

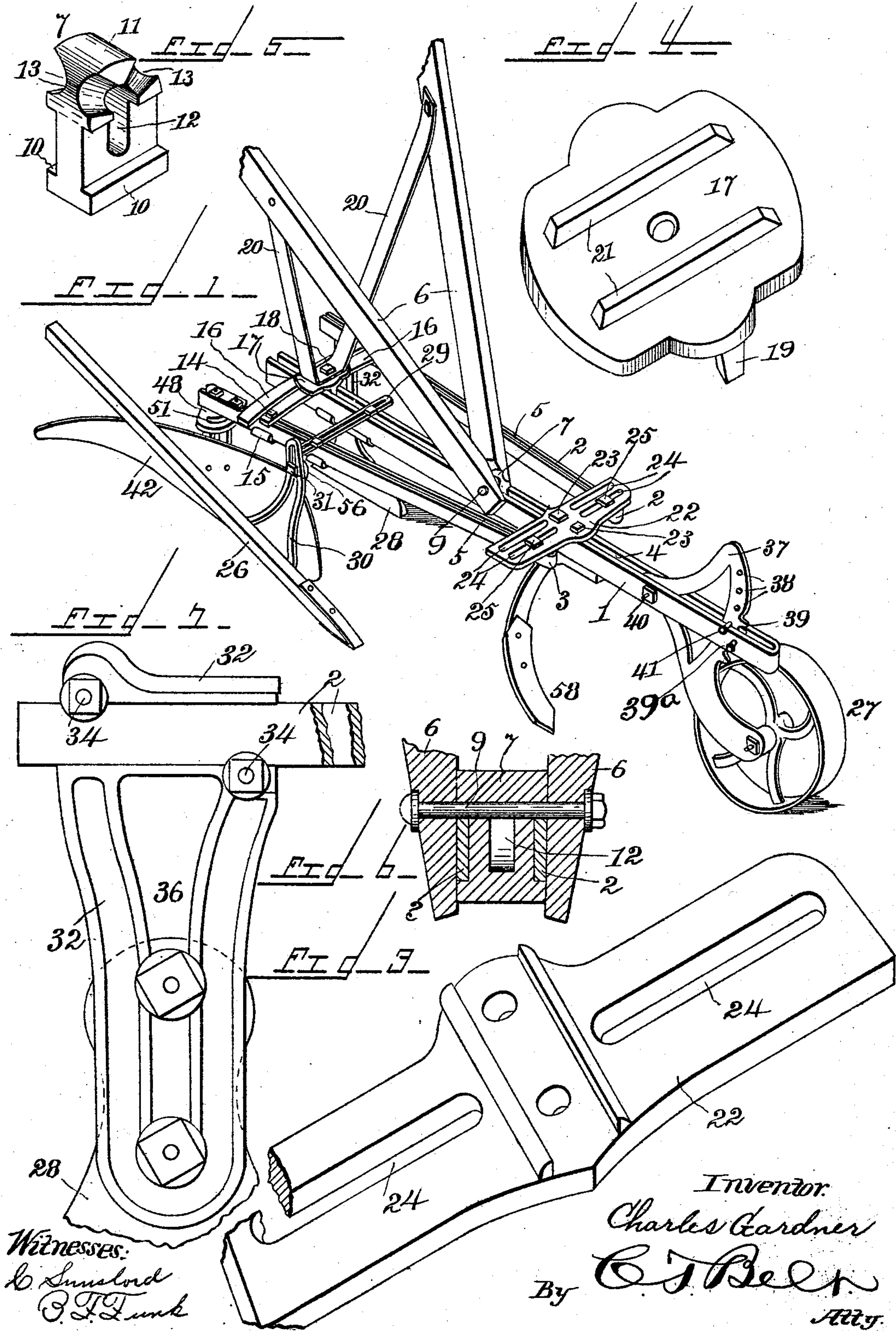
(No Model.)

2 Sheets—Sheet 1.

C. GARDNER.
CULTIVATOR.

No. 539,732.

Patented May 21, 1895.



