

L. MOORE.

Grain-Drill.

No. 7,479

Patented July 2, 1850.

Fig. 1.

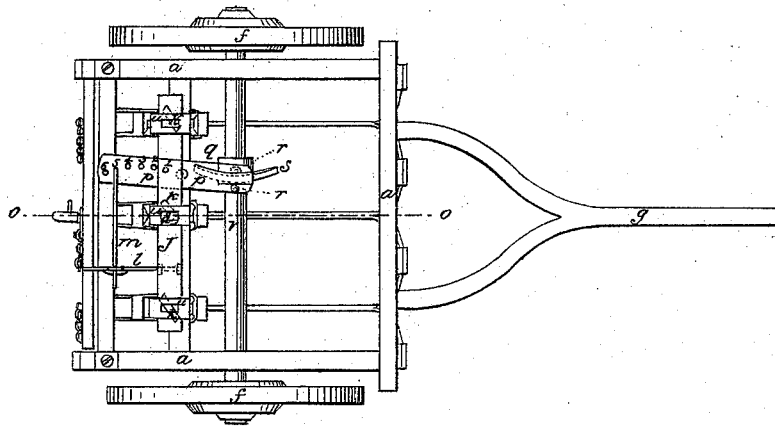


Fig. 3.

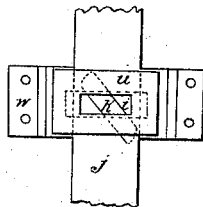


Fig. 5.

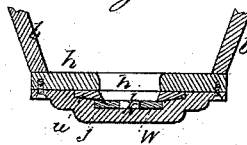


Fig. 4.

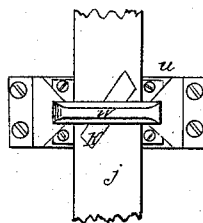
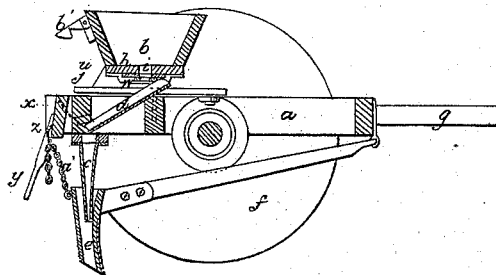


Fig. 2.



UNITED STATES PATENT OFFICE.

LEWIS MOORE, OF BART, PENNSYLVANIA.

IMPROVEMENT IN THE SEEDING APPARATUS OF SEED-PLANTERS.

Specification forming part of Letters Patent No. 7,479, dated July 2, 1850.

To all whom it may concern:

Be it known that I, LEWIS MOORE, of Bart, in the county of Lancaster and State of Pennsylvania, have invented new and useful Improvements in Seeding-Machines; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, reference being had to the annexed drawings, making part of this specification.

Seed-planting machines are in common use where the feeding is accomplished by the motion of a sliding gage pierced with openings corresponding more or less to those in the grated or perforated floor of the hopper, over or against which it slides; but these are subject to serious objections, as not only is the seed let down in detached parcels, but those parcels are of one unvarying quantity, and, besides this, the contiguous paralleledges of the gage and of the grate-openings clip and bruise many of the seeds between them as they pass each other. Now, one characteristic of my invention is the attainment of a uniform and steady distribution of the seed by means of oblique slots in the sliding gage or feeding-plate, in connection with slots in the grate-plates beneath the floor of the hopper, whose sides are either parallel with those of the hopper or of different obliquity to those of the gage-apertures.

Another common defect in seed-planters exists in the absence of any ready control over the feed while the machine is in motion; and, in order to get rid of this defect, I cause the motion of the gage to be communicated by a rod terminating in a hook convenient to the hand of the operator, and by which, by being inserted by him into any one of a set of holes at varying distances from the center or fulcrum pin of a vibrating bar, any desired rate of feed can be attained; or by abstracting the hook the feed can be temporarily suspended when the machine is passing over ground not intended to be sown or in turning the machine at the end of the furrow, and all this can be done without arresting or altering the speed of the team.

