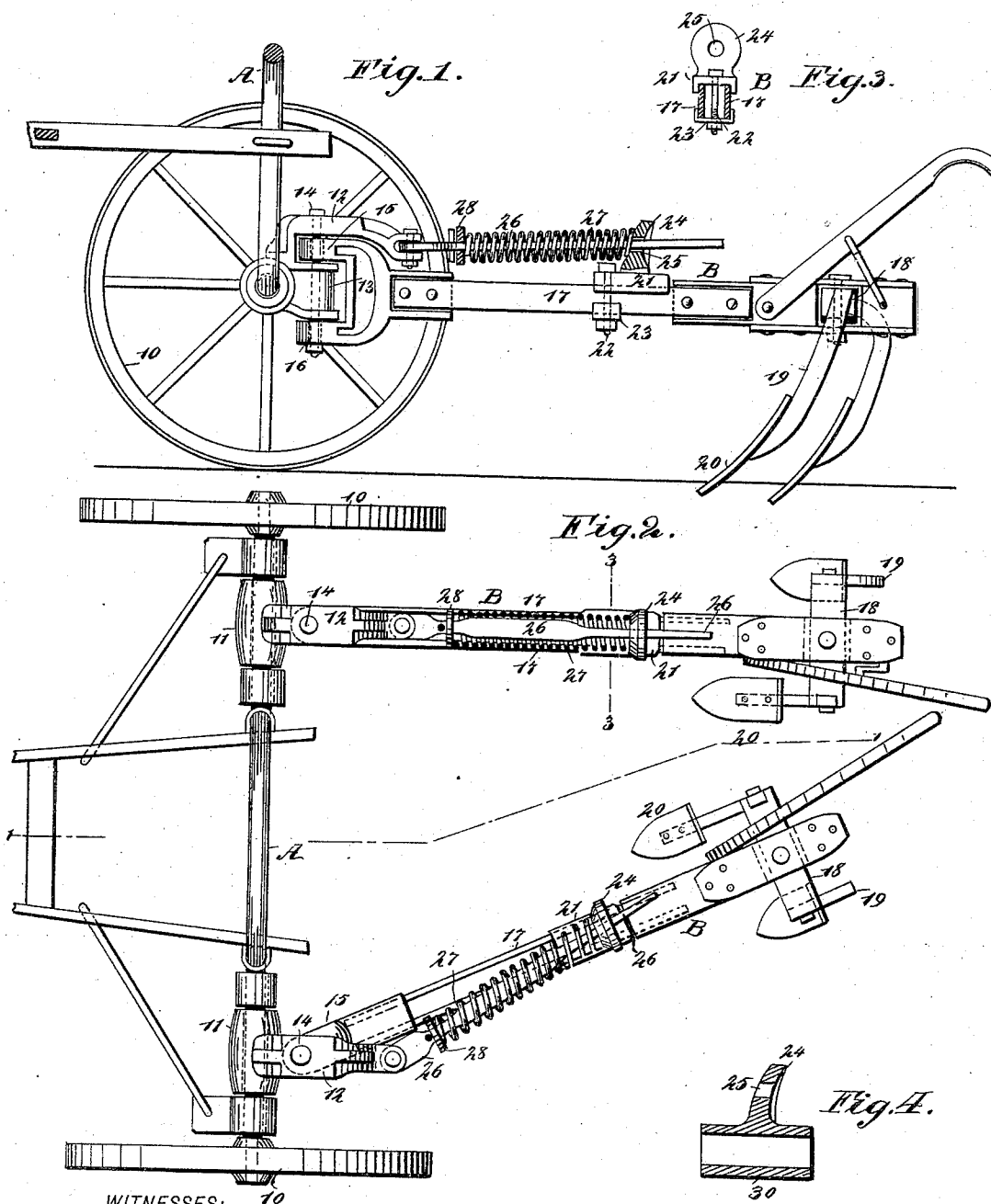


(No Model.)

C. T. ELDREDGE.
CULTIVATOR.

No. 500,873.

Patented July 4, 1893.



WITNESSES:

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CLYDE TALBOT ELDREDGE, OF KIRKWOOD, OHIO.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 500,873, dated July 4, 1893.

Application filed March 30, 1893. Serial No. 468,248. (No model.)