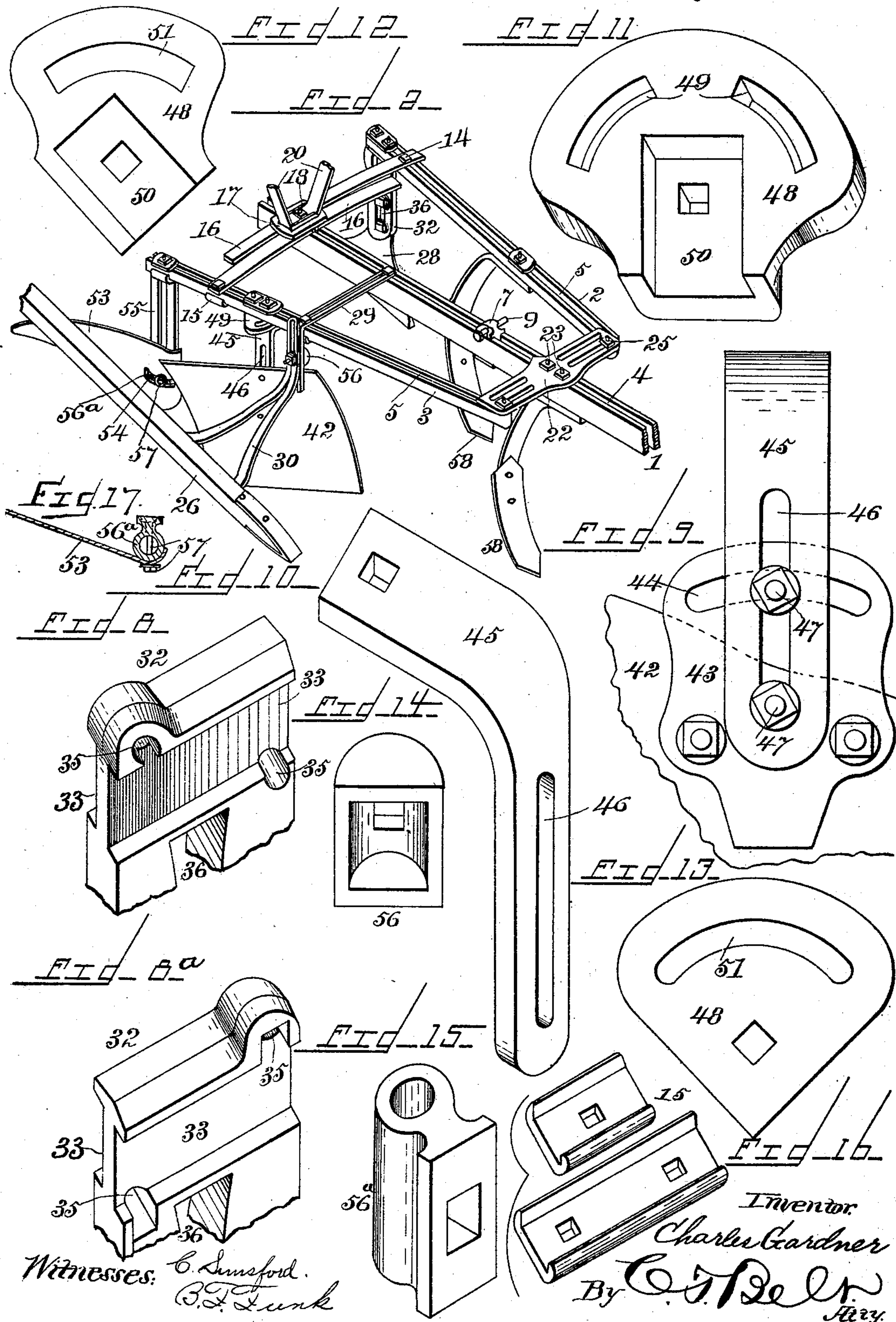
Witnesses:
L. Sinsford
O. J. Funk

Inventor:
Charles Gardner
By *C. J. Bell*
Atty.

2 Sheets—Sheet 2.

No. 539,732.

Patented May 21, 1895.



UNITED STATES PATENT OFFICE.

CHARLES GARDNER, OF HORSEHEADS, NEW YORK.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 539,732, dated May 21, 1895.

Application filed June 8, 1894. Serial No. 513,932. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GARDNER, a citizen of the United States, residing at Horseheads, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

This invention relates to the class of plows, and particularly to a cultivator, and the object of the invention is to provide a cultivator with pivoted, swinging or adjustable side beams of simple, durable and novel construction.

A further object of the invention is to provide such a cultivator with adjustable, detachable and interchangeable plowing and hoeing devices so that the same may be used for hoeing or plowing as desired.

