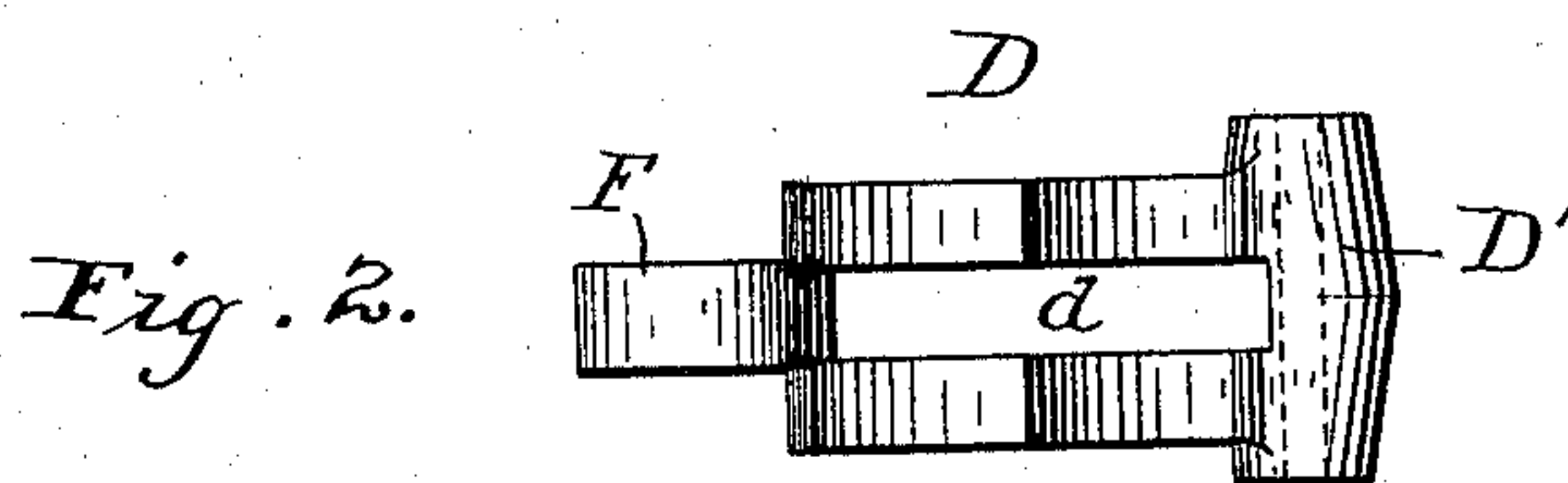
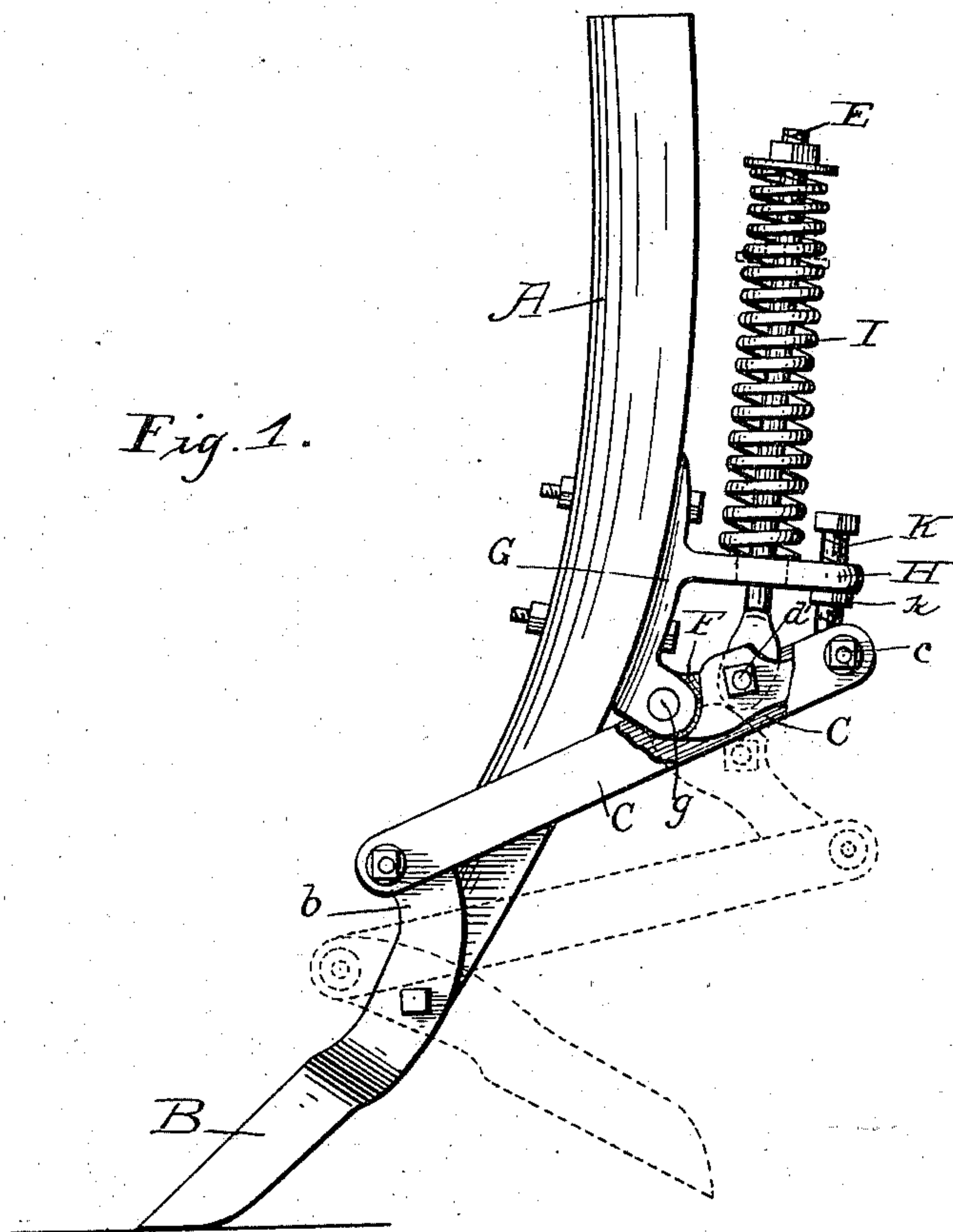


