2 Sheets—Sheet 1.

J. B. WALL.

COMBINED HARROW, SEED-PLANTER, AND ROLLER.

No. 195,677. Patented Sept. 25, 1877

Fig. 1.

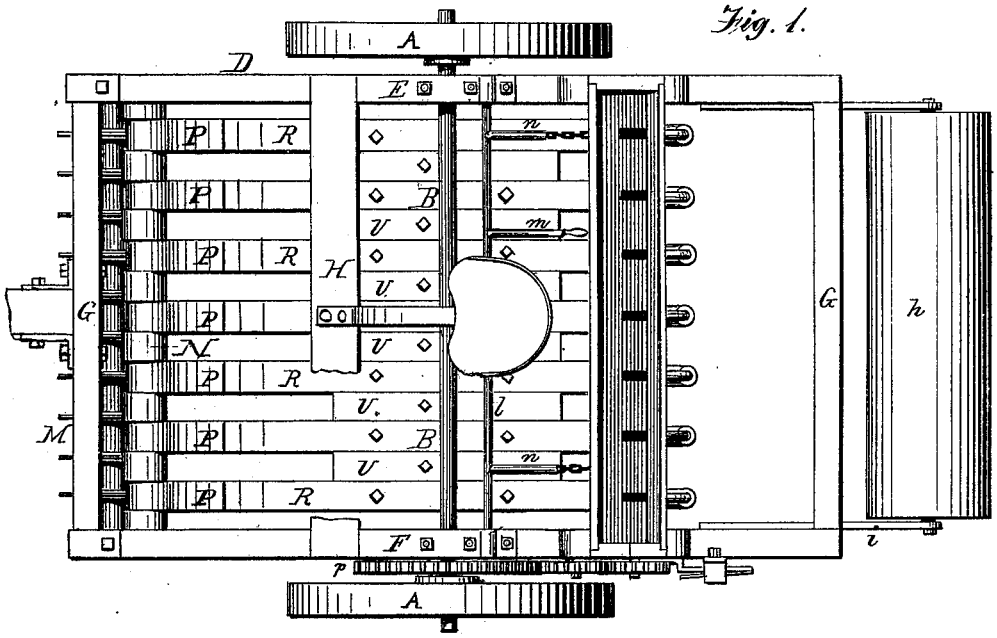
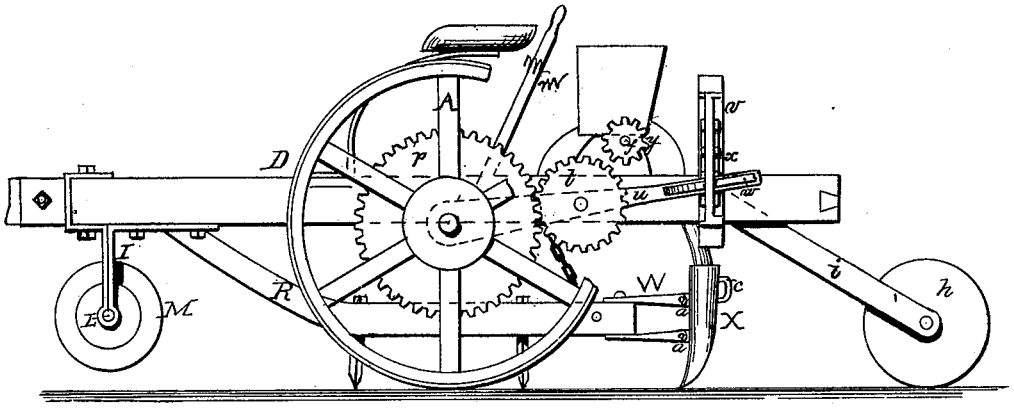


Fig. 2.



Witnesses
Grenville Lewis
Chas. C. Gill

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John B. Wall
by his attorneys
Cox & Cox

2 Sheets—Sheet 2.

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Fig. 3.

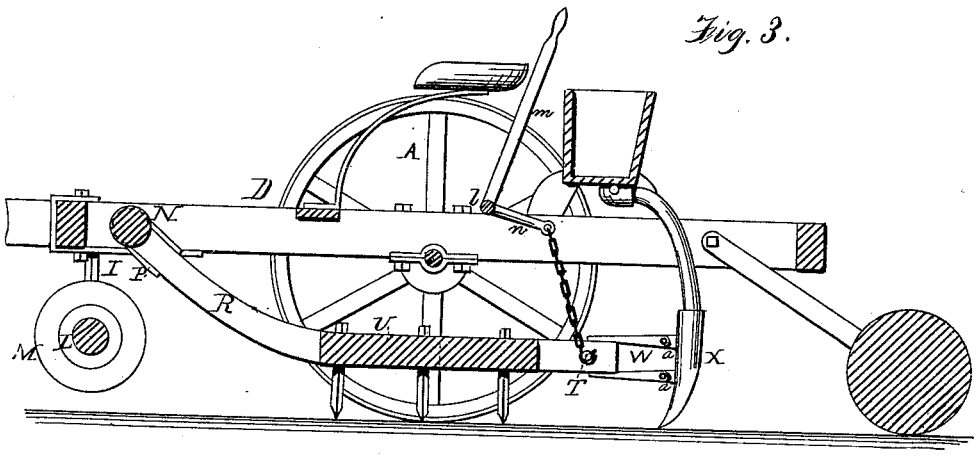
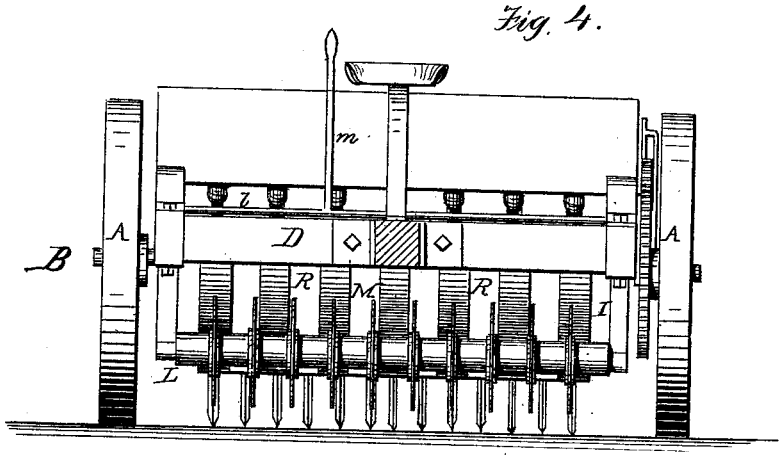


