T. L. RAY.

Grain Drill.

No. 44,658. Patented Oct. 11, 1864.

Fig. 1.

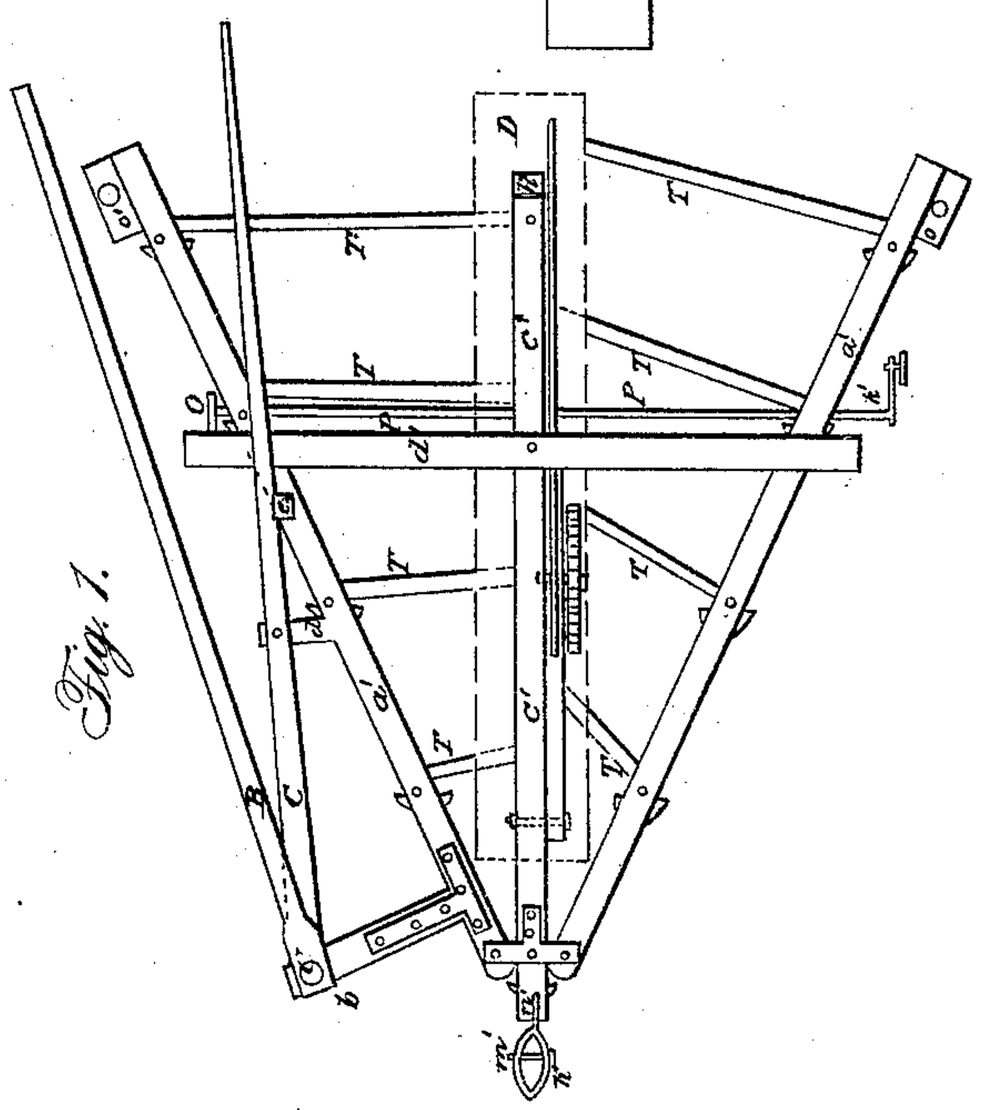


Fig. 2.

