A. L. IDE & C. W. POST.

Seed-Planter.

No. 212,938. Patented Mar. 4, 1879.

Fig. 1.

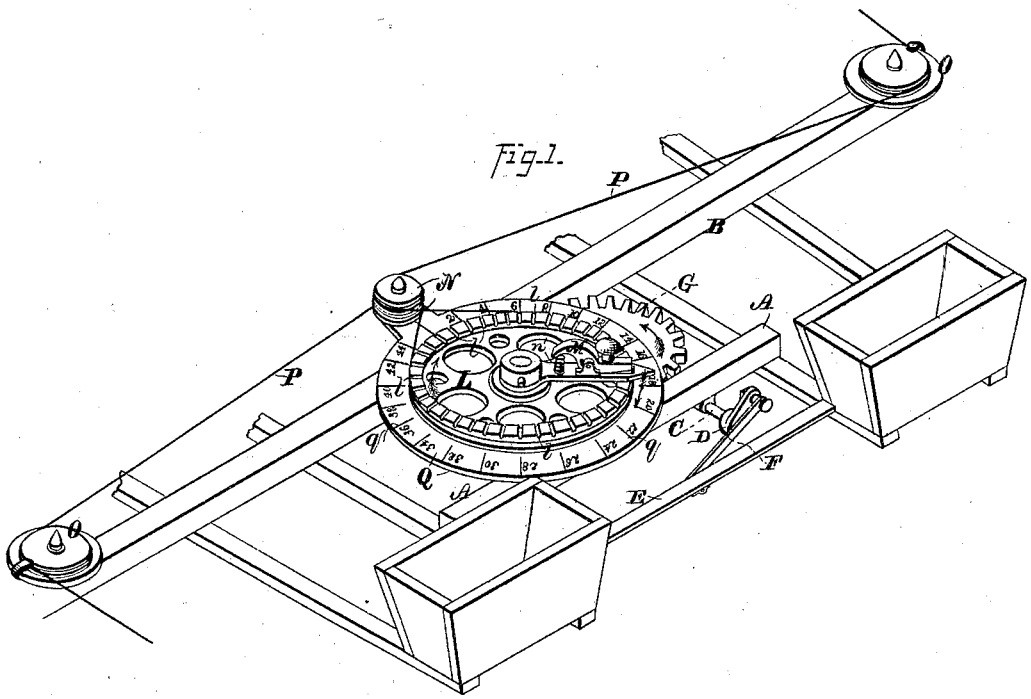


Fig. 2.

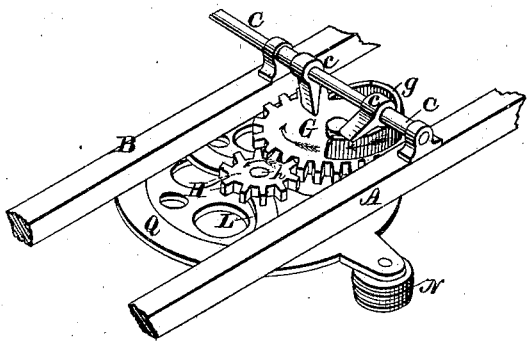


Fig. 3.

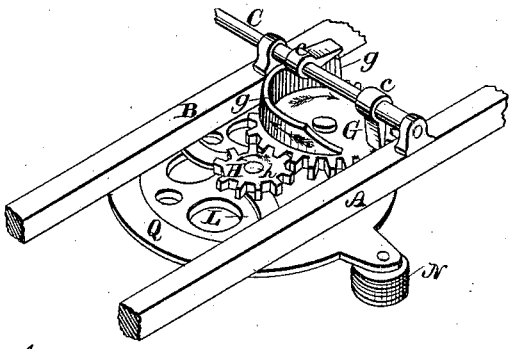
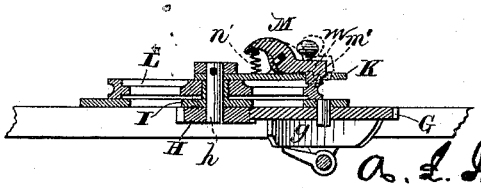


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT L. IDE AND CHARLES W. POST, OF SPRINGFIELD, ILLINOIS.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. **212,938**, dated March 4, 1879; application filed October 11, 1878.

