W. P. BROWN.

Cultivator.

No. 220,463. Patented Oct. 14, 1879.

Fig. 1.

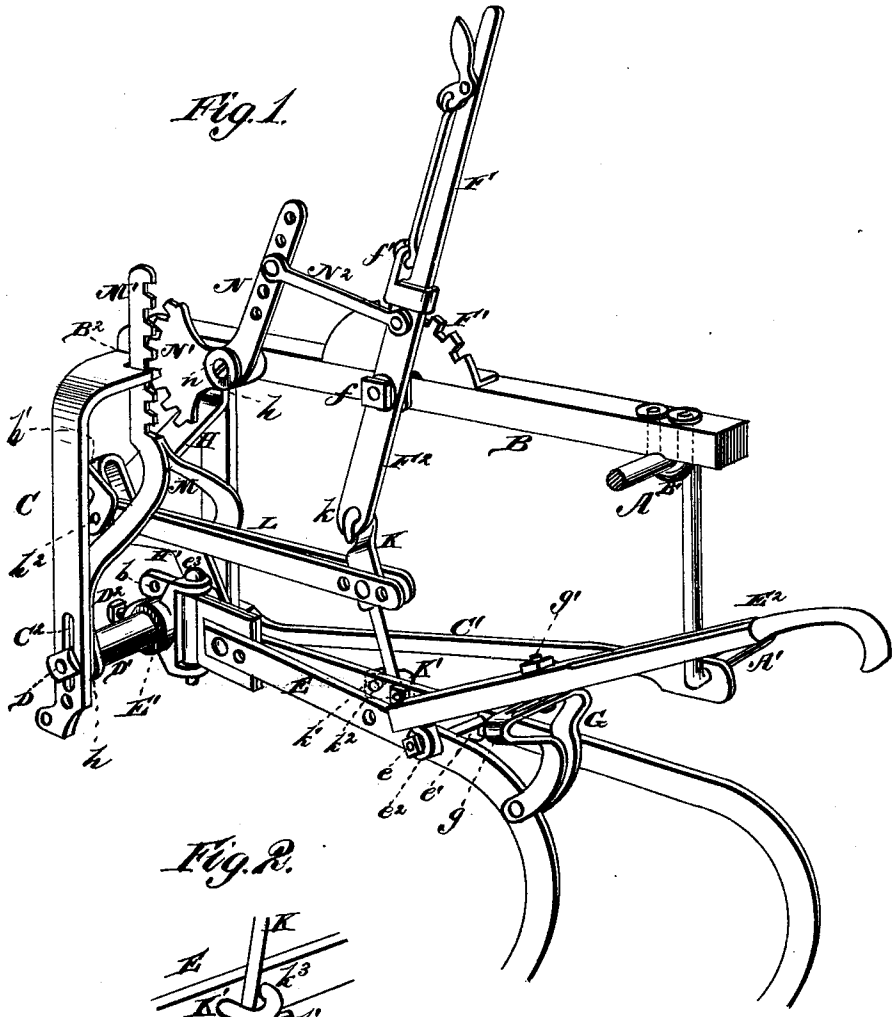


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM P. BROWN, OF ZANESVILLE, OHIO.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **220,463**, dated October 14, 1879; application filed April 12, 1879.

To all whom it may concern:

Be it known that I, WILLIAM P. BROWN, of Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Riding and Walking Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a perspective view of my cultivator, and Fig. 2 is a perspective detail view of the same.

Identical parts in the drawings are designated by the same letters.

My invention relates to combined riding and walking cultivators; and it consists in devices for raising and lowering the front and rear ends of the cultivator-beams simultaneously and by one movement.

It also consists in the manner of adjustably attaching the cultivator-beams to the carriage-frame, and also in the manner of attaching and adjusting the guiding-handles when used as a walking-cultivator.

A is the carriage, and A′ is the spindle of the axle, and B is the carriage sub-tongue. The axle is arched upward and attached to the sub-tongue at B^1. C is a draft frame or bracket, attached to the sub-tongue at B^2 in advance of the axle A, and extending downward about level with the spindle A′. C^1 is a brace extending from the axle near the spindle to the bottom portion of the frame C, and provided with a series of holes, *b*, for the purpose of supporting the bracket or frame C at different angles or positions.

There is a slot, C^2, in the vertical parts of the bracket C, in which the draft-bolt D is inserted, provided with the sleeve D^1.

