

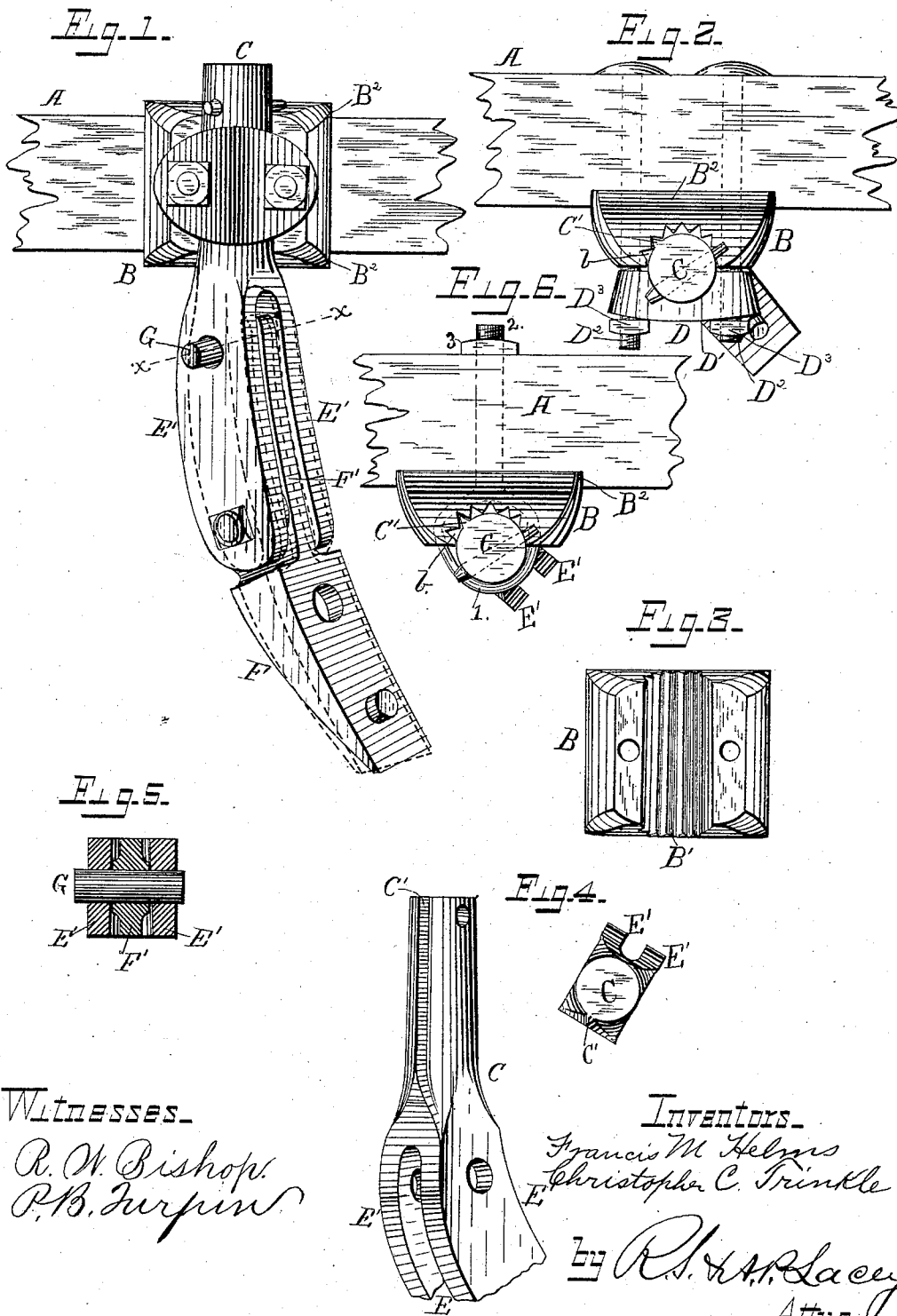
(No Model.)

F. M. HELMS & C. C. TRINKLE.

CULTIVATOR TOOTH.

No. 317,780.

Patented May 12, 1885.



Witnesses.

R. W. Bishop.
P. B. Turpin

Inventors.

Francis M. Helms
Christopher C. Trinkle

By R. S. & A. S. Lacey
Attys.

UNITED STATES PATENT OFFICE.

FRANCIS M. HELMS AND CHRISTOPHER C. TRINKLE, OF VEEDERSBURG, IND.

CULTIVATOR-TOOTH.

SPECIFICATION forming part of Letters Patent No. 317,780, dated May 12, 1885.