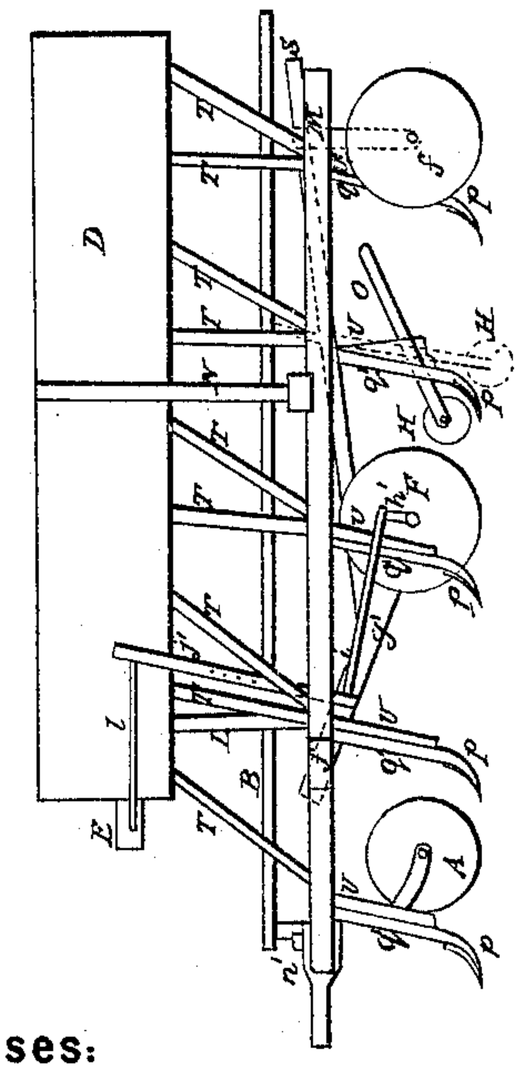


Fig. 3.

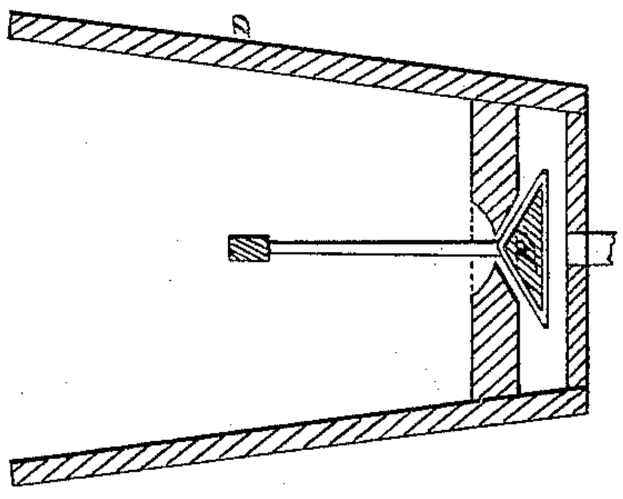


Fig. 4.

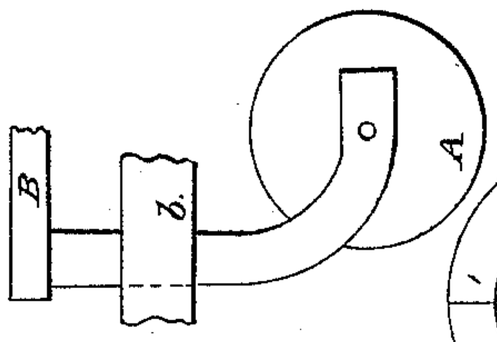


Fig. 5.

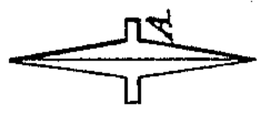


Fig. 6.