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN B. WALL, OF CARTHAGE, MISSOURI.

IMPROVEMENT IN COMBINED HARROW, SEED-PLANTER, AND ROLLER.

Specification forming part of Letters Patent No. 195,677, dated September 25, 1877; application filed February 20, 1877.

To all whom it may concern:

Be it known that I, JOHN B. WALL, of Carthage, in the county of Jasper and State of Missouri, have invented a new and useful Improvement in Combined Harrows, Seed-Planters, and Rollers, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improvement in combined harrows, seed-planters, and rollers; and consists in the mechanism hereinafter specifically designated, the object being to furnish a suitable implement for farming purposes.

In the accompanying drawings, Figure 1 is a top view of a device embodying the elements of the invention. Fig. 2 is a side elevation. Fig. 3 is a central vertical longitudinal section, and Fig. 4 is a front view of the same.

In the accompanying drawings, A represents the wheels for transporting and moving the machine, upon the axle B on which the frame D is mounted, the axle being placed in suitably-constructed bearings placed upon the under surface of the sides of the frame, which may be of any desirable configuration. In the present instance, however, the sides E F are connected by the end pieces G and centerpiece H.

In the lower extremity of the hangers I, secured at each corner of the front end of the frame D and depending vertically downward a proper distance, is journaled the axle L, upon which the revolving cutters M are mounted, so that each may move independently of the rest. The peripheries of the cutters M are sharpened, so that in the operation of the machine they will cut the sod and thereby assist the harrow-teeth in performing their functions.

Immediately in the rear of the front end of the frame is provided the axle N, furnished at suitable points on its surface with annular grooves, in which the loops of the strap P are placed so as to have a free hinged movement on the axle. To the straps P are secured the beams R, which extend rearward a proper distance, and are connected by the rod T. In spaces between the beams R, about their central parts, are placed the shorter or auxiliary beams U, which are, in conjunction with the beams R, provided with teeth for harrowing the ground.

Upon the rear ends of the beams R are furnished the forked bars W, one being secured upon the upper and another on the under surface of each beam, and having their forks extending beyond the ends thereof.

The drills X are provided with the lugs *a*, which, when in position, fit within the forks of the bars W, and are retained therein by riveting or other convenient and proper means. Upon the rear of the drills may be attached the handles *c* to aid in their adjustment to the forks.

It is obvious that the drills may be removed from the machine by unfastening the lugs *a* from the forks, and be repaired and replaced at will; also, that the drills could be detached and the remainder of the machine used simply as a harrow.

The seed-trough is placed transversely across the frame D, slightly in front of the drills X, through which the seed falls to the ground, and is pressed therein by the roller *h* secured to the frame in the rear of the drills by the arms *i*.

The axle *l* is mounted in bearings a convenient distance in front of the seed-trough, and is provided at right angles to its longitudinal center with the lever *m* and arms *n*, to which the harrow-frames are connected by means of ropes or chains.

It is obvious that when the lever is pressed forward the arms *n* will draw the chains upward, and, as the chains are connected to the harrow, it will also be drawn upward, thereby clearing the ground and permitting the trash to fall from the teeth, or the transportation of the machine from place to place.

On the axle B, between the wheel A and frame D, is mounted the gear-wheel *p*, which meshes with the wheel *t* secured upon the bar *u*. One end of this bar is hinged on the axle B in juxtaposition to the wheel *p*, its other end extending rearward through the receiver *v*, wherein it can be adjusted in any suitable position by means of the spring *w* and ratchet *x*.

It is evident that when the machine is being operated and motion communicated to the wheels *p t*, the gear-wheel *y*, secured upon the shaft *f*, may be revolved by elevating the rear

end of the bar *u*, and thereby bringing the periphery of the wheel *t* in contact with it. Thus motion will be communicated through the said wheel *y* to the shaft *f* and seed-wheels, causing them to revolve, and allowing the seed to pass from the trough in proper quantities to the drills. When it is desired to stop the flow of grain the rear end of the bar *u* is lowered, thus disengaging the gear-wheels, and preventing the further operation of the seeding mechanism.

Upon the center-piece H of the frame is secured the driver's seat, which is in close proximity to the handle or lever *m*, and about the center of the machine.

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

1. The combination of the cutters M, harrow-frame, R, drills X, and roller *h*, substantially as set forth.

2. The frames R, hinged to the axle N, and provided with the beams U, in combination with the forks W, drills X, and roller *h*, substantially as set forth.

In testimony that I claim the foregoing improvement in combined harrow, seed-planters, and rollers, as above described, I have hereunto set my hand.

JOHN B. WALL.

Witnesses:
R. T. SITTERLY,
JOHN EASTON.