Application filed October 11, 1884. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS M. HELMS and CHRISTOPHER C. TRINKLE, citizens of the United States, residing at Veedersburg, in the county of Fountain and State of Indiana, have invented certain new and useful Improvements in Cultivator-Teeth; and we do 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to cultivators, and has for its main objects to provide simple and convenient means by which the standard may be adjusted in order to set the shovel at different angles, and also to furnish a simple construction by which the cultivator-tooth support may be accurately stopped in position for the insertion of the fragile pin.

The invention consists in certain novel details of construction and combination of parts, as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is an elevation, and Fig. 2 a top plan view, of our device. Fig. 3 is a detail view of the serrated plate. Fig. 4 is a detail view of the standard. Fig. 5 is a transverse section on line *x x*, Fig. 1. Fig. 6 shows a modification.

The beam A may be of any desired form or arrangement. We prefer in practice to arrange the same in the manner shown in the patent heretofore granted to C. C. Trinkle for cultivators, No. 301,409.

The main or serrated plate B is held to the beam and provided in its outer side or face with a concavity or recess, B', extended from its upper to its lower end, and formed with a plurality of vertical serrations or grooves, *b*. In practice we find it preferable to provide the upper and lower edges of this block with flanges B², which extend laterally along the beam, and serve to strengthen the attachment of the block to the said beam. The standard C has its upper end provided with a radial spur or rib, C', fitted to engage the serrations *b*, and is suitably adapted at its lower end to

receive the cultivator-tooth. This adaptation may be secured by a proper formation of the standard itself, or by means of the separate tooth-support, which latter is preferred, and is constructed and operates in the manner hereinafter described. By adjusting the rib or spur C' into engagement with one or the other of serrations *b* the standard may be set at any suitable angle to the line of draft, effecting a corresponding adjustment of the tooth supported on the said standard.

Various expedients may be employed by which to secure the standard in engagement with the serrated face—as, for instance, that shown in Fig. 6, consisting of a bolt having an eye, No. 1, embracing the standard, and its shank 2, extended through the serrated plate and beam and secured by a nut, 3; but we prefer to employ the construction shown in Figs. 1, 2, and 3. This consists of a clamping-plate, D, having a recess, D', in one side fitted to the standard, and bolts D² D³, extended through plates D B and the beam and secured by nuts D³ D³, as will be clearly understood from the drawings, Figs. 1 and 2. It will be seen that by loosening nuts D³ the standard may be set to any proper point and conveniently secured thereat by tightening the nuts D³, as will be understood.

It will be noticed that the serrations *b* and rib C' form simply engaging-surfaces, and that similar results would be secured if the standard were made angular in cross-section and the cross-section of the recess B' were provided with corresponding angular depressions; but we prefer to employ the serrations and rib or spur, as by the same we are able to conveniently set the standard at a greater number of positions, as will be understood.

The lower end of the standard may be slotted at E, forming the arms E'. The tooth-support F has its shank F' pivoted near its lower end to and between the lower end of the arms E', its upper end being capable of adjustment between the upper ends of the arms, where it is held by a fragile pin, G, inserted through coincident openings in the arms and the shank of the tooth-support.

In use it will be seen when the tooth strikes an unusual obstruction—such as a large stone

or a stump—the pin G will break and the tooth will be released, thus relieving the machine from the major part of the strain. When the obstruction is passed, the tooth may be quickly reset by the adjustment of the parts to the position shown in Fig. 1 and the insertion of a new pin G.

In order to facilitate the resetting of the tooth, we preferably make the inner sides of the arms E' converge from front to rear, and adapt the shank of the tooth-support to bind thereagainst when the holes for pin G are properly registered, as is most clearly shown in Fig. 5.

Heretofore the stems or standards of colters have been provided with a rib fitted to enter a groove in a clamp-plate, and clamp-plates have been formed with vertical openings provided with longitudinal serrations forming ribs or projections. This we do not broadly claim; but,

Having thus described our invention, what

we claim, and desire to secure by Letters Patent, is—

The combination of the beam, the plate B, provided with flanges B², overlapping the upper and lower edges of the beam, and having a concavity in its outer face formed with a series of vertical serrations, the standard fitted to such concavity and having a rib, C', formed to engage the vertical serrations, the plate D, provided on its inner side with a concavity fitted to the outer side of the standard, and fastenings whereby the plate D is clamped against the standard, and the rib of the latter is held in engagement with the serrations of the plate B, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANCIS M. HELMS.

CHRISTOPHER C. TRINKLE.

Witnesses.

WILLIAM E. BAKER,

G. M. ROBERTS.