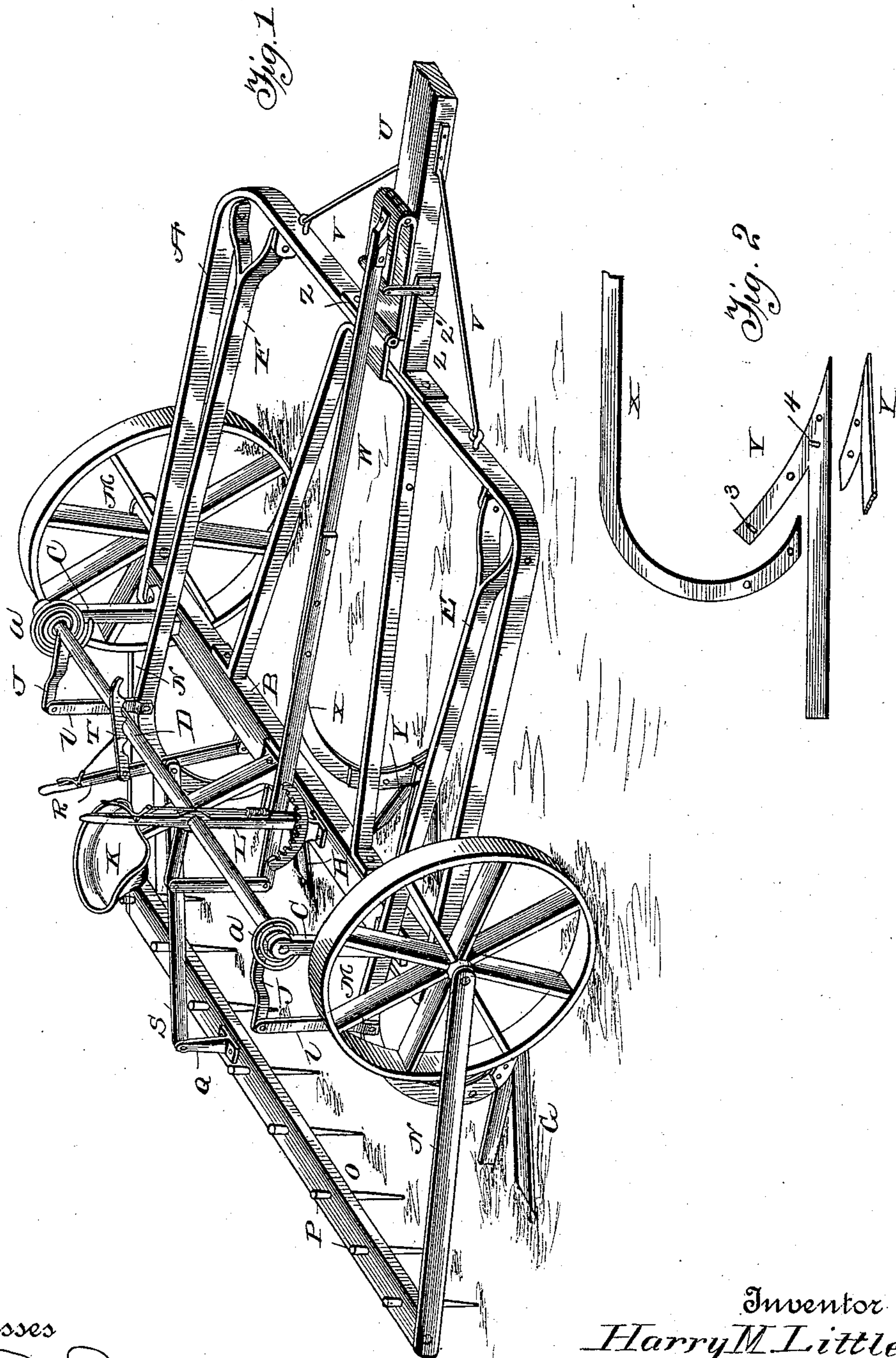


(No Model.)

H. M. LITTLE.  
CULTIVATOR.

No. 494,010.

Patented Mar. 21, 1893.



Witnesses

*John D. Smith*  
*Geo. T. Kincaid.*

Inventor  
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# UNITED STATES PATENT OFFICE.

HARRY MERRILL LITTLE, OF RIVERA, CALIFORNIA.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 494,010, dated March 21, 1893.

Application filed September 22, 1892. Serial No. 446,614. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY MERRILL LITTLE, of Rivera, in the county of Los Angeles and State of California, have invented certain  
5 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  
10 the same.

