

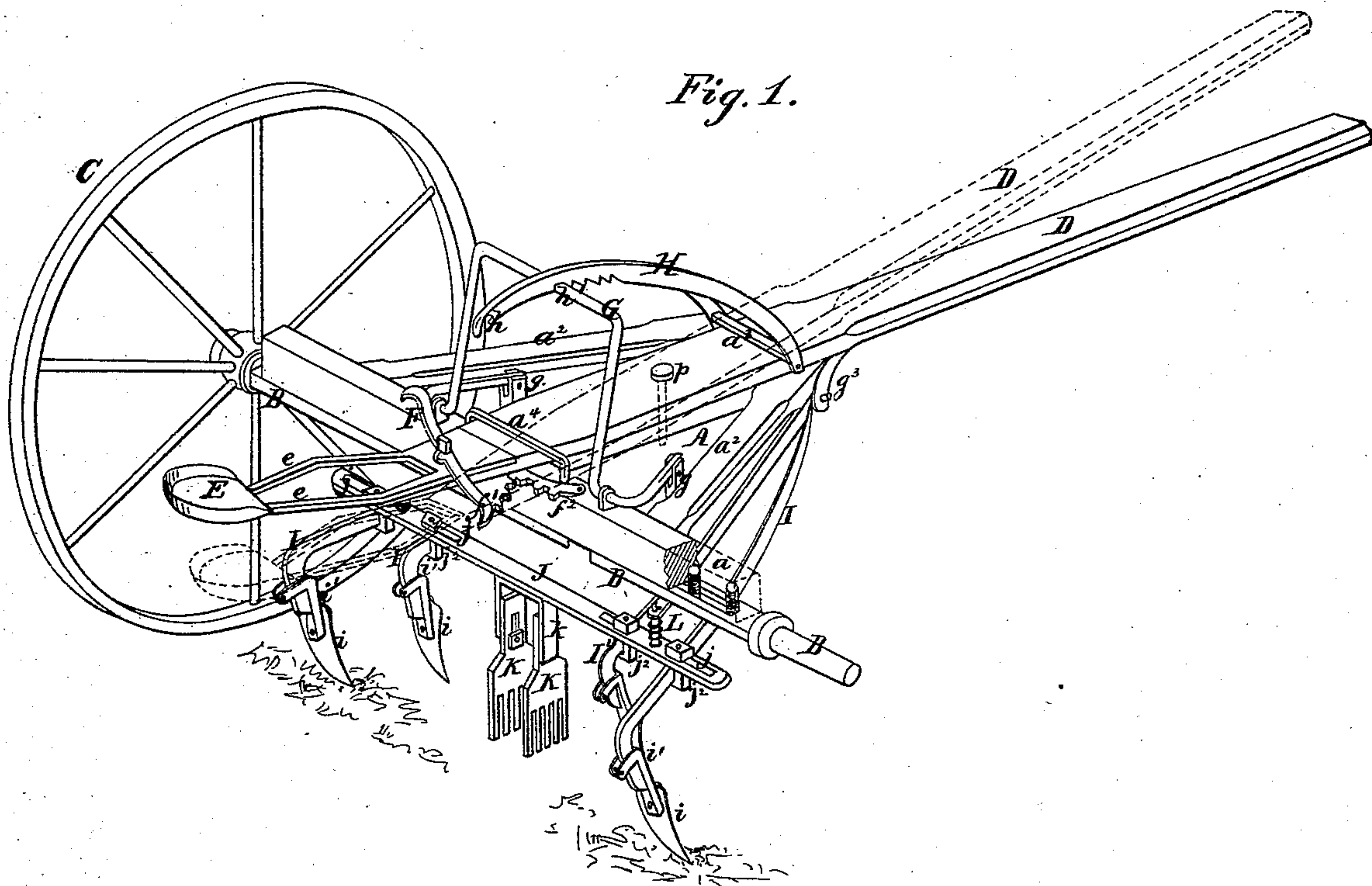
*J. W. Spangler,*

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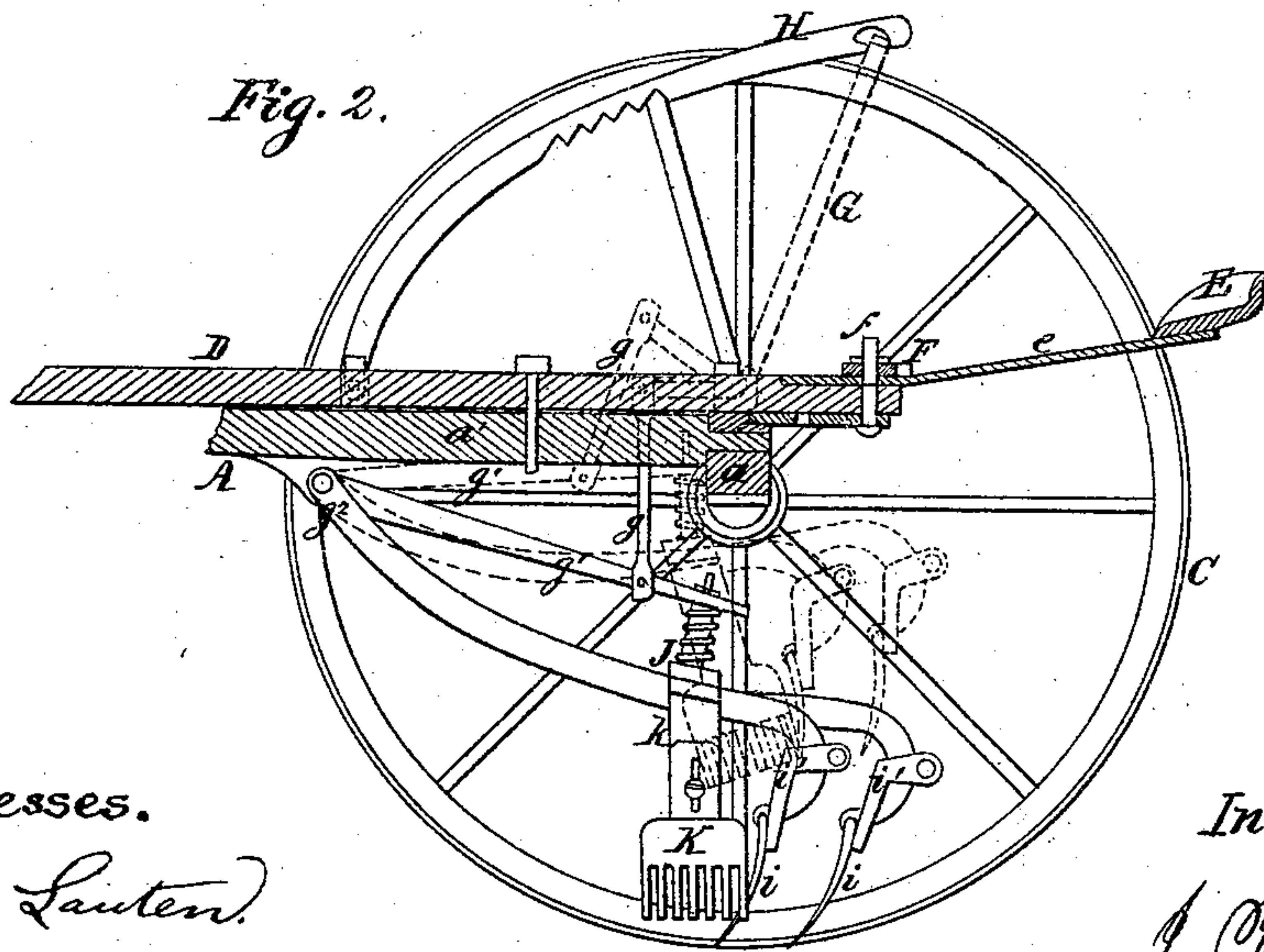
*Cultivator.*

PATENTED JUL 18 1871

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*Harmon Lauten.*

*Fred. Aptos.*

*Inventor.*

*J. W. Spangler*



# UNITED STATES PATENT OFFICE.

JACOB W. SPANGLER, OF JACKSON TOWNSHIP, PENNSYLVANIA.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 117,215, dated July 18, 1871.

*To all whom it may concern:*

Be it known that I, JACOB W. SPANGLER, of Jackson township, in the county of York and State of Pennsylvania, have invented a certain new and useful Improvement in Cultivators; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of the same, and in which—

Figure 1 represents a perspective view, and Fig. 2 a central section thereof.

My invention has relation to cultivators; and consists in constructing the shank of the plow and the lower end of the plow-helve or arm in a novel manner, to the end that the two may be easily connected and disconnected at will.