To all whom it may concern:

Be it known that I, CLYDE TALBOT ELDREDGE, of Kirkwood, in the county of Shelby and State of Ohio, have invented a new and useful Improvement in Cultivators, of which the following is a full, clear, and exact description.

My invention relates to an improvement in cultivators and especially to an improvement in wheeled cultivators, and it has for its object to provide a means whereby the plow or cultivator beam may be carried either to the right or to the left and will remain in the position in which it is placed, thus removing all strain from the person following the cultivator or attending to the shifting of the beams.

A further feature of the invention is to provide a balance spring in connection with each plow or cultivator beam, which will maintain the beam in a position to the right or to the left of a line at right angles to the axle or other support with which the beam is connected, the spring serving to counteract or counterbalance the tendency of the beam when thrown to one side, to find its way again to the center line; and a further object of the invention is to so construct the balance spring that it may be readily applied to any cultivator, and wherein the spring will be exceedingly simple and durable in its construction and will act the moment that the beam is carried to the slightest degree either to the right or to the left from a line at right angles to its point of attachment.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section through a cultivator having the improvements applied thereto, the section being taken practically on the line 1—1 of Fig. 2. Fig. 2 is a plan view of the cultivator with part in section. Fig. 3 is a section taken essentially on the line 3—3 of Fig. 2, the spring bar being omitted; and

Fig. 4 is a vertical section through modification of the spring bar guide block.

In carrying out the invention an arched axle A, is illustrated, provided with supporting wheels 10, and this axle is adapted as a support for plow or cultivator beams B, said beams being adapted to trail behind the axle. In the drawings I have shown two cultivator beams, one at each side of the axle, but as the beams are alike in construction, in the description reference will be made to but one.

In effecting the attachment between the beam and the axle a sleeve 11, is loosely mounted upon the axle at one side of its arch, and this sleeve is provided with an arched bar 12, preferably integral with it, the said arched bar being made to extend upward from the sleeve and thence rearward, its outer end being curved slightly downward, preferably, as shown in Fig. 1; and beneath the arched bar a vertically disposed knuckle 13, is located, a space intervening the top of the knuckle and the under surface of the arched bar, and both the arched bar and the knuckle are provided with an aperture extending through from top to bottom, the apertures in the two being in vertical alignment, so that a pintle or pivot pin 14, may be passed through the arched bar and thence downward through the knuckle. The forward end of the beam is provided with an upper and lower knuckle designated respectively as 15 and 16, and these knuckles are adapted to enter, one the space between the sleeve knuckle 13 and the arched bar 12, and the other beam knuckle is intended to pass beneath the sleeve knuckle, and the pintle or pivot pin 14, passes through both the arched bar 12 and the sleeve knuckle and also the two knuckles of the beam, thus providing for a hinged connection between the beam and the sleeve and a rocking connection between the sleeve and the axle. By this means of attachment the beam may be raised and lowered, turning upon the axle, and may be carried laterally either to the right or to the left.

In the drawings the beam is shown as being mainly constructed of two parallel and spaced bars 17, which extend from the front end to a point at or near the rear where the beam is rendered somewhat solid and is apertured to

receive a cross beam 18, the cross beam having secured to it the shanks 19, adapted to carry the cultivator teeth or plows 20; but the construction of the beam is immaterial.

5 When the beam is constructed with two bars 17, however, as shown, a block 21, is employed to rest upon the bars of the beam, the said block, as shown in Fig. 3, being provided with downwardly-extending side flanges, and the
10 block is held in place by passing a bolt 22 through it and between the bars 17 of the plow beam and through a tie-plate 23, resting against the lower face of said bars, as is likewise best shown in Fig. 3, the lower end of
15 the bolt being provided with a suitable nut. The block carries an upright post 24, preferably of circular construction, the forward face of which bolt is convexed or rendered more or less cylindrical, and the rear face is made
20 preferably more or less concaved, and the post is provided with an aperture or opening 25, extending horizontally through it. While the block is secured upon the plow beam it may be adjusted toward or from the hinged
25 connection of the beam with the axle.

