3 Sheets—Sheet 1.

W. E. LOWRIE.

Combined Planter and Cultivator.

No. 211,752. **Patented Jan. 28, 1879.**

Fig. 1

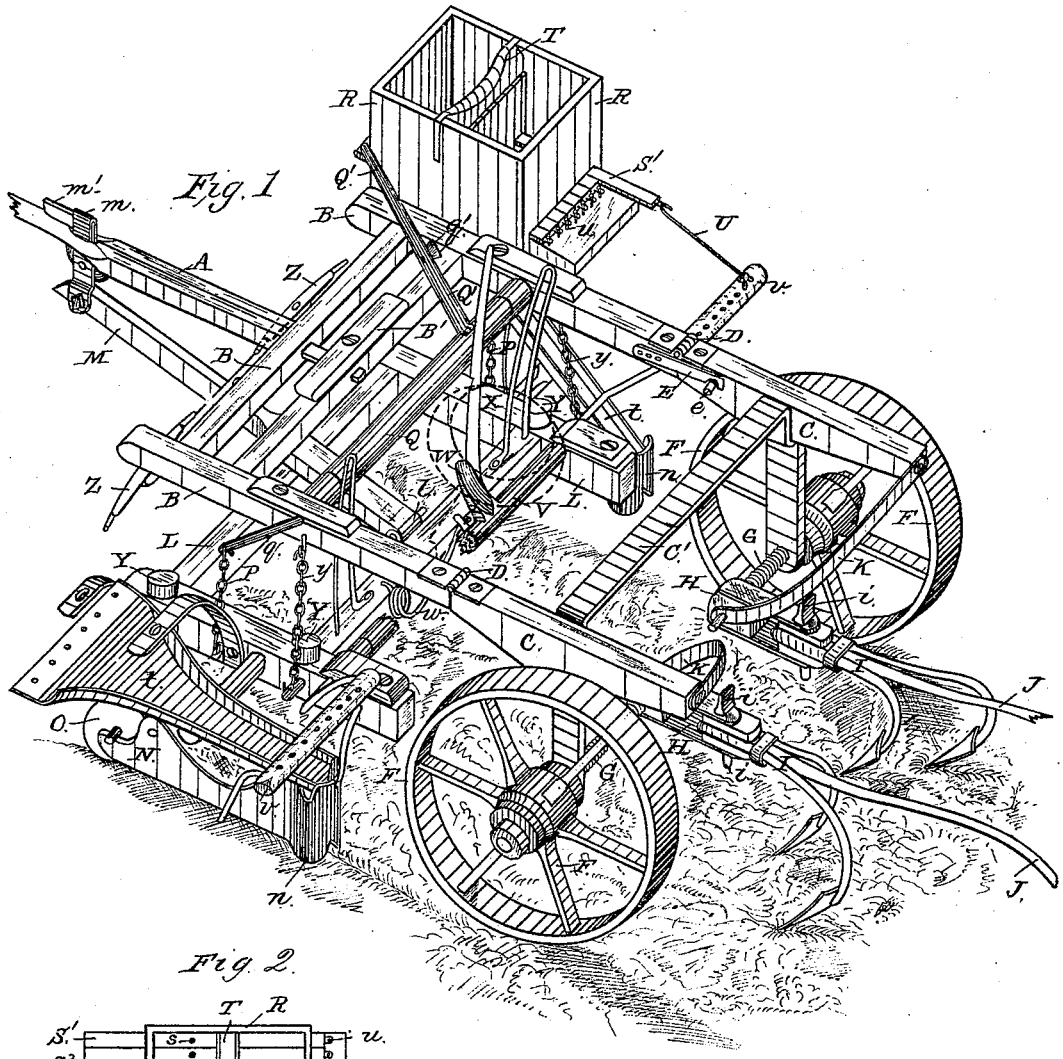

Fig. 2.

