said perforation, a bolt F, extending through said projection, and a nut *f* and washer *f'*, extending beyond the edges of said perforation, whereby the block is bound to the shank and the angular projection E firmly seated within

the orifice *a* and the bolt relieved from lateral strain, substantially as described.

2. The combination of a shank A, provided with recessed portion *a'*, and having an angular perforation *a*, extending through the extremity of the shank, cultivator-tooth B, block C, adapted to fit in the recess *a'* and provided with an angular projection extending partly through the angular perforation *a*,

and the bolt, washer, and nut, substantially as shown and described.

In testimony whereof I sign this specification in the presence of two witnesses.

CHRISTIAN D. WISELOGEL.

Witnesses:

H. GALE,

B. W. AUSTIN.