In the annexed drawings, Figure 1 is a plan or top view of the machine, the hopper being removed in order to show the reciprocating feeding-plate and the relative connection of its oblique slots with the parallel transverse open-

ings in the grating-plates secured to the bottom of the hopper. Fig. 2 is a vertical longitudinal section on the dotted line *o o* of Fig. 1. Fig. 3 is a top view of the bearing plate or box as detached from the hopper and a portion of the grating and of the reciprocating feeding-plate. Fig. 4 represents the same objects inverted. Fig. 5 is a transverse vertical section through one of the feeding-passages and a portion of the hopper.

The same letters on the above figures refer to like parts.

The frame or bed *a*, hopper *b*, guiding-tubes *c*, chute *d*, adjustable teeth *e*^x, running-wheels *f*, pole *g*, &c., need no particular description, not forming any part of my improvements.

The floor or bottom *h* and grate *u* of the hopper *b* are pierced with oblong apertures *i*, whose sides are either parallel with those of the hopper, or, if oblique, are at a different obliquity to the apertures in the gage-plate *j*. The gage-plate *j* is also pierced with oblong apertures *k* at an angle of about forty-five degrees with those of the grate, for the objects hereinbefore explained. This plate is sustained and guided by a recessed plate or stirrup, *w*, which, when the machine is at rest, forms the bottom of the opening or passage through which the seed descends. *l* is an arm united firmly to the gage-plate *j* and projecting backward therefrom. *m* is a rod pivoted or otherwise attached to the arm *l*, and terminating at the other end in a hook, which may be dropped into any one of a series of holes, 1 2 3 4 5 6, in a plate or bar, *p*, vibrating on a pin, *q*, secured to one of the cross-pieces of the frame, passing through the bar *p* near its mid-length. The other end of the bar *p* carries a pair of small studs or rollers, *r*, which embrace between them the rim or verge of a curved disk or undulatory cam, *s*, attached to the axle-tree *v*. *x* is a board, provided a handle, *y*, and pins *z* to receive chains *a'*, attached to the drill tubes or teeth *e*, made in the usual manner. By means of this handle the teeth can be all simultaneously lowered into the ground or raised from it at pleasure, and when raised can be retained or suspended from action by the latch *b'*, which is so placed as to catch the end of the handle *y*, and by means of the chain *z* the teeth may be adjusted to produce any required depth of furrow.

Let us suppose the hopper supplied with a

charge of seed and the hook of the rod *m* inserted in the hole 6 farthest from the fulcrum *q* of the vibrating plate *p*. Then, the machine being drawn forward, the rotating cam on the axle-tree will impart to the vibrating plate, and thence to the gage-plate, such an amount of reciprocating motion to the latter along the grate *u* as shall cause the oblique aperture *k* to traverse the grate-aperture *i* sheerwise or diagonally, so that the opening created by the conjunction of the grate and gage apertures is continually traversing and retraversing the entire length of the apertures *k* and *i*. Let the hook now be moved to a hole nearer the fulcrum of the vibrating rod *p*, and a less but equally certain and effective movement of the apertures takes place, and thus the apparatus may be readily arranged to deposit any desired quantity of grain to the acre without any danger of clogging or inefficiency of action in any of the apertures.

By means of the chain *a'* and pin *z* the teeth may be adjusted to any depth of furrow and their action be suspended or renewed with great dispatch and ease by the handle *y* and its appendages, which are arranged and operated in the usual manner of the rock-shaft, lever, and chains.

Having thus described my improvements in the seeding-machine, I wish it to be understood that I do not claim a reciprocating gage-plate having parallel or round openings correspond-

ing with like openings in the bottom of the hopper, as this is in use in other seeding-machines; but

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

1. The employment of a reciprocating sliding gage-plate when said plate is provided with oblique feed-openings, in combination with openings in the grating-plates of different obliquity and bottom of the hopper, for increasing or diminishing the quantity of seed to be sown while the machine is in motion by adjusting the end of the connecting-rod *m* nearer to or farther from the fulcrum of the vibrating bar *p*, and thus increasing or diminishing the traverse or sliding movement of the gage-plate *j*.

2. The combination of the hooked connecting-rod *m*, arm *l*, vibrating plate *p*, provided with a series of holes arranged in the arc of a circle scribed from the pivoted end of the rod *m*, and undulatory cam *s*, with the reciprocating gage-plate *j*, by which the reciprocatory movement of the sliding gage-plate is regulated for the purpose of increasing or diminishing the feed or sowing of the seed.

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

LEWIS MOORE.

Witnesses:

LUND WASHINGTON,
WM. P. ELLIOT.