To all whom it may concern:

Be it known that we, ALBERT L. IDE and CHARLES W. POST, of Springfield, in the county of Sangamon, and in the State of Illinois, have invented certain new and useful Improvements in Seed-Planters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of our apparatus as attached to a corn-planter. Figs. 2 and 3 are like views of the lower side of the operative mechanism, and Fig. 4 is a vertical section upon a line passing radially through the spring-pawl.

Letters of like name and kind refer to like parts in each of the figures.

The design of our invention is to facilitate the dropping of corn at regular intervals, so as to cause the hills to be arranged in regular rows; to which end it consists, principally, in the means employed for imparting a reciprocating motion to the shaker-bar, substantially as and for the purpose hereinafter shown.

It consists, further, in the peculiar construction of the pawl used for connecting together the driving-pulley and indicator-arm, substantially as is hereinafter shown and described.

It consists, finally, in the mechanism as a whole, when constructed as described and combined with the shaker-bar of a corn-planter, in the manner and for the purpose substantially as hereinafter shown.

In the annexed drawings, A represents a short, and B a long, bar, which are arranged in parallel lines and connected together, so as to form the supporting-frame for our mechanism.

Journaled transversely within suitable bearings upon the lower side of the frame-bars A and B is a shaft, C, which at one end is provided with a crank-arm, D, that, when said bars are secured upon the frame of a corn-planter, as seen in Fig. 1, is directly over the shaker-bar E of said corn-planter, and is connected therewith by means of a bar, F, that is pivoted to and extends between said parts.

Between the bars A and B, directly over the shaft C, is pivoted a gear-wheel, G, which, upon its lower face, is provided with a downward-projecting flange, *g*, that extends concentrically around about one-half its circumference, just inside of the teeth, and at its forward end, in the line of revolution of said wheel, is substantially vertical, while at its rear end said flange inclines upward and rearward.

Secured upon the shaft C are two radial arms, *c*, which are relatively arranged at nearly a right angle, are placed so that each is directly below the flange *g* of the wheel G, upon opposite sides of the center of said wheel, and have such length as to cause their ends to just clear the lower face of the latter when occupying a vertical position.

If, now, the wheel G is caused to revolve in the direction indicated by the arrows, each arm *c* will be alternately moved downward by the forward end of the flange *g*, and then turned upward to a vertical position by the motion of the shaft C as the opposite arm *c* is engaged with and moved in an opposite direction by said flange, the result being a partial rotation of said shaft C in opposite directions, with an interval of rest between each movement, when said gear-wheel G is caused to revolve continuously in one direction, such movement of said shaft causing the shaker-bar E to reciprocate longitudinally and to operate the corn-dropping mechanism.

Motion is imparted to the gear-wheel G by means of a pinion, H, which is secured upon the lower end of a short shaft, *h*, that is journaled within a suitable bearing, I, and at its upper end has rigidly secured an arm, K, which from thence extends horizontally outward.

The bearing I is extended upward in the form of a hub, and upon the same, below the radial arm K, is loosely journaled a wheel, L, that at its periphery is grooved, as seen in Fig. 4. Within the upper face, at the outer edge of the wheel L, is provided a series of radial notches, *l*, which are placed at a distance of one inch apart, and with the same engages a pawl, M, that is pivoted upon the upper side of the arm K, and has its engaging end *m* contained within and passing through a corresponding opening in said arm. A spring, *n'*, placed beneath the rear end of said pawl, holds its said engaging end *m* in engagement with said wheel L, except when released therefrom, as hereinafter shown.

Journaled near the periphery of the wheel

L, upon the side opposite to the shaker-bar E, are two small grooved pulleys, N, while upon each end of the long frame B is journaled a similar, but larger, grooved pulley, O, around which pulleys and around the said wheel L is passed a cord, P, that has its ends secured at opposite sides of the field being planted.

