J. PEIRSON.

Grain-Drill.

No. 6,976. Patented Dec. 25, 1849.

Fig. 1.

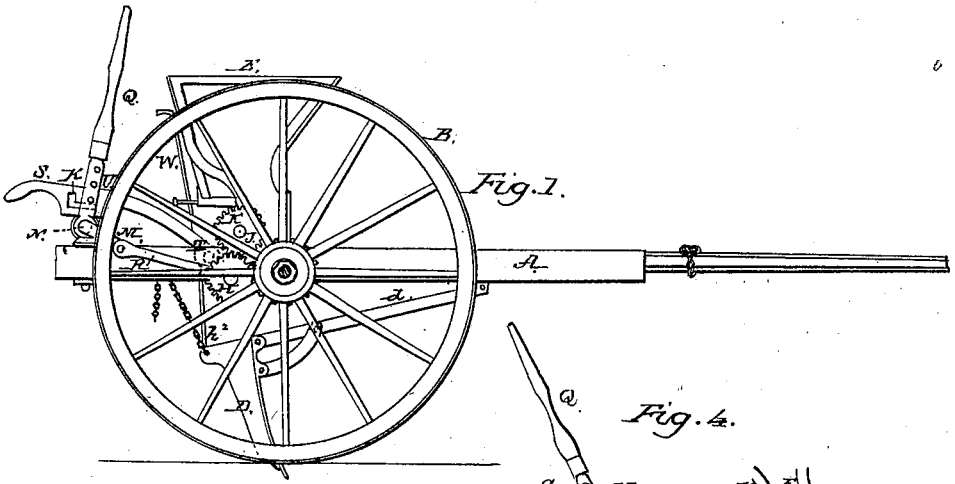

Fig. 4.

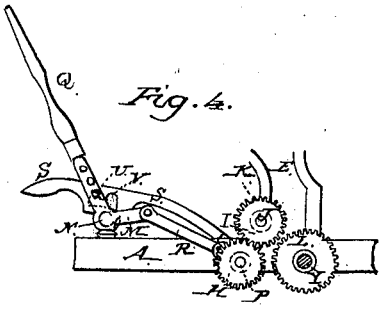

Fig. 2.

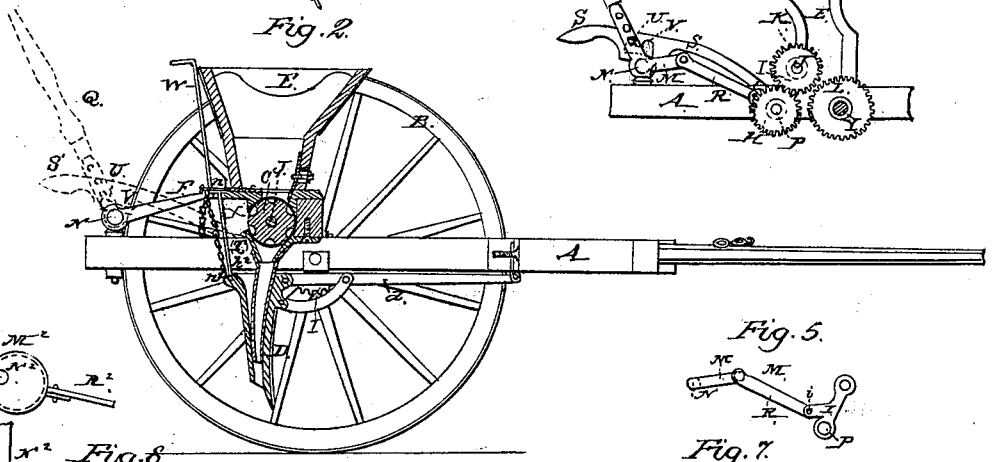

Fig. 5.

Fig. 8.

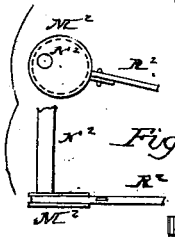

Fig. 7.

