

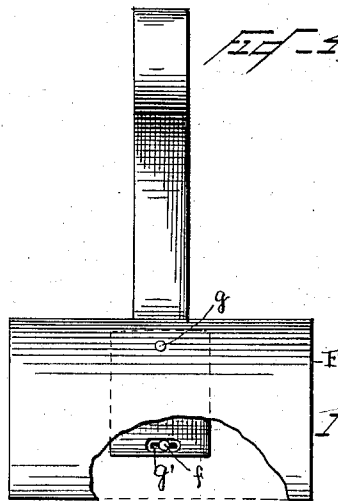
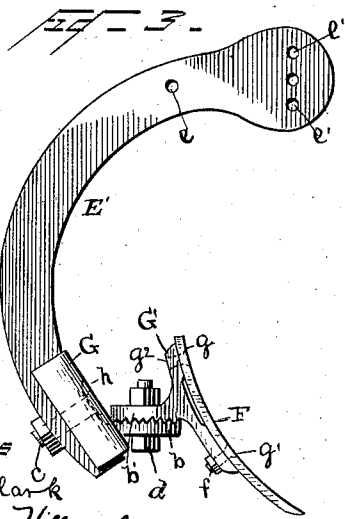
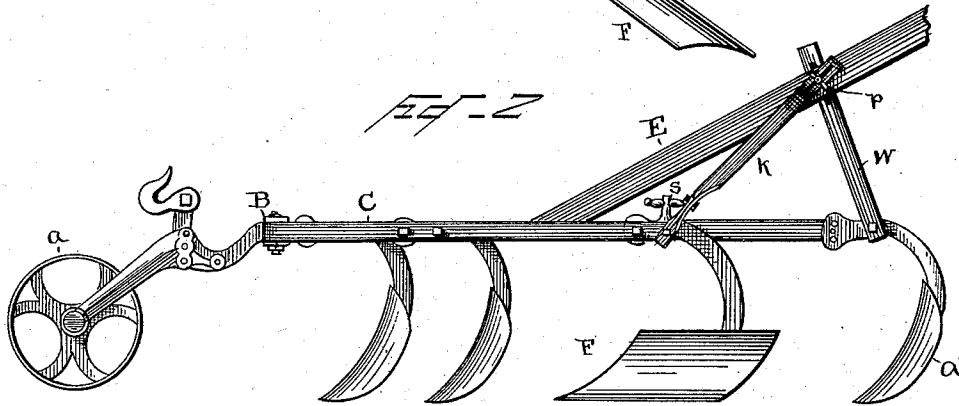
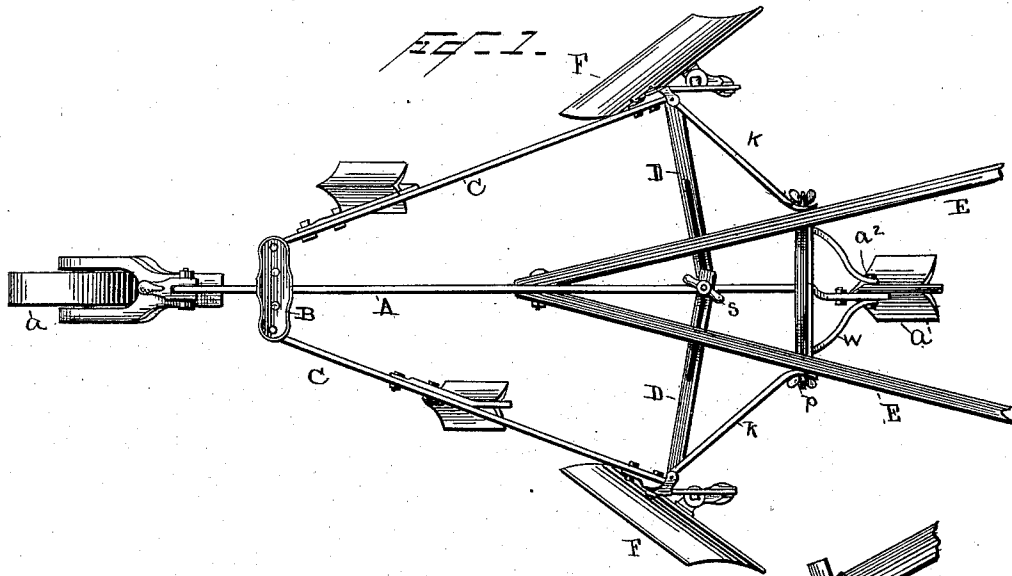
(No Model.)

E. B. COMLY & D. MOTHERWELL.

CULTIVATOR.

No. 384,021.

Patented June 5, 1888.



WITNESSES
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UNITED STATES PATENT OFFICE.

ELI B. COMLY AND DAVID MOTHERWELL, OF LOGAN, OHIO.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 384,021, dated June 5, 1888.

Application filed March 20, 1888. Serial No. 267,891 (No model.)

To all whom it may concern:

Be it known that we, ELI B. COMLY and DAVID MOTHERWELL, citizens of the United States, residing at Logan, in the county of Hocking and State of Ohio, have invented certain new and useful Improvements in Cultivators; 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.