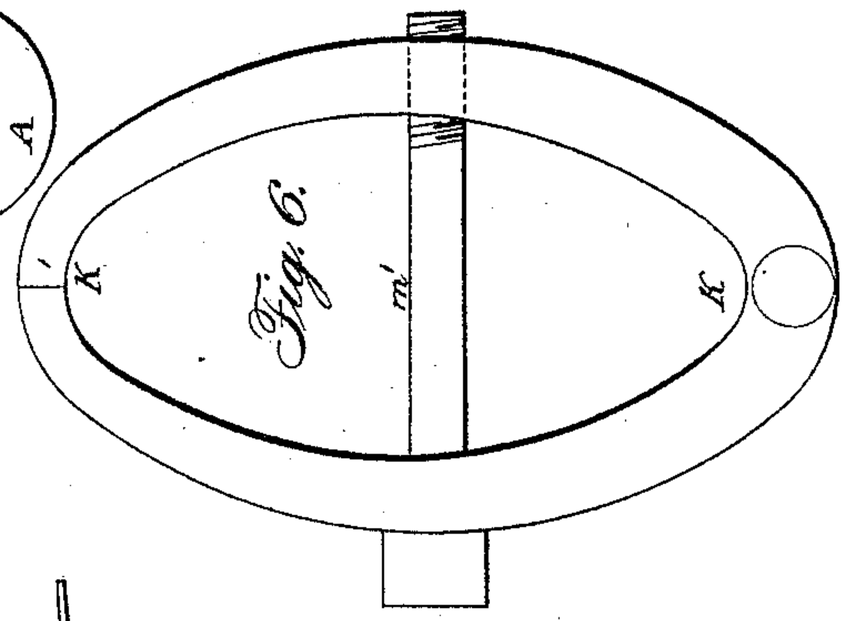


Fig. 7.

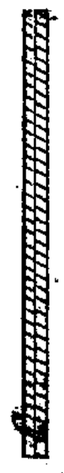
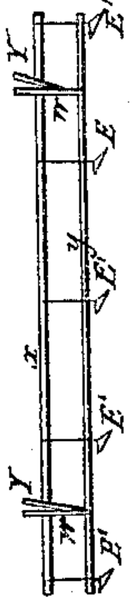


Fig. 8.



Witnesses:

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John Tourt

Inventor:

T. Louis Ray

UNITED STATES PATENT OFFICE.

T. LOUIS RAY, OF FLORA, ILLINOIS.

CULTIVATOR AND SEEDER.

Specification forming part of Letters Patent No. **44,658**, dated October 11, 1864.

To all whom it may concern:

Be it known that I, T. LOUIS RAY, of the town of Flora, in the county of Boone and State of Illinois, have invented a new and useful Improvement in Cultivators and Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

No. 1 is the ground plan. No. 2 is a longitudinal elevation. No. 3 is a section of the seed-box. No. 4 is the rudder-standard and wheel. No. 5 is the rudder-standard. No. 7 is the feed-bar. No. 8 is the adjustable bottom of the seed-box.