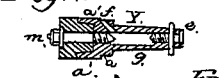

Fig. 3.

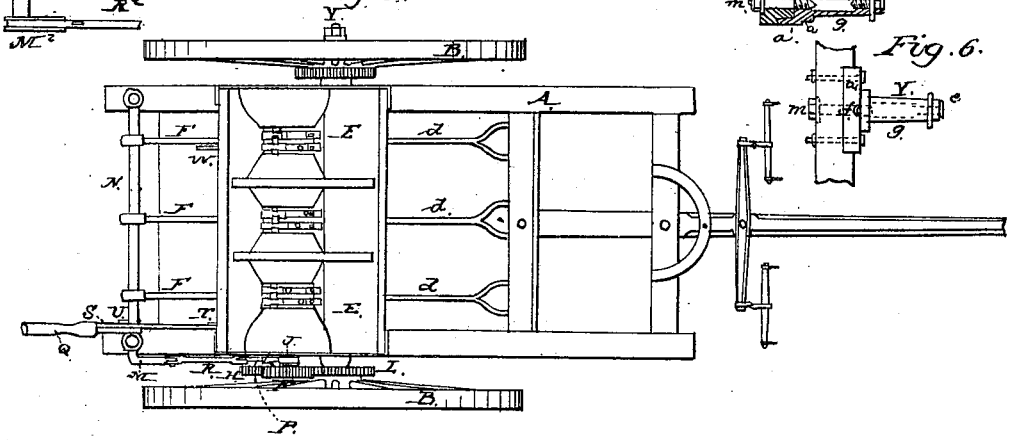

Fig. 6.

UNITED STATES PATENT OFFICE.

JACOB PEIRSON, OF WILMINGTON, DELAWARE.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. **6,976**, dated December 25, 1849.

To all whom it may concern:

Be it known that I, JACOB PEIRSON, of the city of Wilmington, in the county of New Castle and State of Delaware, have invented a new and useful Improvement on my patented Seeding-Machine, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a side elevation of the machine as in operation. Fig. 2 is a vertical longitudinal section of the machine, the seeding-cylinder being out of gear and the hollow drill-teeth raised above the ground. Fig. 3 is a top view. Fig. 4 is an elevation showing the intermediate cog-wheel out of gear with the cog-wheel on the hub of the driving-wheel, carrier, connecting-rod, lever, and latch. Fig. 5 is a sectional view of the connecting-rod and carrier. Fig. 6 is a plan of the short axle. Fig. 7 is a longitudinal section through the same. Fig. 8 is a front and edge view of the eccentric, being a substitute for the crank M.

Similar letters in the several figures refer to corresponding parts.

The frame A, supporting and driving wheels B, seeding-rollers C, tubular drills D, hopper E, and lifters F are made as described in my patented machine above referred to.

My invention and improvement consist in a new mode of combining, arranging, and operating, in connection with my seeding-machine, an intermediate swinging cog-wheel, H, suspended by a carrier, I, to the axle or shaft J of the seeding-cylinder C and cog-wheel K, with which it is always in gear, in such manner that it can be carried into or out of gear with the cog-wheel L on the hub of one of the supporting and driving wheels B whenever required, and this intermediate wheel is claimed when combined with a crank, M, or eccentric M^2 on the rock-shaft N, with which it is connected by a rod, R, attached to a branch, *i*, of the swinging arm I, that is attached to the axle P of the intermediate swinging cog-wheel, H, said intermediate cog-wheel, H, being brought into gear with the cog-wheel L on the hub of the driving-wheel B by moving the upper end of a handle, Q, affixed to the rock-shaft N in the arc of a circle toward the sowing-cylinder, causing the crank to move with it and approximate to a straight line with the connecting-rod R, as seen in Fig. 1, at the same time causing the carrier I to move on its center J in the arc of a circle toward the cog-wheel L on the hub of the driving-wheel B until the intermediate cog-wheel, H, is in gear with said cog-wheel on the axle of the driving-wheel B, which will cause the sowing-cylinder to turn, the said cog-wheel H being held in gear by securing the handle Q in its forward position by means of a mortised latch-plate, S, attached to the frame A by a joint-pin, T, on which it turns by a knob, U, extending from the side of the handle Q, falling into the forward branch of the right-angled mortise V in the said latch-plate. (See Fig. 1.) To throw the intermediate cog-wheel, H, out of gear with the cog-wheel L on the driving-wheel to stop the motion of the sowing cylinders or rollers, the motion of the handle Q must be reversed and the holding pin or knob U of the handle Q brought into the rear branch of the right-angled mortise V of the latch-plate. (See Fig. 4.) These operations of throwing the seeding cylinders or rollers into and out of gear take place simultaneously with the operation of raising and lowering the drills, which is effected by turning the lifting-shaft N by moving the handle toward or from the operator.

