

No. 611,644.

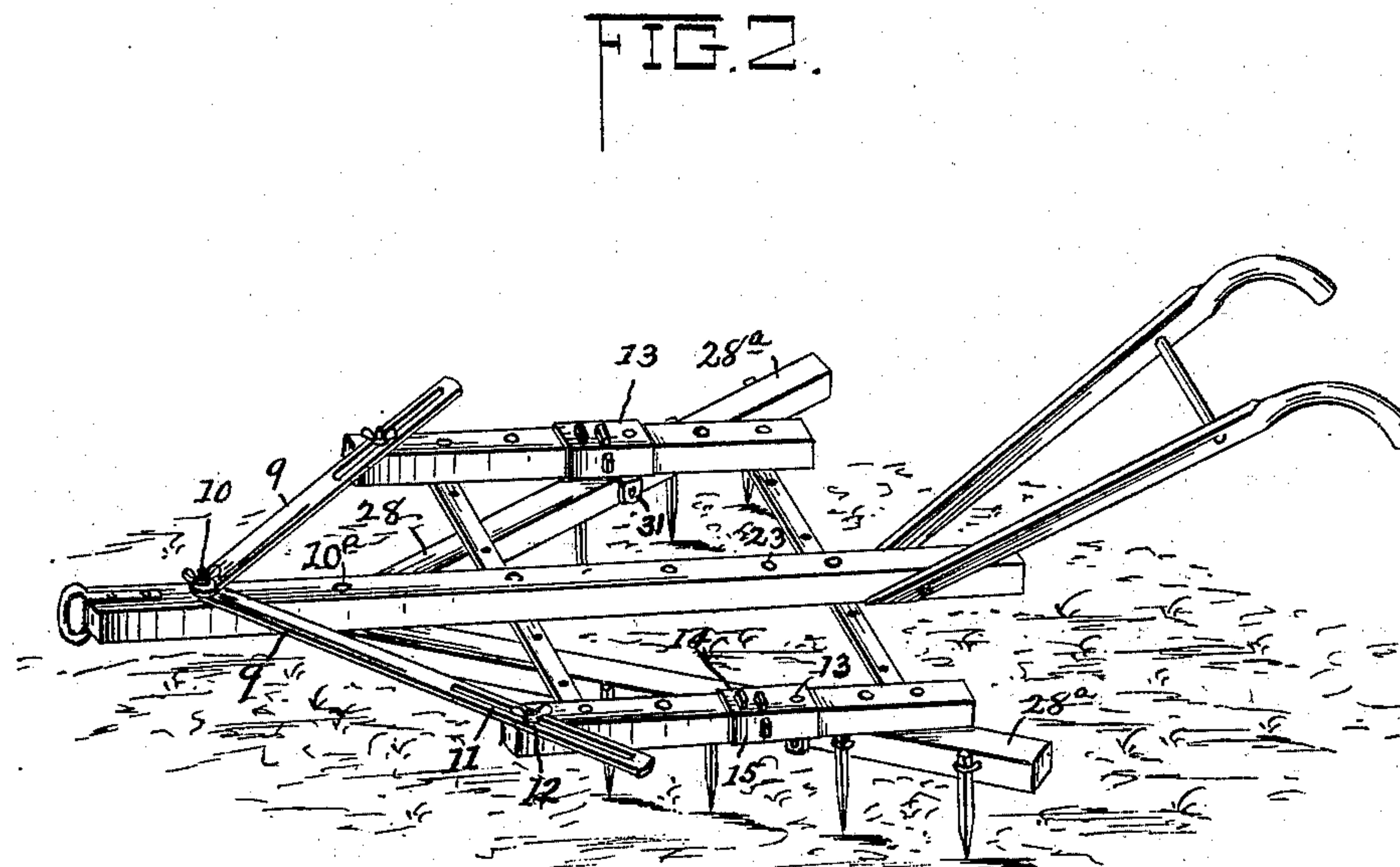
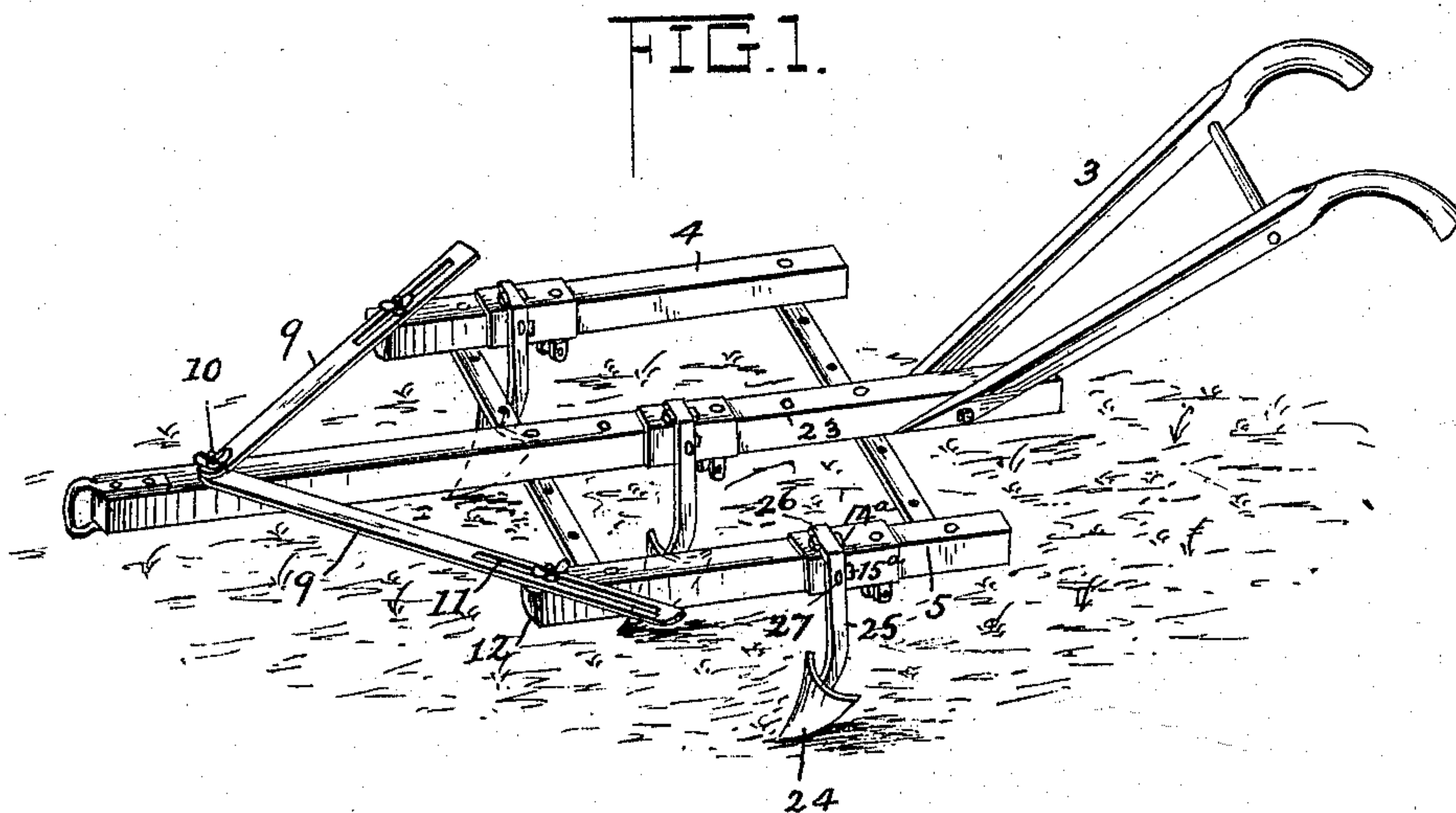
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G. W. NOBLE.
CULTIVATOR.