As seen in Fig. 1, the cord P from in front passes around one of the side pulleys, O, thence to and around one of the center pulleys, N, thence around the wheel L, thence around the second pulley N, and from thence around the second pulley O, and to the rear.

If, now, the machine is driven forward, the cord P will cause the wheel L to rotate and set in motion the parts described for operating the dropping mechanism, the result being that corn will be deposited within the ground at regular intervals.

Beneath and extending outward beyond the edge of the wheel L is a dial-plate, Q, which is provided with division-marks *q*, that correspond in number to the notches *l* of said wheel, and are suitably marked or numbered in regular order from a given point around the circle to said point again. The arm K extends over the dial Q, and its end is pointed, so as to enable it to act as an indicator, and is arranged with relation to the dropping mechanism and said dial so as to come opposite to the zero-mark of the latter whenever said dropping mechanism permits a quantity of seed to pass from the seed boxes or hoppers to the ground, said arm being caused to make two entire revolutions each time the gear-wheel G revolves, the pinion H having just one-half its diameter.

The operation of the device is as follows, viz: When the machine is started from one side of the field, the pawl M is thrown out of engagement with the driving-wheel L, and the machine moved forward until the seed-tubes are directly over the starting line or mark, when the indicator-arm K is turned to zero, so as to cause the droppers to discharge their corn, and is then thrown into engagement with said driving-wheel and the machine moved forward, the dropping mechanism being caused to operate and to drop corn at regular intervals. When the machine reaches the opposite side of the field and is stopped, the number upon the dial Q directly beneath the indicator-arm K will show the number of inches in rear of the position then occupied by said machine when the last corn was deposited, so that by marking such spots and then turning the machine around planting can be commenced, as before described, at the exact point where it before ceased.

In order that the pawl M may be locked in position when out of engagement with driving-wheel L, the opening for its pivotal bearing is lengthened, so as to permit said pawl to move slightly lengthwise, and within the front end of its engaging portion *m* is provided a notch, *m'*, which, when said pawl is raised and moved longitudinally forward, engages with the upper side of the arm K at the front end of the opening within the latter, and prevents said engaging end from dropping downward. To throw said pawl into engagement it is only necessary that it be moved rearward until the notch *m'* is released from the edge of the opening, when said engaging end will be forced downward by the spring *n'*.

It will be seen that at any moment the dropping mechanism can be thrown out of engagement, and can be set ahead or back without interference with the driving rope and pulley, and that by use of the double guide-pulleys N all chafing or displacement of said rope is avoided.

Having thus fully set forth the nature and merits of our invention, what we claim as new is—

1. As a means for imparting a reciprocating motion to the shaker-bar, the shaft C, provided with the radial arms *c*, and the wheel G, having the partial concentric flange *g*, said parts being combined substantially as and for the purpose shown.

2. As a means for connecting together the arm K and pulley L, the pawl M, provided with an engaging-lip, *m*, which passes downward through an opening in said arm, a notched end, *m'*, and an elongated pivotal opening, that permits said pawl to be moved longitudinally over its pivotal bearing, said parts being constructed and combined to operate in the manner and for the purpose substantially as shown and described.

3. The hereinbefore-described dropping attachment for a corn-planter, consisting of the rock-shaft C, provided with the radial arms *c* and crank-arm D, the gear-wheel G, having the partial concentric flange *g*, the pinion H, the shaft *h*, the bearing I, the indicator-arm K, the driving-wheel L, having notches *l*, the spring-pawl M *m m'*, the grooved pulleys N and O, the operating-rope P, and the dial Q, said parts being combined to operate in the manner and for the purpose substantially as shown.

In testimony that we claim the foregoing we have hereunto set our hands this 24th day of September, 1878.

ALBERT L. IDE.
CHARLES W. POST.

Witnesses:
JAMES S. GRIFFITH,
CHAS. A. ORR.