My second improvement consists in the employment of a bent lifting and suspending rod, W, Fig. 2, in combination with the jointed beam *d* of the tubular drill for raising the latter above the surface of the ground and suspending it to the frame, so that any one of the tubular drills may be raised, when not required for planting, while the remaining drills are in operation. This rod is bent at w^2, one end forming a hook to hook to the tubular drill. A few inches from the lower end it is bent so as to form a latch, *w*. The upper end is bent to form the handle. To the rear end of the hopper is secured a cast-iron projection, X, in which is a mortise or hole through which the latch-rod works up and down. In raising the tubular drill the latch catches on the edges of the casting X, through which the rod works. When the handle Q of the lifting-shaft is drawn back to raise all the drills the lifting-rod W aforesaid does not interfere with this operation; and when the lifting-rod W is used to raise any particular drill it does not interfere with the rest, they being attached to separate beams and lifters. This improvement is very useful in operating this description of

drill in foul ground, in connection with the slide in the bottom of the hopper for stopping the sowing in any particular tube.

A third improvement that I have made in the machine consists in running the supporting and propelling wheels on short hollow studs or axles Y, fastened to the sides of the frame, by which I dispense with the long transverse axle running through the machine from wheel to wheel, which makes a great obstruction in the construction of seeding-machines with revolving seeding-rollers arranged on a transverse shaft. These hollow short bearings of the main wheels are made as follows: I make a cast plate, *a*, with flanges *a' a'* to fit the frame, to which plate I form the hollow stud Y, which is about two inches in diameter and five inches long, cored through from end to end, but largest in the middle, where it is one and one-fourth inch in diameter, while at the ends it is only three fourths of an inch in diameter, so that the stud may be easily tapped at each end without the trouble of boring. The main wheels are held on these studs by nuts *e* screwed into their ends. I bore an oil-hole, *f*, in the upper side of the stud leading into the chamber; also, a hole, *g*, in the under side of the stud in the middle of its length, so as to keep the boxes of the wheels oiled without the necessity of taking off the wheels, the oil running from the chamber in the stud through last-named hole. *m* is a screw for closing the inner end of the stud Y. M^2 is a grooved eccentric around which the connecting-rod R^2 is bent. This grooved eccentric is designed to be substituted for the crank M, and connected to the lifting-shaft N in such manner that the handle Q is moved toward the hopper. The eccentric, turning with the shaft N, will move the connecting-rod and carrier to engage the cog-wheel H with the cog-wheel L, and thus give motion to the seeding-cylinders.

I do not claim to be the first inventor of an intermediate cog-wheel, hanging rod, connecting-rod, crank, rock-shaft, lifting-rods, or any of the mechanical devices separately considered, as these are all common articles of mechanism; but

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

The peculiar construction of the short axles Y, as described, in combination with the drilling and seeding machine, said machine containing an intermediate cog-wheel for gearing and ungearing the seed-roller with the cart or driving wheels, said machine also containing a device for simultaneously elevating and dropping all the tubular drills, and likewise containing separate lifting and suspending hook-rods for raising or suspending one or all of the tubular drills at the same time.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

JACOB PEIRSON.

Witnesses:

LUND WASHINGTON, Sr.,

WM. P. ELLIOT.