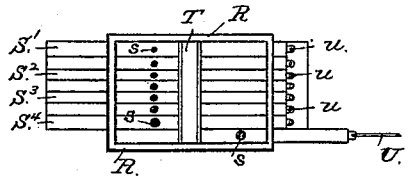

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Fig. 5

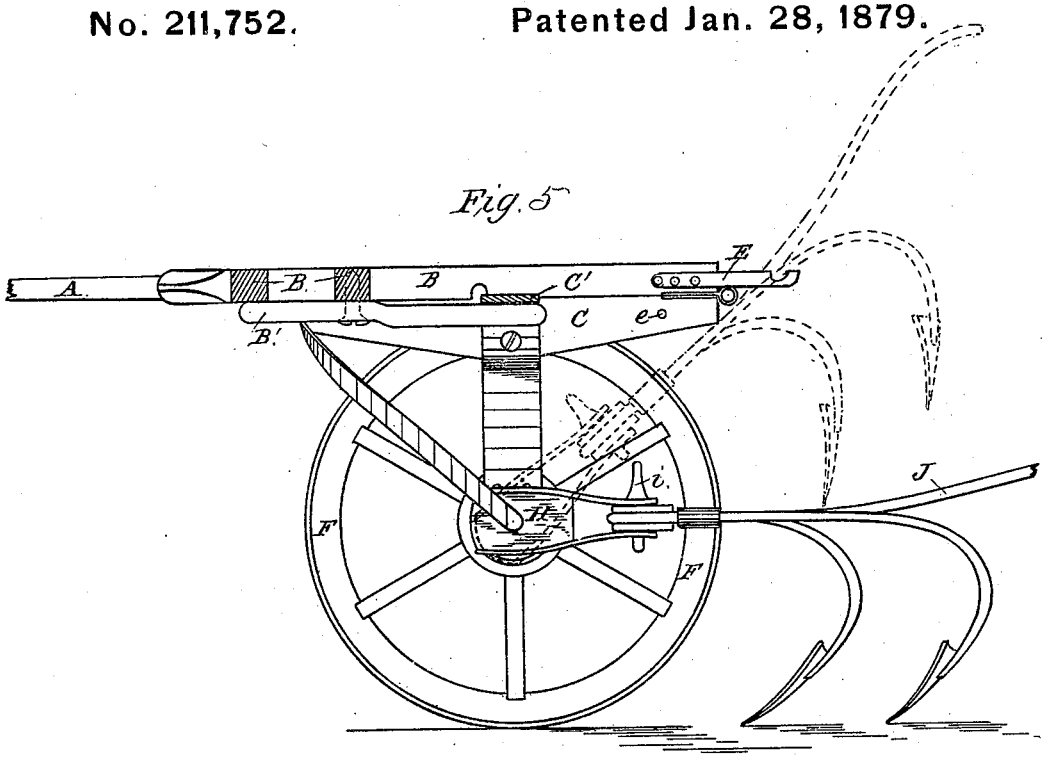


Fig 3.

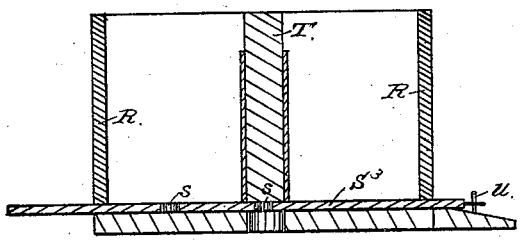
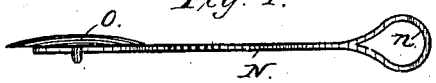


Fig. 4.



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3 Sheets—Sheet 3.

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Combined Planter and Cultivator.

No. 211,752. **Patented Jan. 28, 1879.**

Fig. 6.