The main feature of this invention consists in the construction of a regulating device adapted to hold and assist in throwing the plow to the right or to the left of a straight
30 line. This device is preferably made as shown in the drawings and comprises a rod 26, which is flattened at its forward end and pivoted in the rear end of the arched bar 12, which end of said bar is preferably bifurcated. The opposite end of the rod, which is round, is made
35 to pass through the opening 25 in the post 24, and has free movement in and through said post, and finally the rod is surrounded by a spring 27 of predetermined size, which
40 spring is coiled around the rod and has a bearing at one end against the forward convexed face of the post 24, and at its other end the spring is made to bear against the collar 28 formed upon the rod, which collar
45 may be a shifting one if in practice it is found desirable. The tension of the spring may be increased or decreased by carrying the block 21 toward or from the forward or the rear end of the beam. When the beam stands
50 straight, or at a right angle to the axle on its forward support, the rod and spring will be immediately over the center of the beam and extend longitudinally thereof.

In order that when the spring is flexed or
55 brought under pressure in any way said spring shall not yield sidewise, the bar is flattened at its central portion, as shown in Fig. 2, so as to have bearing along its edges against the major portion of the spring coils. The spring
60 is made of sufficient strength to counterbalance or counteract the tendency of the beam, when thrown to one side to gravitate toward the center or toward a straight line. For example, in operation, if the beam is carried to
65 the right as shown in Fig. 2, the spring and its rod will stand at an angle to the beam, over it, and the said spring and rod will ex-

ert constant pressure laterally on the beam in direction of the right-hand side of the machine, while as the machine is drawn forward
70 the tendency of the beam will be to gravitate or shift itself outward or to the left until it shall have reached a straight line or a line at right angles to the axle, but the spring device overcomes all of this tendency and main-
75 tains the beam in whatever position it may be placed. Thus the great strain sustained by the person guiding a drag plow of the ordinary construction is overcome, as in such construction ordinarily the entire strength of
80 the person must be exerted to counteract the tendency of the beam to gravitate outward when it has been carried inward; furthermore, the spring device assists in throwing the plow to the right or to the left, as the mo-
85 ment the plow beam is turned to the right or to the left even to the slightest distance, the spring device acts to assist in throwing the beam in the desired direction.

This device is exceedingly simple, it is du-
90 rable and economic, and it is capable of being applied to any form of drag plow or cultivator.

When the beam is made solid, instead of a sliding block being made as shown in Fig. 3,
95 said block is made as illustrated in Fig. 4, in which the post 24, is made integral with a sleeve 30, which sleeve is provided with a longitudinal opening corresponding in cross section to the cross-sectional shape of the beam
100 it is adapted to receive, and the sleeve is then held in position upon the beam by means of a set screw or like device.

The balance spring and parts connected therewith may if desired, be placed beneath
105 the beam instead of above it.

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

1. The combination with the wheeled axle
110 provided with a vertically rocking sleeve 11, having a rearward extension provided with two sets of vertical bolt apertures one in rear of the other, of a cultivator beam pivoted by a vertical bolt extending through the forward
115 bolt aperture to swing horizontally thereon and to swing vertically with the sleeve, a rod 26 pivoted at its forward end by a vertical bolt or pivot extending through the rear bolt apertures, an apertured bearing plate or head
120 24 on the beam and through the aperture in which the rod is free to slide, and a spring through which the rod passes one end of the spring bearing on the plate or head 24 and the other end bearing against a bearing at 28
125 on the forward end of the rod whereby the beam is free to swing vertically without bringing the spring into play and when swung horizontally the spring will retain it in whatever position it may be thrown, substantially as
130 set forth.

2. A cultivator comprising the wheeled axle provided with a sleeve 11, having a rearward extending vertically apertured knuckle or

ear 13 and a rearwardly extending arm 12 provided with a vertical bolt apertured in rear of said knuckle, the plow beam having vertically apertured knuckles 15, 16, receiving the knuckle 13 between them, a vertical 5 bolt 14 pivotally connecting said knuckles, a longitudinally extending rod 26 pivoted at its forward end by a vertical bolt to the arm 12 in rear of the pivot bolt 14, a bearing plate 10 or head 24 through which the rear end of rod 26 slides, clamping devices securing said plate or head to the beam, a bearing plate 28 on the forward end of the rod in rear of its pivot and a spring 27 on the rod and bearing at its ends on the plates or heads 24, 28 to 15 hold the beam in whatever position it may be swung laterally while permitting a free vertical movement without coming into play, substantially as set forth.

CLYDE TALBOT ELDREDGE.

Witnesses:

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