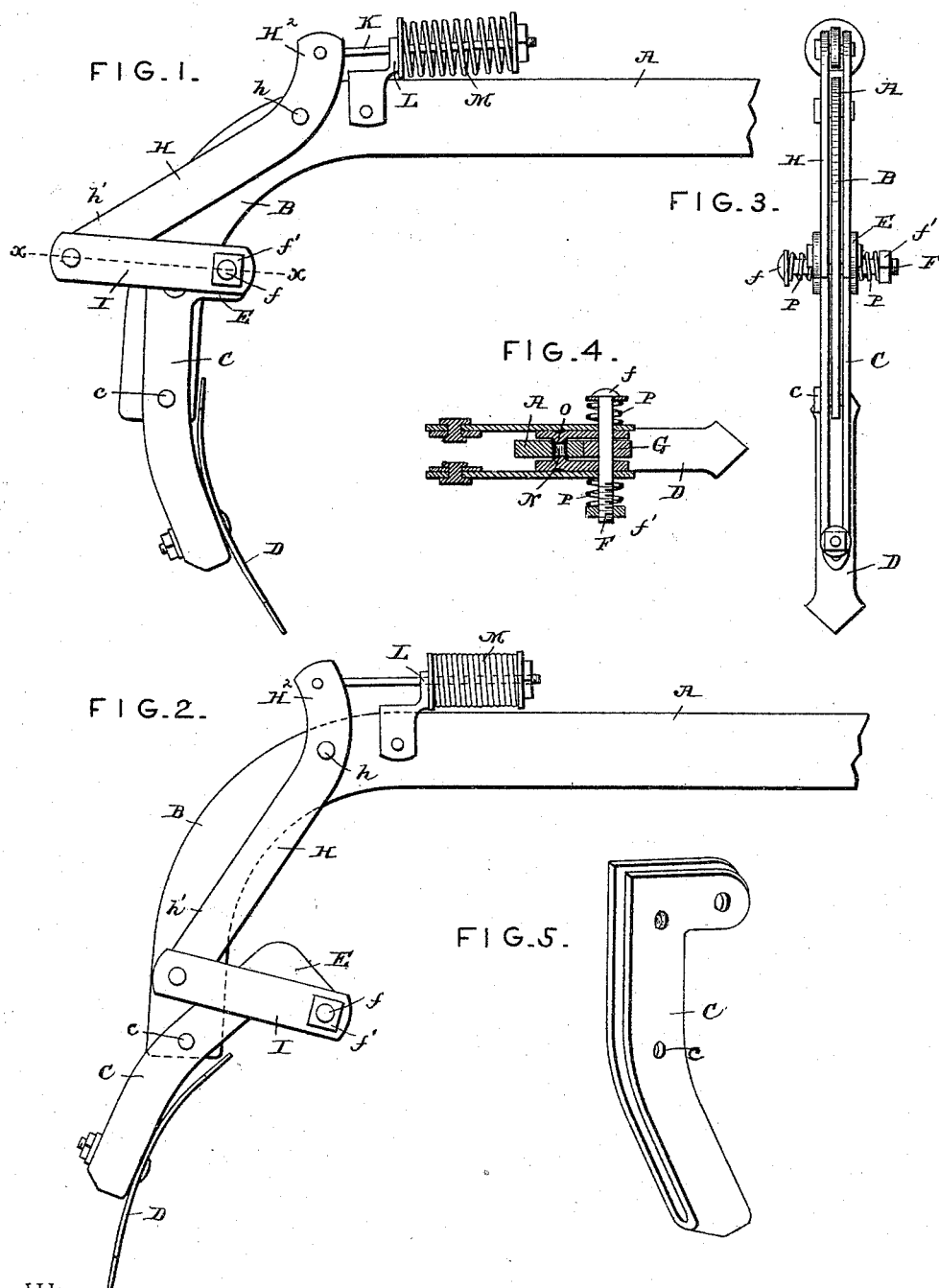


(No Model.)

R. WILSON.
CULTIVATOR TOOTH.

No. 493,741.

Patented Mar. 21, 1893.



Witnesses

Harry L. Amer.

C. E. Dwyer

By his Attorneys,

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Robert Wilson.

UNITED STATES PATENT OFFICE.

ROBERT WILSON, OF ALLEN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO
CHARLES F. CORNMAN, OF SAME PLACE.

CULTIVATOR-TOOTH.

SPECIFICATION forming part of Letters Patent No. 493,741, dated March 21, 1893.

Application filed August 11, 1892. Serial No. 442,765. (No model.)

To all whom it may concern:

Be known that I, ROBERT WILSON, a citizen of the United States, residing at Allen, in the county of Cumberland and State of Pennsylvania, have invented a new and useful Cultivator-Tooth, of which the following is a specification.

My invention relates to improvements in spring cultivator teeth, of the class which are provided with spring connections with the plow-beam so as to yield when the shovel strikes an immovable obstacle, this particular tooth being designed especially for use in the cultivation of corn.