(No Model.)

E. BOOS.
CULTIVATOR TOOTH.

No. 560,677.

Patented May 26, 1896.



Witnesses;
John H. Milans
Chas. W. Parker

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Atty.

UNITED STATES PATENT OFFICE.

EDWARD BOOS, OF BELLEVUE, OHIO.

CULTIVATOR-TOOTH.

SPECIFICATION forming part of Letters Patent No. 560,677, dated May 26, 1896.

Application filed March 24, 1896. Serial No. 584,602. (No model.)

To all whom it may concern:

Be it known that I, EDWARD BOOS, a citizen of the United States, residing at Bellevue, in the county of Huron and State of Ohio, have
5 invented certain new and useful Improvements in Cultivator-Teeth; 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
10 it appertains to make and use the same.

This invention relates to an improvement in cultivator-teeth; and it consists more particularly in improvements in that class of cultivator-teeth wherein a hinged tooth-supporting
15 section is employed, to the upper end of which suitable links are attached, which latter are normally held back through the instrumentality of a spring acting on an intermediate toggle or fulcrum member.

20 The invention further consists in the details of construction which will be more fully hereinafter described, and definitely pointed out in the claims.

In the drawings, wherein like letters of reference designate corresponding parts in both
25 views, Figure 1 represents a side elevation of the tooth, partly in section and showing in dotted lines the rear or tripped position of the tooth. Fig. 2 is a detail top plan view of the
30 fulcrum or toggle member.

In the drawings, A designates the standard or knee; B, the hinged shoe or shovel-block, which is pivoted to the lower end of the standard and is formed with the forwardly-curved
35 upper ends *b*, located above the pivot. To these ends *b* are secured the links C, one on each side of the standard and extending rearwardly and upwardly. The rear upper ends of the links C are pivotally secured to the
40 outer end of a fulcrum member D.