(Application filed Nov. 22, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES
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UNITED STATES PATENT OFFICE.

GEORGE W. NOBLE, OF LUM, ALABAMA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 611,644, dated October 4, 1898.

Application filed November 22, 1897. Serial No. 659,438. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. NOBLE, a citizen of the United States, residing at Lum, in the county of Lowndes and State of Alabama, have invented certain new and useful Improvements in Cultivators; and I do hereby 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.

My invention relates to improvements in cultivators, its object being to provide a novel and simplified construction of combination implement adapted to be readily and conveniently converted, as desired, into a plow, a harrow, or a rake.

To this end the invention consists in the novel construction and combination of parts hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, forming a part of this specification, like reference characters designate corresponding parts throughout the several views.

Figure 1 is a perspective view of my improved cultivator as adapted for use as a plow; Fig. 2, a similar view, but showing the plow-shovels removed and a harrow-frame substituted therefor; Fig. 3, a bottom plan view showing a rake-bar applied; Fig. 4, a bottom plan view of a portion of the cultivator-frame, showing the manner of connecting the harrow-frame bars; Fig. 5, a bottom perspective view of the box or sleeve casting; Fig. 6, a top perspective view of same; Fig. 7, a broken detail perspective view of a harrow-frame, showing the attaching-plate; Fig. 8, a perspective view of the adjustable yoke-plate clamp, and Fig. 9 a vertical section of same.

Referring now more particularly to the accompanying drawings, 1 represents the main beam of the cultivator-frame, provided at one end with a clevis 2 and at the other end with handles 3, and 4 5 represent short carrier beams or bars arranged on opposite sides of the main beam and parallel therewith. These carrier-bars are supported and adjustably connected relatively to the beam, to vary the width of the frame, by two transverse metallic connecting-bars 6, bolted centrally to said beam and formed with alined longitudinal

series of orifices 7, with which bolts 8 on the carrier-bars are adapted to engage.

Braces 9 connect the front ends of the carrier-bars to the beam. These braces are secured at their front ends to the beam by means of a bolt and wing-nut 10 and are formed at their rear ends with longitudinal slots 11. Bolts 12 on the carrier-bars project through these slots and are fitted with wing-nuts.

The beam and carrier-bars are each provided with a box or sleeve casting fitted to slide thereon and serving as an attaching device whereby plow-teeth, a harrow-frame, or a rake-bar may be secured thereto to convert the cultivator into a plow, a harrow, or a rake at will. This consists of a box or sleeve 13, adapted to encompass the beam or bar and formed with top and side flanged plate extensions 14 15 to rest upon the top and side of the beam or bar, as shown. The top flange-plate 14 is provided with two parallel transverse lugs 14^a and the side flange-plate with a single transverse lug 15^a.

The top and bottom plates of the sleeve 13 are formed with alined bolt-orifices 16, and said bottom plate is also formed with a series of radial lugs 17, arranged concentric with its orifice. A yoke clamp-plate 18, provided on its under side with yoke-arms 19, having alined bolt-receiving orifices 20, is formed on its upper side with a corresponding series of radial lugs 21, arranged concentric with an orifice 16^a therein, adapted to engage the said lugs 17. The orifice 16^a of the plate is countersunk to receive the head of a bolt 22, which passes up through the sleeve-orifices 16 and either one of a series of orifices 23 in the beam and side bars and serves to secure the yoke clamping-plate to the sleeve as well as the sleeve to the beam or bar on which it is fitted. It will be readily understood that by loosening this bolt the yoke-clamp may be released from the lugs 17 and turned to set its yoke-arms at any angle desired relatively to the sleeve and that by tightening the bolt the clamp will be again rigidly held in adjusted position.

