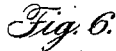


Seed-Planter.

Patented Apr. 30, 1840.



UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. 1,577, dated April 30, 1840.

To all whom it may concern:

LORENZO BACHELDER, of Hampstead, in the county of Rockingham and State of New Hampshire, and SAMUEL H. BACHELDER, of Haverhill, in the county of Essex and State of Massachusetts, send greeting: Be it known that we, the said LORENZO BACHELDER and SAMUEL H. BACHELDER, have invented new and useful improvements in machinery for planting corn, beans, and such other kinds of seed as may be successfully sown by the same, of which the following is a specification.

These improvements, the principles thereof, and manner in which we have contemplated the application of the same, by which it may be distinguished from other inventions of a similar nature, together with such parts, improvements, or combinations, we claim as our invention and hold to be original and new, we have herein set forth and described, which description, taken in connection with the accompanying drawings, herein referred to, composes our specification.

Figures 1, 2, 3, 4, 5, 6 of the accompanying plate of drawings represent our improvements. Fig. 1 is a perspective view of the entire machine, showing the relative position of the various parts, Figs. 2, 3, 4, 5, 6 being detailed views of some of the important parts, which will be hereinafter explained.

A A is a straight beam, of wood or other proper material, similar to the beam or tongue of a common plow, which serves as a support for the various parts of the machine.

Near the center and to the under side of the beam A A is firmly attached the colter C, to the bottom of which are connected the plowshares D D, for opening the earth a little for the reception of the seed. These differ in their construction from those commonly used in plows, the object being not to form a furrow to be afterward closed, but to merely loosen and raise the soil a little and allow it to drop into its original position after the seed is deposited, which operation, as will be described, is performed through the back part of the colter. The plowshares D D are of triangular shape, rising gradually and uniformly from the exterior or greater sides to the sides of the colter, the inclination being less than in those of ordinary construction, and insufficient to re-

move or turn the earth over on either side of the furrow.

In front of the colter C, and connected to the same and the plowshares D D, is a sharp chisel-shaped projection or "nose," E, (as it is sometimes termed,) which is inclined or beveled downward from the colter, and which, with the peculiar shape of the plowshares aforementioned and represented in Figs. 1 and 2, serves to accomplish the purpose above set forth.

In the back part of the colter is arranged the conducting-pipe *a a*, Figs. 1 and 6, formed by a groove cast in the back part of the colter, this groove being capped or covered by a semi-cylindrical pipe, *b b*, or otherwise, the same being continued by a tube or circular hole through the tongue A A. This conducting-pipe communicates with a hole, *c*, in the bottom of the plowshares and the hopper and distributing apparatus above the beam A A.

Beneath the plowshares D D, and stretching across the concavity of the same, is the metallic sill or cross-piece *d d*, shaped as seen in Fig. 2, which serves the several purposes of strengthening the parts to which it is attached, steadying the machine, smoothing the bottom of the furrow for the reception of the seed, and preventing the soil from clogging or stopping the hole *c*, through which the seed should pass.

The hopper and distributing apparatus for the seed may be thus described.

e e are two uprights or posts, of cast or wrought iron, having suitable bearings, in which rests and revolves the shaft *f f*, Figs. 1 and 3, of the drum or wheel *g* and system of pulleys *h*.

i i is the hopper, shaped like an inverted quadrangular pyramid, as seen in Figs. 1, 3, 5, and 6. The side of this hopper fits closely against the side of the drum *g*, and is shaped in its inside so that the seed, by its own weight, shall move to the quadrant-shaped passage *k*, Figs. 4, 5, and 6, through which they pass into the semi-cylindrical apartment L of the drum *g*, formed by the stationary partition *a' b'*, to one end, *a'*, of which is attached the brush *c'*. The drum *g* is open on the side adjacent to the hopper and closed on the opposite side. In the periphery of this drum there are two or more holes, *m m*, formed

at suitable distances from each other, for the proper distribution of the seed, the periphery being of such thickness that the holes through the same may contain a sufficient quantity of seed to be sown at any one time. It will readily be seen that when the drum *g* is revolved the holes *m m* will come in contact with the seed in the apartment *L*, and the seed will immediately fall into and fill said holes, which, when they come into opposition with the conducting-pipe *a a*, allow the seed to drop through the same into the furrow below.

The brush at *a'*, before mentioned, serves to brush off any surplus quantity of seed which may be thereon, thereby, as it were, measuring out the seed to be sown. The seed is prevented from dropping, excepting through the conducting-pipe *a a*, by means of the casing or curved block *M*, surrounding that portion of the drum *g* in which the seed-apartment is situated to the height represented in Fig. 4, the seed above that point dropping back into the apartment.

Behind the apparatus for opening the soil, and at a suitable distance from the same, is arranged the wedge-shaped gage *N N*, which serves to regulate the depth of the furrow and to remove any stones or foreign substances which may be upon the surface of the earth. This gage may be adjusted by means of the rods or bolts *o p*, one of which, *o*, is firmly attached to the angle *q* of the gage, the other being forked, as seen at *r r*, and affixed to the wings of the same. These bolts have screws cut on their tops at *s s*, with nuts *t t* above and *u u* below the beam or tongue *A A*, by which arrangement, it will be perceived, the adjustment of the gage can be easily effected.

A right-angular arm, *d'*, is attached to and projects from the side of the tongue *A A*, another and similar one being fixed on the opposite side of the same. In proper bearings in these arms rests and revolves the axis *e'* of the smoothing-roller *f' f'*, similarly formed to those in common use. A scraper, *g'*, is arranged at the back of this roller, for the purpose of removing any earth which may adhere thereto.

On the axis *e'* of the roller *f' f'* is fixed the cone of pulleys *h'*, Fig. 3, a band, *i' i'*, from one of which passes over one of the system at *h* on the shaft *f f*, thereby giving motion to said shaft and the drum *g'* thereon, as before mentioned. By changing the band *i' i'* on the cones of pulleys at *h* and *h'* the rapidity with which the seed is sown may be varied at pleasure, and the distance between the deposits or hills may be regulated.

The machine may be wielded or directed by the plowman at the handles *k k*, properly braced, as seen in the drawings, at *l' l' m' m'*, the frame-work which holds the scraper being attached to the braces *m' m'*.

The line of draft of the machine may be adjusted by the shackle at *A'*, to which the animal or motive power is connected. The shackle will be readily understood by an inspection of the drawings.

The parts of the above machine may be constructed of wood, iron, or such other materials as may be best adapted to the respective purposes they are designed to accomplish.

Having thus described our improved machinery, we shall now proceed to specifically point out those parts we claim as our invention and discovery.

1. The combination of the colter *C*, with the plowshare *D D*, chisel-shaped projection or nose *E*, and cross-sill *d d*, said combination being substantially in the manner and for the several purposes hereinabove described.

2. The combination of the dropping-tube or conducting-pipe *a a*, with the above specified parts, for securing the effects hereinabove specified.

In testimony that the above is a true description of our said invention and improvement we have hereunto set our signatures this 4th day of April, 1840.

LORENZO BACHELDER.
SAMUEL H. BACHELDER.

Witnesses:

CALEB EDDY,
E. LINCOLN, Jr.