W. ALDRICH.

Grain-Drill.

No. 166,739. Patented Aug. 17, 1875.

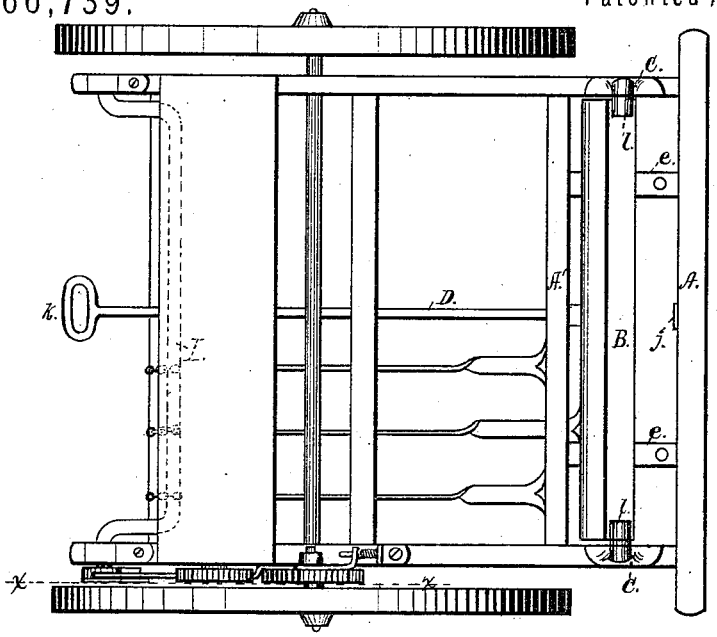


Fig. 1.

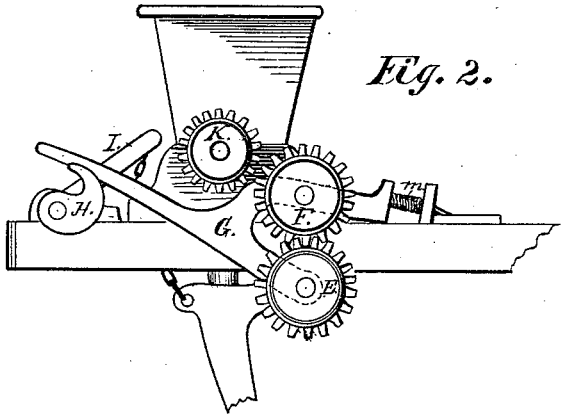


Fig. 2.

Fig. 3.

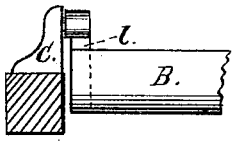


Fig. 4.

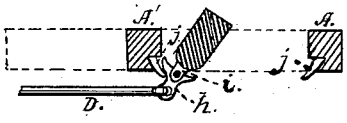
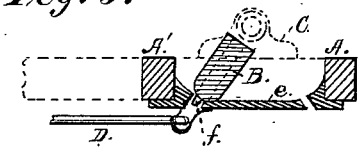


Fig. 5.



Witnesses;

James P. Whitmore

Fletcher J. Emley

Inventor;

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UNITED STATES PATENT OFFICE.

WALES ALDRICH, OF DAYTON, OHIO, ASSIGNOR TO DAYTON MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **166,739**, dated August 17, 1875; application filed June 3, 1875.

To all whom it may concern:

Be it known that I, WALES ALDRICH, of Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Improvements in Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in the arrangement of, and mechanism for shifting, an adjustable bar, to which a portion of the drag-bars are secured; and in the combination and arrangement of mechanical devices for throwing into and out of gear the seed-shaft, to which the agitators are secured, as will be herewith described, referring to the accompanying drawings, in which—

Figure 1 is a plan view of a grain-drill provided with my improvements. Fig. 2 is a side elevation through the line *x x* of Fig. 1, and exhibiting upon a larger scale the devices for throwing the seed-wheel into and out of gear. The remaining figures illustrate different parts of the hoe-shifting appliances, and will be referred to respectively.

In order to enable others to make and use my invention I would thus describe it, indicating like parts by corresponding letters of reference.

