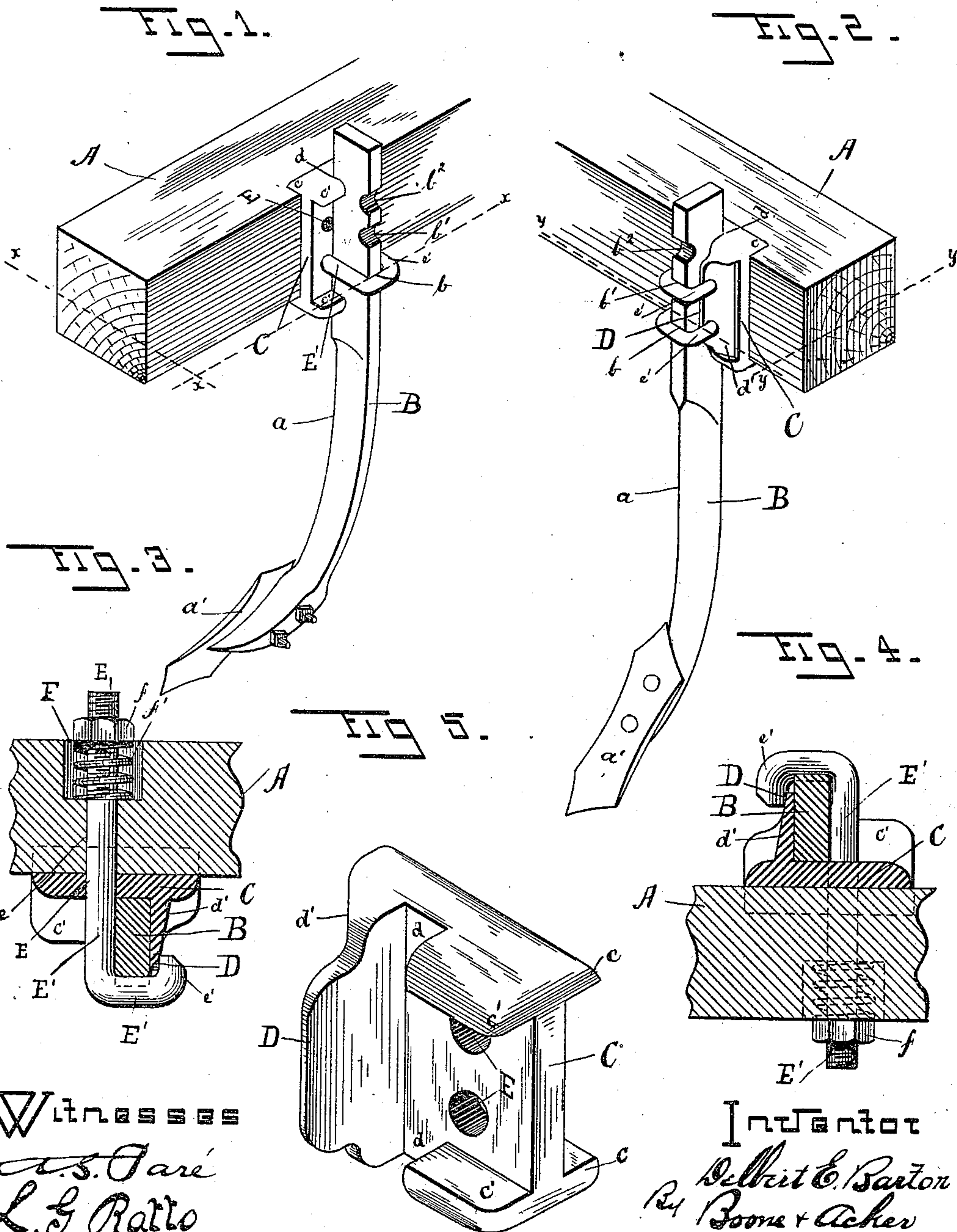


(No Model.)

D. E. BARTON.
CULTIVATOR.

No. 451,252.

Patented Apr. 28, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

DELBERT E. BARTON, OF LOS ANGELES, ASSIGNOR OF ONE-HALF TO
P. A. WAGNER, OF SAN FRANCISCO, CALIFORNIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 451,252, dated April 28, 1891.

Application filed June 27, 1890. Serial No. 356,927. (No model.)

To all whom it may concern:

Be it known that I, DELBERT E. BARTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention relates to certain new and useful improvements in cultivator attachments; and it consists more especially in the construction of the teeth and means whereby the same are secured to the cultivator-beam, all as will be hereinafter more fully set forth in the drawings, described, and pointed out in the specification.

The object of my invention consists in providing means whereby the cultivator-tooth may be readily regulated or adjusted for varying depths, and, further, in providing against undue strain resulting to the cultivator-beam in case the tooth meets with any solid obstruction in the line of its pathway.

Referring to the drawings forming a part of this application, in which similar letters of reference are used to denote corresponding parts throughout the entire specification and several views of the drawings, Figure 1 is a perspective view showing the tooth secured to the cultivator-beam; Fig. 2, a similar view showing the tooth attached to the front of the beam; Fig. 3, a top plan sectional view taken on line $x x$, Fig. 1; Fig. 4, a similar view taken on line $y y$, Fig. 2; and Fig. 5, a detail view of the attaching or retaining plate or clamp.

