(No Model.)

B. F. BUTLER.

RIDING CULTIVATOR.

No. 477,194. Patented June 14, 1892.

Fig. 1.

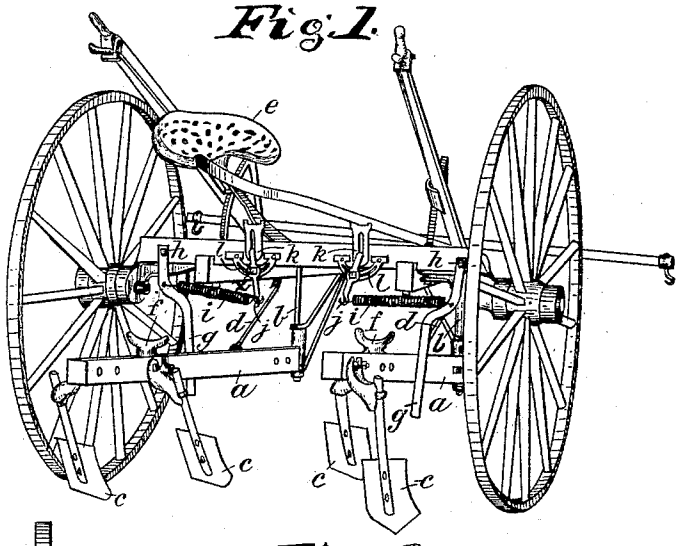


Fig. 2.

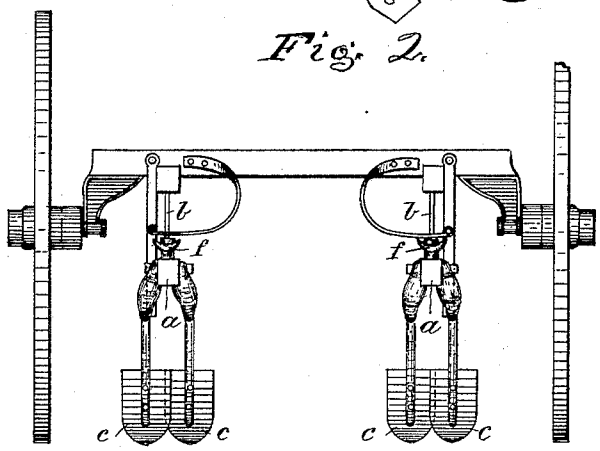
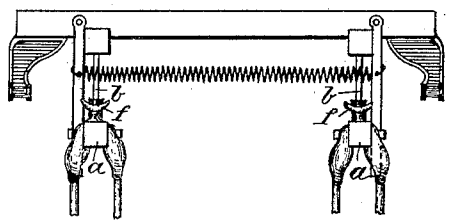


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

BENJAMIN F. BUTLER, OF ROCKFORD, ILLINOIS.

RIDING-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 477,194, dated June 14, 1892.

Application filed April 17, 1891. Serial No. 389,378. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. BUTLER, a citizen of the United States, and a resident of Rockford, in the county of Winnebago and State of Illinois, have invented new and useful Improvements in Riding-Cultivators, of which the following is a specification.

My invention consists in the improved construction of riding-cultivators whereby the several plows or gangs of plows may be independently shifted laterally to dodge the plants, the movement in one direction being effected by the rider with his feet and the reverse movement being effected by a spring or springs, all as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a rear perspective view of a cultivator illustrating one arrangement of apparatus in which my invention may be carried out. Fig. 2 is a rear elevation of some of the parts, showing a modified arrangement of springs for shifting the gangs. Fig. 3 is also a rear elevation of some of the parts, showing another modification.

a represents the beams of the gangs which, according to one form of cultivator, are pivoted at the front end to a vertical hanger *b*, so that they can swing laterally, each beam having two plows *c*, commonly called a "gang," and being the usual arrangement. The beams are also coupled to the frame by the inclined draw-rods *d*, and sometimes they are coupled together rigidly by a yoke, so that the driver, sitting on the seat *e* with his feet resting on the beams, usually having foot-rests *f* for the purpose, may guide the gangs laterally by pushing on one or the other, according as it is necessary to cause the plows to run clear of the plants, the one being pushed outwardly necessarily shifting the other inwardly accordingly, which is liable to cause interference with the plants of one row while protecting those of the other row; but I am aware that they have also been arranged to be shifted independently. I propose to have each gang free to shift independently of the other, employing apparatus consisting, essentially, of swinging bars or levers suspended from the axle or some other part of the frame and bearing against or connected with the beams and actuated by springs in such manner that the inward lateral movements of the gangs may be caused by the springs without interference with or hinderance of the vertical play of the gangs, the outward movements being effected by the rider; but of course the order of the operation may be changed so that the springs and levers shall effect the outward movements and the rider the inward movements. This, however, will not be as convenient to the rider, but may be preferred in some cases. In this example I represent the bent levers *g*, pivoted to the axle at *h* and hanging down along and bearing against the beams at the outside with springs *i*, connected to them suitably for pressing the beams inward, said springs being coiled, as represented in Fig. 1, and attached to the hooks *j* for their support, and the hooks are represented as pivoted at *k* in the slots of the vertical standards supporting the seat-bars and adjustable along the slotted plates *l* for adjusting the tension of the springs, with a clamping-bolt *x* in each to fasten them in position on plates *l*.

In Fig. 2 I represent C-springs suitably fastened to the axle at one end and to the levers at the other end, the levers being straight in this case, as they may be, instead of bent, as in Fig. 1. The springs may of course be fastened to any other support, and any other approved means of adjusting them may be employed or the adjusting devices may be omitted.

The levers may be suspended forward of the axle and from any approved part of the machine.

Instead of using two coiled springs *i*, connected to a support between the levers, I may use one longer spring extending from one to the other of the levers and having its ends connected to them, respectively, as represented in Fig. 3.

I am aware that powerful diagonally-arranged draft-springs have been employed, as in the Patent No. 311,832, to counteract the tendency of the reversely-arranged diagonal scrapers to run into the rows of plants, the springs being arranged outside of the beams to pull the scrapers away from the plants and connected directly to the levers, with handles extending rearward for affording sufficient leverage for the walking attendant to swing the scrapers either inward or outward; and I

do not claim such device, my invention being more especially adapted for enabling the rider on a riding-cultivator to control the gangs with his feet on the beams in a more forward position. I arrange the springs in about right angles to the beams, and so as to take effect on them through the pendent levers, which afford to the rider the leverage which the rearwardly-extending handles afford to the walker.

I claim—

1. In a riding-cultivator, the combination of two gangs movable laterally independently of each other, a pendent lever and spring, and a foot-piece with each gang, adapted for so moving them independently of each other, substantially as described.

2. The combination of a cultivator beam or gang, the pendent lever *g*, the slotted standard or plate *k l*, the adjustable hook *j* and the spring *i*, whereby the beam may be returned to its normal position when moved aside by the rider, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 13th day of February, 1891.

BENJAMIN F. BUTLER.

Witnesses:
F. L. VANARSDALE,
M. T. NEEDHAM.