The object of my improvement is to provide means for taking up lost motion and preventing looseness of the parts.

A further object of my invention is to provide means for automatically returning the tooth to its operative position after deflection or displacement by an obstacle, and locking the tooth in said operative position.

A further object of my invention is to provide means whereby the rearward strain upon the tooth, in passing through earth having a normal resistance, is sustained by rigid locking devices and not by the tension spring, thus relieving the latter except when the tooth meets an immovable obstacle and is disengaged from said locking devices.

Further objects and advantages of my invention will appear in the following description and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a cultivator tooth embodying my improvements. Fig. 2 is a similar view showing the tooth in its deflected or repressed position. Fig. 3 is a rear view of the tooth, in the normal position shown in Fig. 1. Fig. 4 is a horizontal sectional view of the locking device, upon line $x-x$ of Fig. 1. Fig. 5 is a detail view of the pivoted standard to which the plow shovel is attached.

A designates the ordinary plow-beam, downwardly curved at its rear end, as shown at B, and C designates a loop-shaped standard, angular in shape, which is pivoted to the rear end of the plow-beam, the parallel sides of the standard lying in contact with opposite

sides of the beam. The pivotal point of the standard is at about the center of its longer arm, as shown at c , and the shovel, D, being bolted to the lower portion of said longer arm which extends below the extremity of the plow-beam.

The short arm, E, of the angular standard extends forwardly, and the free ends of the parallel sides of the loop forming said standard are connected by the transverse pivot bolt, F, a washer, or stop, G, being arranged upon said bolt between the extremities of the parallel sides of the standard. The short arm of the angular standard is connected with the lower end of the angular lever, H, by means of parallel links, I I, which lie in contact with the outer surfaces of the sides of the standard and engage the extremities of the transverse bolt by which said sides are connected.

The lever H is pivotally connected to the plow-beam at the point, h , the parallel sides or members, $h' h'$, of the lever being arranged upon opposite sides of the beam, as shown. The lower and longer arm, H', of this lever is inclined rearwardly toward its lower end, so that its extremity lies in rear of the rear end of the plow-beam, and the upper and shorter arm, H'', thereof, is substantially vertical, as shown, so as to draw horizontally upon the spring-actuated rod, K, which is arranged parallel with the horizontal portion of the plow-beam, operates in a guide-eye, L, and is connected to the coiled retraction spring, M.

The plow-beam is provided near its rear end, in a suitable position, with sockets, N, in opposite sides thereof, (or a perforation may be formed through the beam, as shown in the drawings, in lieu of independent sockets or depressions,) and the sides of the angular standard are provided, near their upper ends, and upon their inner surfaces, with knobs or rounded projections, O O, which are adapted, when the standard is in its normal position, to engage the sockets or depressions in the plow-beam and thus lock the standard in such position.

Upon the transverse bolt, F, between the outer surfaces of the connecting links and the head, f and nut f' , which are arranged respectively upon opposite ends of said bolt,

are disposed coiled springs, P P, which tend to force the ends of said links inward and thus cause the knobs or projections upon the inner surfaces of the sides of the standard to automatically engage the sockets or depressions.

From the above the operation of my improved cultivator tooth will be readily understood. Ordinarily the rearward strain upon the teeth, caused by the resistance of the earth is sustained by the locking device comprising the knobs or projections, the sockets or depressions and the springs for holding the former in engagement, and when an obstacle such as cannot be overcome or removed without danger of fracture is met by the shovel, the members of the lock are disengaged and the standard is released to enable it to swing to the rear against the tension of the spring, M. When the obstacle is passed the standard is returned to its normal position by the contraction of said spring, and the parts are automatically locked in their former positions.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination with the plow-beam and a pivoted angular standard, having its shorter arm bent forward, of a lever arranged at its lower end in rear of the upper end of the standard and connected by a link, thereto, an actuating spring connected to the upper end of the lever, and projections carried by the

standard to engage sockets or depressions in the plow-beam, substantially as described.

2. The combination with the plow-beam, having sockets or depressions in its sides, of a bifurcated standard pivoted to the plow-beam with its arms, which lie upon opposite sides of the same, provided with opposite knobs or projections to engage said sockets or depressions, the lever pivoted to the plow-beam and terminating at its lower end in rear of the upper end of the standard, the links connecting the lever and standard, and an actuating-spring connected to the upper end of the lever, substantially as described.

3. The combination with the plow-beam, of a bifurcated standard pivoted thereto and having its branches provided with projections to engage sockets or depressions in the plow-beam, a transverse bolt connecting the free ends of said branches, springs coiled upon the extremities of said bolt to normally hold the branches of the standard in position to cause its projections to engage said sockets or depressions, and a spring-actuated lever connected to the standard, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT WILSON.

Witnesses:

C. F. CORNMAN,
SAMUEL KLINE.