

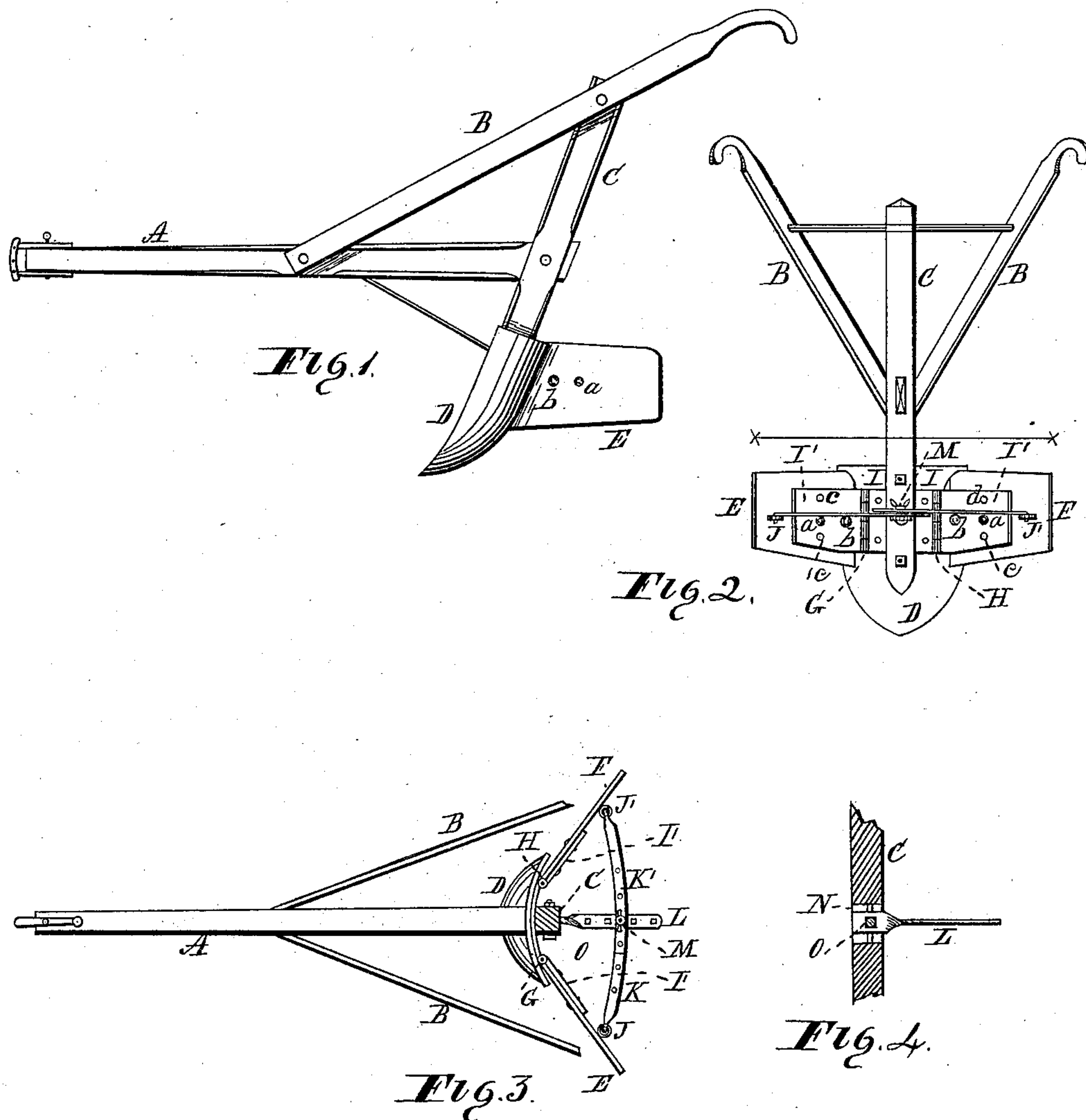
(No Model.)

J. W. ROBINSON.

CULTIVATOR.

No. 359,285.

Patented Mar. 15, 1887.



Witnesses.

J. H. Lapham
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UNITED STATES PATENT OFFICE.

JOHN W. ROBINSON, OF PLYMOUTH, OHIO.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 359,285, dated March 15, 1887.