The parts thus far described, with the exception of the peculiar form of the member D, which will be presently referred to, are well known in the art.

45 Heretofore it has been suggested to employ a fulcrum member, but the known forms have been such that the connection between the same and rod is weak and usually unable to withstand the strain or pressure to which
50 the parts are subjected. To overcome this and other objections in existing devices and to form a fulcrum member which admits of a

positive and strong connection for the links and the spring-rod the member D is provided. This fulcrum is formed of a single piece of
55 metal having in its center an elongated slot *d*, into which the eye on the lower end of the spring-rod E is placed.

d' designates a pivot-bolt passing through ears *d*² on the sides of the member D and
60 through the eye on the rod E.

On the outer end of the member D is a cross-bar D', having its ends extending beyond the plane of the sides and the entire bar having
65 a central bore through which the pivot-pin *c* passes, by which the links C are secured to the fulcrum member. By having the extension on the ends of the bar D' the links are held at points beyond the side of the member
70 D, so that a tap-bolt with its nut can be employed for the connecting-pivot for the spring-rod and fulcrum member. The employment of a bolt at that point is desirable for quick replacement of the rod. On the rear end of
75 the fulcrum member is an eye F, which engages in a socket formed in the lower end of the supporting-bracket G on the standard. The eye is secured to the socket by a pivot-pin *g*.

The bracket G has a shelf or arm H over-
80 lying the fulcrum member and having its outer end extended to a point directly above the end of the fulcrum. Through the center of the arm H is a circular perforation through
85 which the rod E passes.

I designates the coiled spring sleeved on the rod, its lower end resting on the arm H and its upper end secured in the usual manner by a nut and washer.

In devices of the nature described it is
90 usually essential that the links should be kept from assuming a dead-center with the pivot of the fulcrum-block. It is, however, often desirable to so adjust the members that they will be directly on a dead-center, thereby lock-
95 ing the tooth from backward movement. It is also often desirable to vary the degree of angularity of the members, so that the tooth will be more sensitive and yield more quickly. To accomplish these desirable results, an ad-
100 justing device is employed which conveniently consists of a set-screw K, passing through the end extension of the arm H into the path of the cross-bar D' of the fulcrum

member. This screw is preferably provided with a square head and has a lock-nut *k* on its lower portion below the arm. By adjusting the screw up or down the upward movement of the fulcrum member is varied or limited, the length of the screw being sufficient to impinge against the bar *D'* until the latter is forced sufficiently far down to create an abrupt angle between the links and member *D*. The position of the screw is important, as a firm support therefor is provided and its action is equal on both links.

The operation of the device will be readily understood by the foregoing statements.

It is apparent that slight modifications can be made.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a cultivator-tooth, the combination with the standard and hinged tooth-section, of a bracket on the standard having an arm extending out therefrom, a fulcrum member pivotally secured to the bracket, having an elongated central opening, and an end cross-bar projecting beyond the plane of the sides, a rod passing through the arm into the elongated slot, a bolt securing the rod to the fulcrum member, a spring on the bolt, and links connected to the cross-bar of the fulcrum

member out to the hinged tooth member, substantially as described.

2. In a cultivator-tooth, the combination with the standard and hinged tooth-section, of a bracket on the standard having an arm thereon, a fulcrum member below the arm, a spring-actuated rod passing through the arm and secured to the fulcrum member, links connecting the fulcrum member and tooth-section, and an adjustable stop carried by the outer end of the arm and arranged to engage the outer end of the fulcrum member, substantially as described.

3. In a cultivator-tooth, the combination with the standard, hinged tooth-section, and links connected to the upper ends of the latter, of a bracket secured on the standard having an arm, a fulcrum member below the arm, a spring-actuated rod supported by the arm, a pivoted connection between the fulcrum member and links, and an adjusting set-screw passing through the outer end of the arm into the path of the fulcrum member, substantially as described.

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

EDWARD BOOS.

Witnesses:

JESSE VICKERY,
WILLIS VICKERY.