The letter A is used to indicate the cross-beam of the cultivator, to which the cultivator-teeth are secured alternately to the front and rear. Said teeth are represented by means of the letter B and have their inner and outer faces provided with the grooves $b b'$ b^2 , so as to permit of the same being secured to either the front or rear of said cultivator-beam, thereby forming a reversible tooth. If so desired, said tooth may be provided with grooves on only one side thereof, in accordance as to whether or not it is to be used as a

front or rear tooth. However, I prefer to make the same on both faces, so as to allow of extra teeth being inserted to either the front or rear of the beam in case of breakage resulting to either of the fixed ones. I form the lower portion of said tooth for a portion of its length with the gradual tapering or inclined front a , so as to provide or give to the tooth a cutting-edge independent of the cultivator-blade a' . This form of tooth will be found of especial benefit when employed in connection with weed-cutters. However, if so desired, the tooth may be constructed uniform throughout, except for the gradual end taper, as clearly shown in the drawings.

The attaching plate or clamp is indicated by the letter C, and is provided with the upper and lower inwardly-extending lips $c c$, which are designed to overlap the edges of the cultivator-beam, and the upwardly and outwardly extending lips $c' c'$. The outer face of said plate or clamp I provide with the vertical groove d , within which the cultivator-tooth is adapted to fit. The portion D represents the side outwardly-extending wall, which is provided with the inclined outer face d' , adapted to form a wedge for the clamping or securing bolt, as hereinafter more fully described. The space between the inner straight face of this wall D and the edges of the lips $c' c'$ form the groove d , hereinbefore referred to. The clamp is further provided with the bolt-holes E, through which the bolt E' passes, and holes e , formed through the cultivator-beam. The bolt E' is formed with the curved end e' , which fits into the groove of the cultivator-tooth over the inclined face of the projecting wall D, and is secured to the beam by means of the nut f . The tightening of the nut f securely holds the plate C upon the beam and also the cultivator-tooth within the groove formed within said plate, while at the same time the curved end of the bolt acting upon the inclined face of the projecting wall serves to tightly bind or wedge the same against the inner face thereof. When the tooth is attached to the rear of the beam, I pass the bolt through the lower hole of the plate, so as to prevent the greater resistance to the pressure exerted upon said tooth, thereby providing against the twisting of the beam more or less.

When the tooth is secured to the front of the beam, I may employ two bolts, or pass the same through the upper hole of the plate. By providing the plate with upper and lower
 5 bolt-holes I am enabled to use said plate upon either the front or rear of the beam.

In order to provide against the strain exerted upon the beam by reason of the tooth coming in contact with solid obstructions in
 10 its line—as, for instance, large roots or heavy stones—I provide the spring *F*, located within the countersunk portion *f'* of the beam. Said spring is held therein by reason of the nut *f*, and is adapted to surround the bolt.
 15 However, instead of a spiral spring, a flat one may be used with equally good results. The spring must have a resistance greater than that of the tooth passing through the earth. The spring or springs thus act as a cushion,
 20 so as to allow of the tooth giving slightly in case an obstruction is met with, thereby preventing the twisting of the cultivator-beam. By providing the upper portion of the tooth with a series of semicircular grooves I am en-
 25 abled by unloosing the nut *f* to raise or lower said tooth, as the case may be.

I am aware that minor changes may be made in the arrangement of parts and details of construction herein shown and described
 30 without necessitating or creating a departure from the nature and scope of my invention.

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

35 1. The combination of a cultivator-beam, a plate provided with a side outwardly-extending wall having one of its faces inclined, a plow-standard bearing against the straight face of said wall and provided at its upper
 40 end with a series of grooves, and a retaining-

bolt having its inner end passing through the plate and beam and threaded to receive a nut and its outer end bent so as to fit one of the series of grooves and to bear against the inclined face of the outwardly-extending wall, 45 substantially as set forth.

2. As an improved article of manufacture, a retaining or clamping plate for cultivator-teeth, provided with transverse flanges at the top and bottom thereof for a portion of its 50 length, and also with an outwardly-extending side flange, one of the faces of said flange being inclined, substantially as set forth.

3. The combination of a cultivator-beam having a horizontal recess therein, a plow- 55 standard, a horizontal bolt engaging said standard and passing through the beam, a nut upon the end of the bolt, and a spring within the recess, said spring disposed between the nut and wall of the recess, substantially as 60 set forth.

4. The combination of a plow-beam, a plate provided with transverse flanges at the top and bottom thereof for a portion of its length, and also with an outwardly-extending side 65 flange, the outer face thereof being inclined, a plow-standard provided at its upper end with a series of notches, and a retaining-bolt having its inner end passing through the plate and beam and threaded to receive a nut 70 and its outer end bent so as to fit one of the series of notches or grooves and to bear against the inclined face of the outwardly-extending wall, substantially as set forth.

In testimony whereof I affix my signature in 75 presence of two witnesses.

DELBERT E. BARTON.

Witnesses:

F. WALKER,
 P. A. WAGNER.