My invention relates to improvements in cultivators and its object is to furnish a cultivator which has a harrow bar attached, and in which the blades of the cultivator as well  
15 as the harrow teeth may be quickly and evenly raised from contact with the ground.

My invention also consists of the novel combination, construction and arrangement of parts hereinafter fully specified and pointed  
20 out in the claims.

In the drawings, Figure 1 is a perspective of my cultivator, and Fig. 2 is a side elevation of the blade, showing the mode of connecting  
25 same with the beam.

A is a metal U shaped frame, the open ends of which are connected by a wooden cross piece B, which carries the support or bearings C for the shaft D. To the forward part of the  
30 frame A are hinged the beams E and F, which extend backward over the cross-piece B, and carry the shares G and H respectively. The beams E and F are connected by means of pivoted connecting links I to rearwardly extending arm J of the shaft D.

35 On the right hand of the seat K and secured to the shaft D is the upwardly extending lever L, and means for holding the lever in the desired position.

Extending backward and downward from  
40 the axle of the wheels M are the pivoted supports N to the rear ends of which is pivoted the cross-beam O, which carries the harrow teeth P. Extending upward from the beam O is the arm Q, which is connected with the  
45 lever R, which is pivoted to the beam B, by the connecting links S. The lever R is situated on the left hand of the seat K and is held in the desired position by means of the pivoted serrated piece T, the serrations of  
50 which are adapted to fit the shaft D.

To the forward part of the frame A is hinged the pole U, which is braced to the frame by means of the braces V.

To the rear of the pole just forward of the frame A is hinged the beam W, which extends  
55 backward over the cross-beam B, and is connected to a projecting arm on the shaft D, by means of a connecting rod similar to I, and to the beam W is bolted the beam X of the share Y.  
60

Bolted to the frame A are L pieces Z, one on either side of the pole U and to the outwardly projecting portions of the L pieces Z are pivoted connecting links Z', the other  
65 ends of which are pivoted to the beam W.

To balance the weight of the beams and plow-shares I have used springs (a) one at each end of the shaft D and connected to the shafts D and the supports C.

In Fig. 2 I have shown the manner of connecting the share Y to the beam X, which  
70 consists of having the upper bolt hole 3 rectangular and also one of the holes 4 through which the bolt which secures the blade of the share Y to the share, rectangular. By this  
75 means the share and blade can be tilted at any desired angle with the beam X.

The construction and arrangement of the several parts of my cultivator being thus  
80 made known, the operation and the advantages of the same will, it is thought, be readily understood.

The object of the connections between the beam W and frame A and having the pole U hinged to the frame A and beam W, is to allow the shares to remain in a plane parallel  
85 to the ground when they are raised, or in other words to prevent them from dipping when raised from the ground.

When it is desired to cultivate the ground,  
90 the levers L and R are swung backward until the shares and harrow teeth enter the ground to the required depth, and the machine is then drawn forward over the ground.

It will be readily seen from the foregoing  
95 description that I have provided a very simple and effective cultivator, which will have a light draft and by the use of which the entire surface of the ground will be thoroughly cultivated and pulverized.  
100



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

1. In a cultivator, the combination of pole 5 U, frame A, cross-piece B, harrow bar O, shaft D, beams E and F, which are hinged to the frame A, beam W hinged or pivoted to pole U, and also having connecting links to frame A, said pole U being hinged to the frame A, in combination with springs (a) and shares G, Y and 10 H, and means for raising and lowering the shares G, Y and H, substantially as and for the purpose set forth.

2. In a cultivator, the frame A, pole U, said 15 pole being hinged to said frame in combination with beam W carrying a plow share, said share being connected to said beam by means of bolts, which pass through rectangular slots in said beam, said beam being hinged or pivoted to said pole U and also bearing pivoted 20 connecting links which connect said beam to said frame A, and means for raising or lowering the rear end of said beam, substantially as and for the purpose set forth.

3. In a cultivator, the frame A, pole U 25 hinged to said frame, beams E, W and F, said beams E and F being hinged to said frame and beam W being hinged to said pole and connected to said frame by means of pivoted connecting links, shaft D having arms which 30 are connected to said beams E, W and F by means of connecting rods, harrow bar O bearing harrow teeth P, said harrow bar being pivotally supported by means of supports N, said harrow bar having arm Q, which is con- 35 nected to lever R by means of rod S, and lever L adapted to raise or lower the beams E, W and F and shares G, Y and H, substantially as and for the purpose set forth.

In testimony whereof I have signed this 40 specification in the presence of two subscribing witnesses.

HARRY MERRILL LITTLE.

Witnesses:

CHAS. P. WALKER,  
G. M. SMITH.