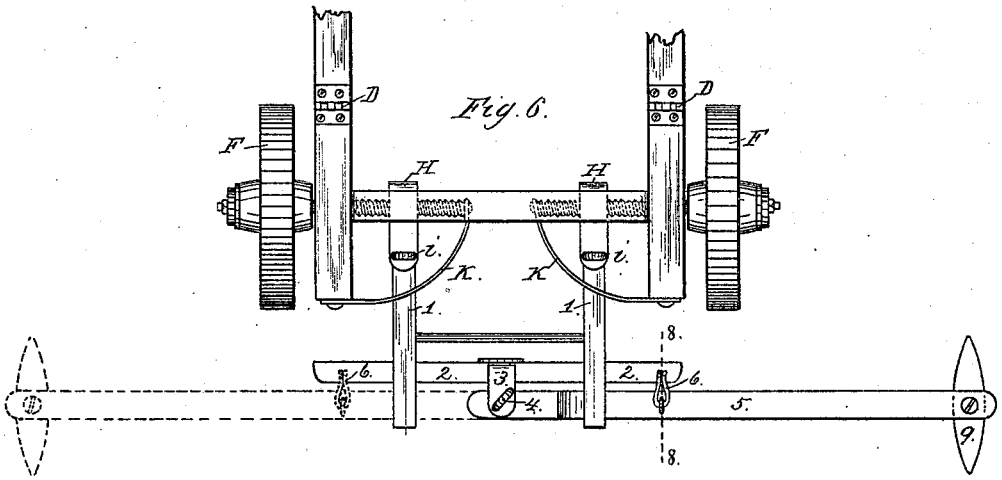


Fig. 7.

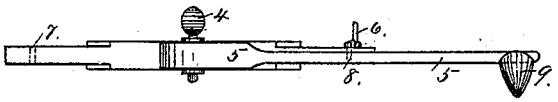
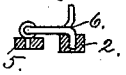


Fig. 8.



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Inventor.

William E. Lowrie.

By Knights Bros Attys.

UNITED STATES PATENT OFFICE.

WILLIAM E. LOWRIE, OF CLEARPORT, OHIO.

IMPROVEMENT IN COMBINED PLANTER AND CULTIVATOR.

Specification forming part of Letters Patent No. **211,752**, dated January 28, 1879; application filed June 14, 1878.

To all whom it may concern:

Be it known that I, WILLIAM E. LOWRIE, of Clearport, in the county of Fairfield and State of Ohio, have invented a Combined Planter and Cultivator, of which the following is a specification:

The cultivator-frame is detachable from the seeding attachments, and is hinged transversely, permitting the front to be folded over the rear part, where it is secured by a button, the plows being reversible to adapt them to work with the changed position of the frame.

To this end the plows are removably attached to head-blocks mounted on transverse threaded rods, so that they may be adjusted toward or away from each other by revolving them around said threaded rods. When the implement is to be used for planting, a marker-frame may be attached to the head-blocks in place of the plows.

The planter-frame has a drop-tongue attached to the main tongue by a hanger and key, as hereinafter described.

In order that my invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the combined implement, with one of the seed-boxes omitted. Fig. 2 is a plan of the seed-box. Fig. 3 is a vertical longitudinal section of the same on a larger scale. Fig. 4 is a plan of the shoe and rolling-colter. Fig. 5 is a vertical longitudinal section of the cultivator adjusted for separate use. Fig. 6 is a plan, illustrating the mode of applying the marker-frame. Fig. 7 is a rear view of the marker-frame. Fig. 8 is a section thereof on the line 8 8, Figs. 6 and 7.

A represents the main tongue of the implement, projecting forward from the frame B, to the rear part of which the cultivator-frame C is attached by transverse hinges D D, permitting the said parts B C of the frame to be folded one on the other, as illustrated in Fig. 5, in which position they are secured by a button, B′, on the frame B engaging beneath the axle C′ of the frame C. Hooked braces E on the front part, B, of the frame, engaging with pins *e* on the rear part, C, hold the frame staunch and rigid in the extended position shown in Fig. 1 when required. The said hooked braces are curved inward, so as to support the plows in elevated position, as shown in dotted lines in Fig. 5, while the machine is moved from field to field.

F F are the carrying-wheels. From their spindles arms G G extend inward toward the center of the machine, and said arms are screw-threaded for the reception of short beams or head-blocks H H, which work on said threaded arms, so that by turning them round thereon the said head-blocks may be set in or out for the purpose of adjusting the cultivators to run nearer to or farther from the center. The head-blocks H H may be of cast-iron, and are made in three pieces, so that any part may be cheaply replaced when necessary.