Figs. 1, 2, and 3 of the drawings illustrate the manner of forming the different combinations. In adapting the device for use as

a plow I provide shovel plow-teeth 24, each formed with a vertical shank 25, adapted to rest against the lug 15^a and having a threaded orifice and a lateral arm 26, adapted to take
 5 between the lugs 14^a and rest upon the top flanged plate 14 of the sliding attaching-sleeve. By this construction the plow-teeth will be held rigidly against rearward movement, while a set-screw 27 is provided to en-
 10 gage a threaded opening in the sleeve and prevent the tooth from moving outward laterally or sidewise.

In adapting the device for use as a harrow the plow-teeth are removed and a V-shaped
 15 harrow-frame 28 substituted therefor, as shown in Fig. 2. The side bars 28^a of this frame are provided at their meeting ends with flanged plates 29, apertured for passage of the bolt 10^a to secure them to the front of
 20 the beam 1. The rear ends of these bars are fitted in the arms of the yoke-clamps 18 and secured therein by a bolt 31 passing through the orifices 20. To receive the said bars, the yoke-clamp is adjusted to bring its yoke-arms
 25 at a diagonal angle relatively to the side bars 4 5, as shown. In forming a rake the yoke-clamps on the bars 4 5 are adjusted to set their yoke-arms transversely of said bars, and then one of the bars 28^a of the harrow-
 30 frame is extended transversely of the frame and secured in said yoke-arms by the bolt 31, as shown in Fig. 3.

From the above description, taken in connection with the accompanying drawings, it
 35 will be seen that I have provided a cultivator susceptible of a variety of uses and in which the parts are adapted to be readily and conveniently interchanged in forming the several cultivator combinations. It will also be
 40 seen that, if desired, both the plow and harrow attachments may be secured to the frame and the ground plowed and harrowed at one operation.

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

1. In a cultivator of the class described, the combination of a beam, side bars adjustably
 50 connected therewith, and adjustable members on each bar provided with plow-teeth and harrow attachments, whereby a series of plow-teeth and a harrow-frame may be secured to said bars independently or together, substantially as described.

55 2. In a cultivator of the class described, the combination of a beam, side bars adjustably

connected therewith, and a sliding sleeve on each bar provided with plow-teeth-holding devices and a harrow-frame or rake-bar-at-
 60 taching device, adjustable to receive the diagonally-extending bars of a harrow-frame or a transversely-extending rake-bar, substantially as described.

3. In a cultivator of the class described, the combination of a beam, side bars adjustably
 65 connected therewith, and an attaching device on each beam and bar comprising a box or sleeve having radial lugs on its under side and top and side flanges provided with hold-
 70 ing-lugs to receive the shank of a plow-tooth and an adjustable yoke-clamp formed with radial lugs to engage those on the sleeve and yoke-arms to receive the side bar of a harrow-
 frame or a rake-bar, substantially as described. 75

4. In a cultivator of the class described, the combination of a beam, side bars arranged
 parallel therewith, connecting-bars adjust-
 80 ably connecting said beam and side bars, and an attaching device on each side bar comprising a sleeve provided with bolt-openings in its top and bottom plates and radial lugs on said
 bottom plate concentric with its opening, flanged top and side plates having holding-
 85 lugs to receive the shank of a plow-tooth, and an adjustable clamping-plate provided with yoke-arms and radial lugs adapted to engage said lugs on the bottom of the sleeve, sub-
 stantially as described.

5. In a cultivator of the class described, a
 90 beam, side bars arranged parallel therewith, connecting-bars adjustably connecting said beam and side bars, and an attaching device on each side bar comprising a sleeve provided with bolt-openings in its top and bottom plates
 95 and radial lugs on said bottom plate concentric with the opening, flanged top and side plates having holding-lugs to receive the shank of a plow-tooth, and an adjustable clamping-plate provided with yoke-arms and
 100 radial lugs adapted to engage said lugs on the bottom of the sleeve, in combination with a V-shaped harrow-frame having two detachable tooth-carrying bars adapted to be se-
 105 cured to said side bars by the yoke-clamps, substantially as described.

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

GEORGE W. NOBLE.

Witnesses:

ROBERT E. MCCAIN,
 P. MARVIN.