A is the rudder-wheel. B is the handle to guide the rudder. C is the lever to raise and lower the rudder. D is the seed-box. E is the feed-bar. E′ is a section through which the feed-bar works. F is the wheel that drives the feed-bar by means of the crank *h′* and the pitmen *i′ j′ l′*. G are the gang-wheels. O is a lever fastened on the rod P, with the wheel H fastened on the lower end. Q is a wheel fastened on the rod P by means of the standard *k′ k′*, and by raising the levers O and C it raises the whole machine from the ground. S is a lever fastened to the wheel F to raise it from the ground, which shuts off the seed. T are the adjustable tubes that carry the grain from the seed-box D to the tubes U. U are the tubes that carry the grain from the tubes T to the ground. V is the adjustable bottom in which the feed-bar works. W is the standard that gages the sections E′ by means of the bar X (in which they are secured) and the wedges Y. *a′* are the sides of the cultivator. *c′* is the neck-piece. *d′* is the cross-piece. *b* is the bar on which the rudder is secured. d^2 is the fulcrum on which the lever C is secured. e^2 is a standard on which the lever C is secured to the desired height by several notches on the same. *f′* is the hinge. *g′* is the bar the wheel F is fastened on. h^2 is the bolt by which the lever S is secured. *k′* is the standard on which the wheel Q is placed. *n′* is the stationary clevis. *o′* is a bar in which the standard M is secured. M is a standard on which the gage-wheels are fastened. N N and L are the posts on which the seed-box is fastened. *p* are the shovels fastened on the legs *q′*.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my cultivator in the shape of the letter **A** and apply thereto a rudder, a seed-box in combination with the driving-wheel F, the adjustable tubes, the gage-wheels, and the wheels Q and O used to raise the machine from the ground. The frame of the cultivator is made of white-ash timber two and one-half inches thick and three inches wide. The sides *a′* are six and one-half feet long. The neck-piece *c′* is five and one-half feet long. The cross-piece *d′* is four feet long. The rudder is an iron wheel ten inches in diameter, and is made sharp on the edge in order to have it cut into the ground to do the grinding, and is fixed on the bar *b* as a caster-wheel, with the handle B to guide it and the lever C to raise and lower it, the lever having its fulcrum at d^2, and is secured to the desired height by means of several notches on the standard e^2. The seed-box is five and three-fourths feet long, one foot high, eleven inches wide at the top and seven inches at the bottom, provided with two different bottoms—the lower one, Z, for the reception of the tubes and the upper one, V, for the reception of the feed-bar. The feed-bar is made of oak or hickory two and one-half inches wide, six feet long, and one-half inch thick. The sides are chamfered so as to let the grain slide off, and slanting notches cut in one-fourth inch wide and one-fourth inch deep. The sections E′, through which the feed-bar works, are made of large wire, bent in the shape as shown in the drawings, extending through the adjustable bottom V and fastened in the bar X, there being a mortise through said bar, and the standard W, fastened in the bottom V, extending through the mortise, and by means of the wedges Y the feed-bar can be raised and lowered so as to gage the feed. The feed-bar is also gaged by the pitman *j′*, giving it more or less shake, as desired. The motion of the feed-bar is given by the crank *h′* on the wheel F. Said wheel is one foot in diameter, made of oak plank, and hung as a hinge on the neck-piece *c′*, so as to let it work up and down over uneven land. *f′* is the hinge, and is placed two

feet from the cross-piece d'. The pitman i' is fastened on the crank h, and is one and one-half foot long, just the length of the bar g' that the wheel is fastened on, so as the wheel rises or lowers the feed-bar works the same. The wheel is provided with the lever S to raise it from the ground. To stop the seed said lever is fastened in the middle on the neck-piece, with one end attached to the bar g', and to stop the feed the lever is borne down and secured under the bolt h^2. The tubes T and U are made of sheet-iron, tin, or zinc. The former are made in two pieces and slipped together, so as to allow the contraction and expansion of the side pieces, and to allow the elevation and depression of the tubes U, which is necessary to gage the depth of the drilling. If desired to drill the grain deep, the tubes U are lowered; if desired to drill shallow, the tubes are elevated. The seed-box D is placed one foot above the neck-piece c', running in the same direction, and is secured on the posts N N, fastened in the cross-piece d', also on the post L, fastened in the neck-piece c'.

The wheels Q and H are placed on the lever O and the standard k'. Said standard and lever are placed on the rod P. Said rod is two inches in diameter and long enough to let the wheels work free from the shovels, said rod being secured nearly under the cross-piece d' by means of an iron rod eight inches long, bent around the rod P and secured with a nut-screw through the sides a'. The wheels Q and H are eight inches in diameter. By raising the lever O until it comes into the position of the dotted line, where it is held by the bar R, also raising the lever C, it causes the whole machine to rise from the ground. The gage-wheels G are one foot in diameter and secured on the standard M, said standard passing through the short bars o'. Said bars are bolted on the side pieces, a'. Said standards are raised to the desired height and secured by a pin passing through the bar o' and the standard.

The shovels p are made of steel five and one-half inches wide and six inches long, shaped as shown in the drawings, bolted on the legs q', said legs being one foot long, and made of seasoned oak timber, and secured in the side pieces, a'. The short tubes U are fastened on the legs q' by means of wire staples.

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

1. The application to cultivators of the rudder A, for the purpose of steering the machine and raising the front end of the machine from the ground.

2. The arrangement of the wheels Q and H, as set forth, and for the purpose specified.

T. LOUIS RAY.

Witnesses:
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JOHN FOUST.