A still further object of the invention is to provide a new and novel means for connecting theseveral parts of a cultivator, by which such parts may be readily adjusted in accordance with the work which the cultivator is to perform.

A still further object of the invention is to provide a cultivator with a leaf raiser or turner of novel construction.

A still further object of the invention is to provide a cultivator of simple and light construction, which can readily be adapted to different classes of work, as will be hereinafter fully described.

The invention consists in the novel construction and arrangement of parts as will be hereinafter more fully described and set up in the claims.

In the accompanying drawings, forming part of this application, Figure 1 is a perspective view of my cultivator, showing the side beams contracted, and having devices attached for general plowing and tilling purposes, with the leaf-raiser in position. Fig. 2 is a similar view showing the side beams, as shown in Figs. 1 and 2, except this plate has only single slots spread and attachments in place for doing small garden work, with the handles removed and the front of the cultivator broken away. Fig. 3 is an inverted perspective view of the slotted cross-plate in which are adjusted and pivoted the front ends of the side beams. Fig. 4 is a perspective view of the plate for clamping the extension-arms in position.

Fig. 5 is a perspective view of the block for coupling the handles to the main or central beam. Fig. 6 is a cross-section taken at the point where the coupling-handles are coupled to the central beam. Fig. 7 is a side elevation of the landside-hanger secured upon one of the side beams, with the landside and beam partly broken away. Fig. 8 is a perspective view of the landside-hanger. Fig. 8^a is a similar view looking at the outer side. Fig. 9 is a rear side elevation of a cultivator-blade having an adjusting-plate and blade-hanger attached. Fig. 10 is a perspective view of the blade-hanger shown in Fig. 9. Fig. 11 is a top view of the plate connecting the blade-hanger with the cultivator-beam and by which the blade and hanger are adjusted. Fig. 12 is a top view of another of my plates to adjustably connect a blade to the beams. Fig. 13 is a top view of still another of the plates employed for adjustably connecting a cultivator-blade to the beams. Fig. 14 is a perspective view of a circular connection between a hanger and a blade. Fig. 15 is a modified form of the circular block shown in Fig. 14. Fig. 16 is a perspective view of one of the single and one of the double washers having flanges. Fig. 17 is a section taken through the scraper and semicircular block.

The same numeral references denote the same parts throughout the several figures of the drawings.

The central beam 1, and the side beams 2, and 3, are each formed from a single piece by bending the iron in the middle, allowing the portions from such bend to be parallel with each other throughout their length, with an opening or space 4, in the central beam, and a like opening or space 5, in the side beams.

The handles 6, are of ordinary construction, and their ends are not directly attached to the central beam 1, but said ends embrace the sides of the said beam, and are coupled together and to the beam, by means of the coupling block 7, and the bolt 9. The block 7, has bottom flanges 10, an enlarged circular head 11, the same thickness of the bottom, and of the beam 1, and a vertical slot 12, extending from near the said flanges into the said head the latter being cut away or corrugated at 13, to reduce its weight. In coupling

the said parts together, the block 8, is sprung into the space 4, of the beam 1, leaving the portions of the beam in the opening between the flanges 10, and the head 11, the latter projecting above the top of the beam. The ends of the handles are then secured to the block by passing the bolt 9, through them and through the slot 12, without weakening the beam by running the bolt through it.

The handles are made adjustable upon the central beam at the rear, as will be directly described, and they are free to be moved back and forth at the front ends, by simply loosening the bolt 9, which will allow the coupling block 7, to slide, as desired, in the space 4, without detaching the handles.

To each of the side beams are adjustably secured by means of the bolts 14, and single flanged washers 15, the extension arms 16; the opposite end of the arms being free, and said arms are fixed to the central beam by the clamping plate 17, and its bolt 18, the arms being free to slide beneath the said plate upon loosening the bolt 18. This plate 17, has two lugs 19, which fit in the space 4, to keep it from displacement, while the handle brace 20, attached to the rear of the handles, is secured to the plate 17, and between its flanges 21, by means of the bolt 18. This plate can be moved back and forth upon the central beam in accordance with the adjustment of the extension arms upon the side beams, and the coupling block 8, without detaching or taking apart any of the said parts.