E is the frame of the cultivator, to the forward end of which is attached the clevis E^1, which embraces the sleeves D^1, and is retained in position by means of the set-screw D^2. The beams E are united by the bolt *e* and the spreader e^1. E^2 is the guiding-handle, which is attached by clasp e^2 to the extended end of the bolt *e*. G is a fulcrum or rest for this handle, provided with a slot, *g*, to which the handle is attached by means of the bolt *g′* in any desired position on the curved rest G, thus providing a shifting or adjustable handle. Instead of this slotted and curved brace G, there may be a curved bar or rod, and an engaging staple or hook in the handle to attach the parts, instead of the slot and bolt, as described.

H and H′ are toggle-levers, connected with the bracket at *h* h^1, and with the draft-bolt D at each end of the sleeve D^1, and to each other by the bolt h^2, and so constructed that in case these toggle-levers are deflected from the vertical position they will cause the draft-bolt D to be raised.

F is a lever fulcrumed to the sub-tongue at *f*, provided with the hand spring-pawl *f′*, which engages with the segment-ratchet F^1 in any desired position. K is a link attached to the arm F^2 of the lever F by means of hook and eye *k*. The lower end of this lever has a lug, k^1, with a hole, k^2, in it. K′ is a hook-bolt for securing the stem of the lever K and permitting it to pass freely through it; or the hook k^3 of the hook-bolt may be inserted into the hole k^2, thus making a rigid attachment of these parts.

L is a rod connecting the lever K and the toggle-levers H, so constructed that as the lever F is operated, the toggles and lever K move in such a manner as to raise and lower the front and rear ends of the plow simultaneously and by the one movement.

In case it is to be used as a walking-cultivator, the hook k^3 of the staple-bolt k^1 should not be engaged in the hole k^2 of the lever K, by this means permitting the cultivators to be raised and lowered by the handle E^1. In case the hook k^3 is engaged in the hole k^2, the weight of the carriage and plowman may be utilized in forcing the plow into the ground.

M is a stirrup engaging the draft-bolt D between the sleeve D^1 and the bracket C. M′ is a rack on the stem of the stirrup. N is a lever, provided with a segment-rack, N^1, upon which are teeth for engaging with the rack M′. The longer and fore arm of this lever is provided with a series of holes, in either of which may be placed the bolt of the connecting-rod

N^2, which connects the lever N with the lever F. The lever N is fulcrumed to the sub-tongue by the bolt *n*. By means of this lever and its connections, constructed as described, the draft-bolt D is raised and lowered by the direct vertical motion given to the stirrup M.

The hook and eye *k* and the clevis-bolt e^3 provide for a horizontal swinging motion for the cultivator, enabling the operator to guide the same so as to avoid the corn.

The cultivator, as constructed for use, consists of a duplication of the parts above described and represented in the drawings, with the operator's seat situated midway between the handles E^2 and lever F.

In case one of the wheels of the carriage drops into a furrow, or upon higher or lower ground, the operator can at once raise or lower the cultivator to suit, either flexibly or rigidly, as hereinbefore described.

What I claim, and desire to secure by Letters Patent, is—

1. In a riding and walking cultivator, the lever F, provided with the spring-pawl *f* and arm F^2, in combination with the segment-ratchet F^1, the lever K, connecting-rod L, toggles H H′, and draft-bolt D, as and for the purposes set forth.

2. The lever K, provided with the lug k^1 and hole k^2, engaged with the lever F^2 by the hook-and-eye joint *k*, in combination with the hook-bolt K′, cultivator-beam E, and the connecting-rod L, substantially as and for the purposes set forth.

3. In a riding and walking cultivator, the bracket C, attached to the tongue B and to the axle A by the brace C^1, and provided with slots C^2, in combination with the draft-bolt D, the sleeve D^1, and the adjustable clevis E^1, provided with the set-screw D^2, substantially as and for the purposes set forth.

4. In a riding and walking cultivator, the combination of the lever F, the connecting-rod N^2, the lever N, provided with the segment-gear N^1, the stirrup M, provided with the rack M′, and the draft-bar D, constructed and operating substantially as and for the purposes set forth.

5. In a riding and walking cultivator, the combination of the lever F, provided with the spring-pawl *f′* and the arm F^2, with the segment-rack F^1, lever K, connecting-rod L, toggles H H′, and draft-rod D, and the connecting-rod N^2, lever N, provided with the segment-gear N^1, rack M′, and stirrup M, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM P. BROWN.

Witnesses:
ROBERT M. BARR,
H. CLAY SMITH.