I I are the cultivators or coverers, attached reversibly to the head-blocks by wooden pins *i i*. These pins form pivots, on which the plows may be moved from side to side, while they rise and fall freely on the arms G to follow undulations in the surface of the ground. The cultivators are provided each with a single handle, J, extending backward without braces, so as to possess elasticity and work with ease to the operator. The braces K K, which connect the extremities of the arms G G to the frame C, are curved, so as to serve as guards or fenders in cultivating growing crops.

L is the planter-frame, the drop-tongue M of which hinged at *l* to the said frame, and is connected in front to the main tongue A by a lug or hanger, *m*, and a wedging-key, *m′*. This arrangement relieves the horses' necks entirely from any weight or pressure of the seeder-frame, permitting the latter to rest independently on its shoes N N, in front of which are roller-colters O O, formed with one flat side working in close contact with the flat face or side of the shoe N. The vertical motion of the planter-frame L relatively to the tongue or carriage-frame B is limited upwardly by stops Y and downwardly by chains *y*.

The planter-frame is raised, when desired by the operator, by means of suspension-chains P P, connected to arms *q q* of a shaft, Q, turned by a lever, Q′, and secured in position by a catch, *q′*.

The whiffletrees Z are applied to the planter-frame L. Grain boxes or hoppers R are

mounted on the planter-frame L directly above the shoes N N. In the bottoms of said hoppers are a number of slides, S^1 S^2 S^3 S^4, arranged side by side, eight (more or less) in each, with holes *s s*, of graduated sizes, to cause the deposit of more or less seed at each stroke. The slides work beneath a central bridge, T, formed with a cut-off on each side, so as to cause a deposit of seed at each stroke. Under the bridge T is a slot in the hopper-bottom, through which the grain falls on a chute, *t*, which conducts it to the tube *n* at the rear end of the shoe. Either one of the slides S^1 S^2, &c., (according to the quantity of grain to be deposited at each stroke,) is connected by a rod, U, with the head *v* of the rock-shaft V, to which the driver imparts motion at proper intervals by means of his foot pressing on a treadle, W, the reverse movement being given by a spring, *w*. The slides which are not in use are secured in position by pins *u*. The driver rides on a seat located at X, as indicated in dotted lines.

The seed-boxes are made of wood, and are readily kept in order and cheaply replaced when necessary. The slides also are made of wood, preferably of walnut, oiled. The holes have oil burned in, rendering them very hard and durable.

The machine may be used for planting one or two rows, at the option of the driver.

My improved marker-frame is constructed with a pair of draw-bars, 1 1, which are adjusted to the head-blocks H H in place of the cultivators I I, and held by the same pins *i i*. To the rear of the draw-bars 1 1 is secured a cross-beam, 2, in the center of which is a clevis, 3, the pin 4 of which forms a pivot, on which the marker-arm 5 turns, so that it may be swung from side to side. It is held in either position by a double hook, 6, engaging in the hole 7 or 8 at either end of the cross-beam 2. 9 represents the marker attached to the extremity of the swinging arm 5. The cultivator-shovels may, if desired, be attached to the front of the cross-beam 2, at four equidistant points, so as to be used in combination with the marker.

The marker is of great value as a guide in planting, but is taken off when the implement is used simply as a plow or cultivator.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of the hinged carrying-frame B C D, seeder-frame L, and tongues A M, constructed and operating in the manner and for the purposes herein specified.

2. The reversible folding frame B C, connected by hinges D, and provided with reversible cultivators I I and with fastenings for holding it in its extended or folded condition, substantially as and for the purposes set forth.

3. The adjustable head-blocks H H, mounted on threaded arms G G, and operating substantially as and for the purpose set forth.

4. The combination of the folding frame B C, reversible head-blocks H H, and reversible plows.

WM. E. LOWRIE.

Witnesses:

LAFAYETTE ABBOTT,

GEORGE MOORE.