I employ the usual frame-work of a drill, provided in front with two cross-bars, A A′, to the latter of which each alternate stationary drag-bar is attached in the usual manner. The remaining movable drag-bars are secured to the adjustable cross-bar B, which is hung centrally between the bars A and A′, and is supported upon two metal plates, *e e*, secured to the under sides of the stationary cross-bars. The bar B is intended to be moved longitudinally upon the plates *e*, and to effect this each end is slotted or dovetailed to receive loosely an arm, *l*, which is pivoted a slight distance above the frame of the drill to bearing-blocks C. Upon the under rounded side of the adjustable bar are two pins, *f*, which enter perforations in the plates *e*, and serve to hold the bar in any required position. An essential feature of this part of my invention consists of a tripping device for raising the bar B and disengaging the pins *f* previous to readjusting the bar whenever it is desirable to change the ranks of the hoes. This device is composed of a trigger, *h*, Fig. 4, pivoted in the bearing *i* to the under side of the adjustable bar half-way from its ends. The trigger has opposite projecting arms, that engage with catches *j*, set into the cross-bars A A′. A shifting-rod, D, is hooked to the trigger, and extends to the rear of the drill, where it terminates in a handle, *k*. When it is necessary to change the position of the hoes from a straight to a zigzag row, or vice versa, the attendant grasps the handle, and as he presses or pulls upon it, as the case may require, the catch *j* becomes a fulcrum, and, owing to the above-described arrangement, the force exerted first raises the bar, thereby disengaging the pins, and then slides it upon the plate *e* to the opposite side, where it is readjusted and held by the pins, as before.

The second part of my invention is best illustrated in Fig. 2. E represents a gear-wheel keyed to the axle of the drill, and engaging with a loose wheel, F, which is pivoted upon an irregular adjustable arm, G. This arm is pivoted upon the axle of the drill, and, in addition to carrying the wheel F, extends rearwardly and rests upon a cam, H, by which it is raised. The cam is keyed to the lifting-bar I, which is pivoted at each end in the frame of the drill, and moves in the arc of a circle, and not upon a rack in a straight line up and down, as is sometimes the case. The hoes are connected to this bar in the usual manner, and are raised or lowered by it at the option of the attendant. K is a gear-wheel keyed upon the end of the seed-shaft, and by raising or lowering the arm G the wheel F is thrown into or out of gear with the seeding-wheel. A spring, *m*, secured upon the frame of the drill, acts against a laterally-projecting portion of the arm G, and serves to keep the three wheels engaged. Upon raising the hoes by means of the bar I the cam is turned and raises the arm G, thereupon throwing the wheel F out of gear with the wheel K, and stopping the agitators.

I am aware that the same result has been accomplished by means of a loose gear-wheel pivoted upon an adjustable arm actuated by the rear bar, and connected to it, so as to re-

ceive positive motion in both actions. These arrangements have necessitated a complication of parts which were liable to get out of order and become inefficient. In my arrangement of devices the wheels are kept engaged by the spring *m*, and are thrown out of gear by the cam H, as described. But I do not wish to claim throwing the distributing devices into and out of gear by raising or lowering the lifting-bar; nor do I wish to claim any of the mechanical agencies separately.

Concerning the first part of my invention, I am aware that adjustable bars to which a portion of the drag-bars were attached have been used and made to swing through the arc of a circle, or to move horizontally upon supporting-plates, in which latter case the pivotal points were considerably above the frame of the drill in order to reduce the power necessary to move it. But by my arrangement of the bar B, and the employment of the trigger *h*, the result can be accomplished much more readily and with less expenditure of force.

I would not, therefore, claim, broadly, an adjustable pivoted bar moving horizontally; nor do I claim changing the hoes of a grain-drill from a straight to a zigzag line, or vice versa, by the employment of an oscillating or sliding bar; but,

Having fully described my improvements, I claim and desire to secure by Letters Patent—

1. In combination with the adjustable bar B, having its ends slotted to receive the pendent arms *l*, pivoted just above the frame of the drill, the pivoted trigger *h*, catches *j*, and shifting-rod D, substantially as and for the purpose specified.

2. The arm G, spring *m*, wheels E, F, and K, cam H, and bar I, arranged in the manner and for the purpose set forth.

Witness my hand this 31st day of May, A. D. 1875.

WALES ALDRICH.

Witnesses:
J. P. WHITMORE,
CHAS. M. PECK.