Application filed July 26, 1886. Serial No. 209,043. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ROBINSON, of Plymouth, in Ashtabula county, State of Ohio, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

The nature of my invention relates to a certain construction and arrangement by which the side wings may be adjusted to various positions vertically and laterally, in relation to the cultivator, so that it may be adapted readily to the various kinds and conditions of work required in the employment of a cultivator. The importance of a cultivator being so arranged that the side wings or mold-boards may be not only adjustable laterally, but also vertically, is well known, and the advantage of a vertical adjustment is of great consideration in its adaptation to the purposes for which it is required, and is a distinguishing feature of my improvement.

That the invention may be more fully seen and understood, reference will be had to the annexed drawings and accompanying specification relating thereto.

Figure 1 is a side view; Fig. 2, a rear view; Fig. 3, a sectional top view in direction of line *x x*, Fig. 2; Fig. 4, a detached section.

Like letters denote like parts in the several drawings.

The beam A, handles B, and standard C are or may be arranged like those in ordinary use, braced and secured together in any suitable way. The shovel-point D is attached to the standard C by screw-bolts or other means.

The adjustable wings E F, Figs. 1 and 2, are attached to the shovel-point D by means of a hinge-joint, G and H, Figs. 2 and 3, on each side of the shovel-point, one section or part of the hinge being bolted to the shovel-point and the other part to the inside of the wings, as indicated at I and I'. The wings are fastened to the hinges by means of the screw-bolts *a b*, Figs. 1 and 2, which bolts have an auxiliary use, as hereinafter described. On the inside of the wings are two eyebolts or loops, J J', Figs. 2 and 3, to which are connected the two braces K K', and attached to the adjustable arm L by a screw-bolt and nut, M. The inner end of the adjustable arm L is arranged, in its connection with the standard C, to slide up and

down in the slot N in the standard, as seen in Fig. 4, or made to vibrate upon the bolt. By means of a bolt and nut, O, the arm is secured to the position in which it may be required in raising and lowering the wings E F. The bolt at O is preferably square-shanked, with a corresponding hole in the terminal of the arm L, to prevent it from turning down in supporting the elevation of the wings in various positions, as required.

By means of the hinged connection of the wings with the shovel-point they may be extended and contracted laterally, and held in position with the braces K K' bolted to the arm L. In adjusting the wings vertically the bolt *a*, Figs. 1 and 2, is removed and the bolt *b* loosened, which will admit of the wings being turned or moved vertically on the bolt *b*. The bolt *a* is passed from the wing through one of the holes *c d* in the hinge-plate, depending upon whether the wing is raised or lowered. If raised, the upper holes will receive the bolts *a a*, and if the wing is lowered, then the lower holes will take the bolts. In either case the screw-bolts pass through the wings and plate of the hinges, respectively, as indicated in the drawings. In raising and lowering the wings the arm L is raised and lowered correspondingly in the slot N, and then firmly held in the place required for sustaining the position of the wings by the bolt and nut at O, Figs. 3 and 4. This jointed and hinged arrangement of the wings admits of a separate and a combined movement, as they may be expanded and contracted laterally and also vertically, or the wings may be jointly moved and set laterally and vertically, in the manner before described. The wings may be moved vertically without a lateral expansion, and the wings may be expanded laterally without the vertical movement.

In the cultivation of corn, potatoes, and other hill-crops, different methods are necessary on different soils and at various stages of growth. On some soils a level culture with low hills is preferable. On others, with all crops, a higher hill or ridgeway is desired. With hoed crops, when young, a small amount of dirt is needed. From this it will be seen that by having the wings of the cultivator arranged, as described, to be raised or lowered,

it is not necessary to run the cultivator-point so deep to obtain the desired results. When high hills or ridges are required, the wings should be raised, allowing the cultivator-point to go
5 deeper into the ground, thereby taking more dirt from between the rows and moving to and around the plants, which save a large amount of hand-labor, resultant from the vertical adjustment of the wings, which is not the case
10 with the ordinary cultivator, as it needs to be tipped up and run on the heel to bring the wings low enough to cause the soil to traverse the length of wings for covering the hills.

What I claim as my improvement, and desire to secure by Letters Patent, is—
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In a cultivator, the laterally-adjustable wings E F, having vertical adjustment upon the hinge-plate at or about the bolt *b*, in combination with the screw-bolts *a a*, and the variable bolt-holes, braces K K', adjustable arm 20 L, with the bolt-fastenings and standard C, arranged to operate conjointly, substantially as described, and for the purpose set forth.

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

JOHN W. ROBINSON.

Witnesses:

J. H. BURRIDGE,
W. H. BURRIDGE.