In the accompanying drawing illustrating this invention, A represents the hounds of a vehicle attached to the transverse bar  $a$  near its center, to which is secured the rectangular bar  $a'$ , which is held in place at its opposite end by means of and between the brace-bars  $a'' a''$  of the hound A. B B are two short slotted axles, which have the wheels C C, and which are attached to the bar  $a$  by means of bolts passing through the slots in said axle. D is the tongue, pivoted to the center of the right-angular bar  $a'$ , and confined to the hound A by means of elongated staples  $a^3 a^4$ , one of which is secured to the bar  $a$ ; the other is secured to the bars  $a^2 a^2$ . Where these bars meet this staple is of sufficient size to allow the tongue D to have lateral movement between the prongs of the staple when it is desired to change the position of said tongue D. F represents the seat, which is secured to the tongue D by means of the bars  $e e$ , of the form shown on the drawing. These bars are bent so as to form a space for the feet of the operator, and, at the same time, allow him to see the row of corn. G designates a double elbow-lever, which is bent at its lower ends to a horizontal position, as shown on the drawing, so as to pass through eyes or staples on the bar  $a$ , and is here bent so that the remainder will be at right angles with its horizontal portions, and as slightly curved inwardly. The ends of this rectangular portion are pivoted to the vertical connecting-bars  $g g$ , which are pivoted to horizontal bars  $g' g'$ . The bars  $g' g'$  are supplied at their inner ends with apertures, through which pass the rectangular bolts  $g''$ , which have their bearings in perforated ears or projections  $g^3$ ,

which form the ends of a plate to the outer ends of the bars  $a^2 a^2$ , which they embrace. The lever G is for the purpose of raising and lowering the cultivator-teeth. H represents a curved serrated or toothed bar, formed with prongs at one end, through which pass projections secured to the staple  $a^3$ , forming pivots for said bar. The opposite end of bar H is furnished with a recess,  $h$ , which is designed to receive the reduced portion  $h'$  of the handle G when the cultivator-teeth are thrown up out of the way. I I' represent the arms to which the cultivator-plows are attached. The lower ends of these arms, respectively, are constructed with a double curve, as shown, and are intended to enter corresponding openings in the shank of the plows and clasp over the top of the plows proper in order to hold them in position.  $i i$  represent the shanks of the plows as well as the plows themselves. These shanks are constructed with a slot in their centers, respectively, and with slotted elbows or offsets, as shown, for the purpose of receiving and holding the extremities of the curved arms I I', and thereby forming secure connections between the plows and the respective standards of the cultivator. The wooden pins will allow the shovels  $i i'$  to yield or be thrown back should they come in contact with any obstacle, and thereby prevent the teeth or shovels from being broken or otherwise injured or damaged. This feature I do not claim, as it is not novel. J is a transverse bar, resting upon the outer ends of the horizontal portion of the bars I and upon the bars I', at a point near the outer ends of their horizontal portions, and supplied with a series of elongated slots,  $j^2 j^2$ , embracing the horizontal portion of the bars I I', and which plates are constructed with screws, upon which fit nuts for securing them and the bars I I' to the plate or bar J. By means of this arrangement the bars or standards I I' can be placed at any desired distance apart and firmly held thereat, and after being so placed brought nearer each other, as occasion may require. K K represent two forks or rakes, which are supplied with elongated slotted handles, and can be vertically adjusted by means of these slots and pins passing through said slots, entering the pendant ends of a support, K, the horizontal portion of which support is fastened to the under side of the bar J. L L are spiral springs, embracing vertical studs secured to the upper side of the

bar J, and confined thereto by means of the said bar and the ends of the said bars *g' g'*. The object of these springs is to allow the plate or bar J to readily yield should it be subjected to a jar or shock caused by coming in contact with an obstacle, as is the case frequently in cultivating the ground, preventing it and the other parts of the cultivator connected with it from being broken or otherwise injured.

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

The arms I I having their lower extremities constructed with a double curve, as shown, in combination with the plow-shanks *i i* constructed with slots and slotted elbows, as described, substantially as and for the purpose specified.

In testimony that I claim the foregoing cultivator I have hereunto set my hand this 10th day of December, 1870.

JACOB W. SPANGLER.

Witnesses:

E. D. ZEIGLER,  
JNO. A. METZELL.