The cross plate 22 is adjustably attached to the central beam by means of the bolts 23, and has slots 24, through which extend bolts 25, for adjustably securing the front ends of the side beams to the cross plate; so that the said side beams may be adjusted at their front ends as at their rear ends, as shown in Figs. 1 and 2. These two figures represent the beams carrying different cultivator implements, of different shape and construction, while each of the machines of the said figures is provided with a leaf turner or raiser 26, for raising or turning the leaves of vegetables, &c., out of the path of the implements, so as to protect and keep them from being destroyed. This leaf raiser is hung from one of the side beams by the angle bar 29, slotted throughout its length, and adjustably secured to the central and one side beam, with its short arm depending from the latter, to which is adjustably bolted the forked hanger 30, carrying the leaf raiser, so that it may be adjusted vertically and horizontally, and turned in a vertical plane on its bolt 31, while it is adjusted crosswise by the bar 29. Each of the said cultivators is provided with the ordinary wheel 27, and land-side 28, the latter being suspended from one of the side beams by means of the hanger 32. This hanger has a horizontal slot or cut out 33 upon each side in which are located the portions of the side beams, and to which the hanger is adjustably secured by means of the

bolts 34, passing through holes 35, which are square upon one side of the hanger and round upon the other side, the holes being made at the edge of the slots 33, so that the bolts 34, do not pass through the side beams, but are located above and below the same. The hanger 32, also has a vertical slot 36, in which the land-side is secured and adapted to be adjusted vertically, said hanger being adjusted back and forth upon the beams 2.

The wheel bracket 37, is arc shaped, has a series of bolt holes 38, a portion of its front edge made into a rack 39, engaged by the pin 39^a and is pivoted to the central beam at 40; so that by removing the pin 39^a, and the bolt 41, the bracket can be turned upon the bolt 40, to raise or lower the wheel 27, and engage the depth of a furrow.

The mold-board or blade 42, has attached to it a plate 43, having a slot 44, by means of which the blade 42, is adjustably attached to its angle hanger 45, having a slot 46, through which, and the slot 44, the bolt 47, passes. This angle hanger 45, is connected to one of the side beams by means of the hanger plate 48, having, as shown in Fig. 11, two slots 49, and a cavity 50; and as shown in Fig. 13, one continuous slot 51 without the cavity; both being free to turn upon the said side beam after the bolt 52, is loosened.

The scraper 53, has its secured end curved or made in circular form with a central slot 54. It is attached to the slotted rod 55, through the semi-circular block 56 and the bolt 57, passes through the slot 54, block 56, and hanger 55. The modification of the block is 56^a.

One or more plow points 58, are attached to the respective beams as may be desired.

It will be observed that the beams, cross plate, and handle brace constituting the cultivator frame, are adjustable relative to each other; that the several cultivator implements or devices are each adjustable in one or more ways upon the beams, and that the leaf raiser is adjustable in several directions without detachment.

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

1. The combination with the central beam, and the handles, of the coupling block, between the said beam and handles, provided with bottom flanges and an enlarged head the same thickness of the beam, and having a slot extending from a point above the flanges into the said head, to receive a bolt passed through the handles without engaging the beam, substantially as set forth.

2. The combination with the cultivator frame, of the scraper having a curved slotted end, the scraper hanger slotted throughout its length and secured to the said frame in which the scraper is adjusted vertically, the semicircular block 56^a located between the said end and the said hanger, upon which the scraper is turned, and the bolt for secur-

ing the said parts together, substantially as set forth.

3. The combination with the cultivator frame, and the handles, of means for adjustably securing the handles to the frame, consisting of the handle brace, the plate 17, having lugs upon one side and flanges upon the other side, the bolt passing through the said plate and central beam of the frame, the coupling block, and the bolt engaging the said block, substantially as set forth.

4. The combination with the cultivator beams, of the hanger 32, having slots upon each side for the beams, and holes which are square upon one side of the hanger and round upon the other side of the hanger, said holes being one above and the other below the said slots so that the hanger can be attached to the beams without impairing the strength of the latter, substantially as set forth.

5. In a cultivator frame the combination of the central beam having an opening, and the adjustable side beams also having openings, the extension arms 16, one secured to each side beam through said opening, the handle brace 20, the plate 17, having lugs upon one side and flanges upon the other side, the latter adapted to guide the arms on the plate, and the former engaging the opening in the central beam, the block coupling, the handles to the central beam, the slotted cross plate 22, and the bolts for adjustably securing the front ends of the side beams to the cross plate, substantially as set forth.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CHARLES GARDNER.

Witnesses:

J. T. DOBNEY,
WM. DAVENPORT.