15 This invention relates to cultivators.

The object of the invention is to improve the cultivator generally and provide a simple and efficient means for connecting the frame-bars with the handles, whereby the handles can be raised and lowered and the frame-bars can be spread or brought together, while the handles will be securely braced against lateral and vertical strain, the braces adapting themselves to the relative position of the frame-bars and the handles.

25 A further object of the invention is the provision of a connection that will admit of the change of pitch and angle of the cultivator-blade, the blade having three adjustments: first, the adjustment of the connection on the curved standard, whereby the pitch is varied; second, the lateral adjustment of the blade on the connection, whereby the angle of the cutting-edge to the ground or to a horizontal plane is regulated, and, third, the adjustment of one part of the casting about a vertical axis to change the angle of the blade to the line of draft to plow a furrow of greater or less width.

35 The improvement consists in the novel features, which hereinafter will be more fully described and claimed, and shown in the annexed drawings, in which—

40 Figure 1 is a plan view of a cultivator embodying our invention; Fig. 2, a side view of the cultivator; Fig. 3, a side view of the cultivator tooth and standard on an enlarged scale; Fig. 4, a front view of the cultivator-blade, parts being broken away to show the oblong opening in the lower end of the connection.

50 The central longitudinal beam, A, having the

caster-wheel *a* at its front end and the cultivator *a'* at its rear end, is provided with the cross-head B, to which the frame or tooth bars C are pivoted. These bars C diverge, and are adjustably connected with the beam A near its rear end by the slotted braces D and set-screw S in the usual manner. The handles E are pivotally connected with the beam A, and are stayed by the braces *w* and *k*. The brace *w* is approximately \square shape, having its lower ends brought together and embracing the sides of the beam A, and secured thereto by the bolt *a*², that secures the cultivator *a'* to the said beam A. The upper end of the brace *w* fits between the handles, and its vertical branches are slotted and are adjustably connected with the handles by the set-screws *p*. The braces *k* are pivotally connected with the bars C at their lower ends, and have their upper ends curved and slotted and connected with the handles by the set-screws *p*. The curved ends of the braces *k* permit the bars C to be separated and brought together, and are sufficiently elastic to adapt themselves to the angle between the handles and the braces when making the several adjustments. By loosening the set-screws *p* the handles can be raised or lowered, and by loosening the set-screw S the frame-bars can at the same time be spread or brought together. The parts when adjusted are held rigidly together by retightening the set-screws *p* and S.

The standard E' is curved from end to end, and has its upper end, which is expanded, provided with a series of openings, *e'*, and has a single opening, *e*, at a distance from the said end. The bolt that connects the standard with the beam or frame-bar passes through the opening *e* and forms the fulcrum for the standard to be adjusted about, being held in position by a bolt or pin passing through any one of the openings *e'*. The cultivator or other blade, F, is connected with the standard by the connection that is composed of the two parts G and G'. The part G is fitted to and embraces the sides of the standard, and is held thereto by the bolt *c*, that passes through an opening, *h*, in the said part G. This opening *h* is oblong—that is, is widened or extended in one direction—being vertical, so that as the connection is adjusted vertically on the standard the blade F is dipped more or less and has

its pitch regulated thereby. The part G' is expanded vertically, and is provided with an opening, g , in its upper end and a transverse opening or slot, g' , in its lower end. The blade is fitted to the expanded end and is held thereto by the rivet or bolt f , the rivet g^2 forming the pivot for the blade to tilt about, and the bolt f securing the blade when adjusted. The edge of the blade to the ground is varied by adjusting the blade about the rivet g^2 . The two parts G and G' are held together by the bolt d , which passes vertically through the horizontal extensions b and b' , which overlap each other and are circular in form, the bolt d forming the center of the circle on which the extensions are formed. The opposing faces of these extensions b and b' are roughened or corrugated to prevent them from slipping when the bolt d is tightened.

By loosening the bolt d sufficiently far, the part G' can be adjusted to the right or the left about the bolt d as an axis to vary the angle of the blade to the draft, or to throw the earth to or from the plants, or to vary the width of the track or path to be cultivated.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The herein-described connection for securing cultivator blades and shovels to their standards, consisting of the two parts G and G' , having the horizontal extensions b and b' , re-

spectively, which extensions overlap and are adjustably secured together by the vertical bolt d , the one extension being adjustable on the other about the said bolt as an axis, substantially as and for the purpose described.

2. The combination of the standard, the connection composed of two parts, one part being adjustable laterally on the other, means for vertically adjustably securing the connection on the standard, the blade, and means for adjustably fastening the blade to the said connection, whereby the inclination of the blade to a vertical line may be had, substantially as described.

3. The herein-specified connection, composed of the part G , having an oblong opening and a horizontal extension, b , and the part G' , having its front end expanded and provided with an opening at its upper and lower end, one of the openings being extended transversely and having a horizontal extension, b' , the opposing faces of the extensions b and b' corrugated, and the vertical bolt d , for securing the parts G and G' together, substantially as set forth.

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

ELI B. COMLY.
DAVID MOTHERWELL.

Witnesses:

JOHN F. WHITE,
M. D. MOORE.