GOULD & FLANDERS.

Seed-Planter.

No. 18,334. Patented Oct. 6, 1857.

Fig. 3. Fig. 4. Fig. 5. Fig. 6. Fig. 7.

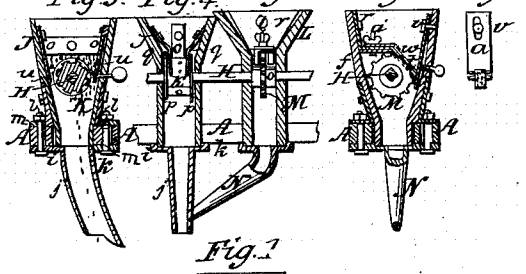


Fig. 8.

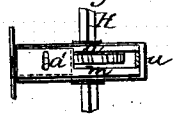


Fig. 1.

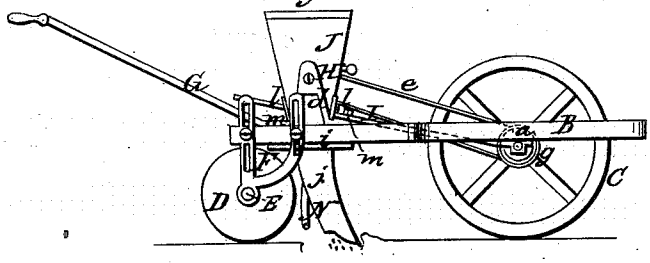
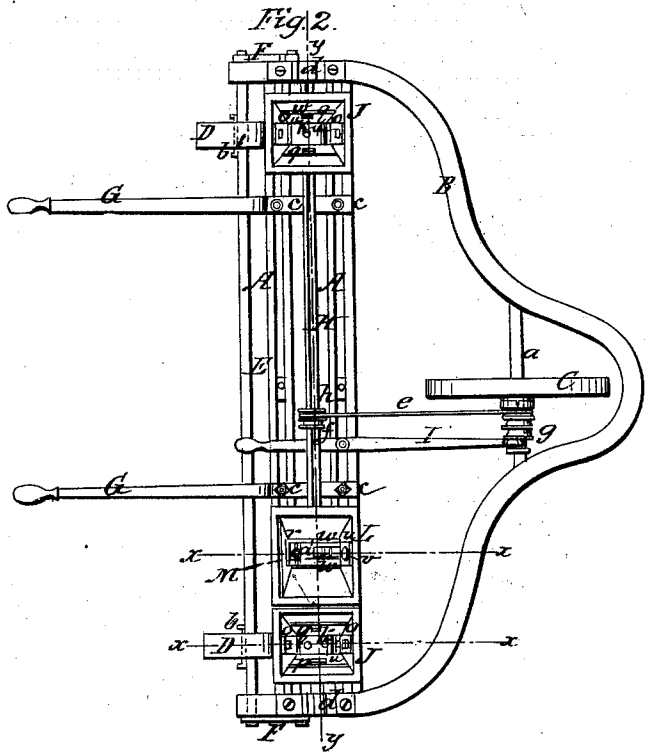


Fig. 2.



UNITED STATES PATENT OFFICE.

A. M. GOULD AND A. FLANDERS, OF CAMBRIA, NEW YORK.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. 18,334, dated October 6, 1857.

To all whom it may concern:

Be it known that we, AARON M. GOULD and ALBERT FLANDERS, of Cambria, in the county of Niagara and State of New York, have invented a new and Improved Machine for Planting Seed; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view of our improvement. Fig. 2 is a plan or top view of the same. Fig. 3 is a vertical section of one of the seed-hoppers, *x x* in Fig. 2 showing the plane of section. Fig. 4 is also a vertical section of the same, *y y* indicating the plane of section. Fig. 5 is a vertical section of one of the manure or fertilizer hoppers, *y y* indicating the plane of section. Fig. 6 is also a vertical section of the manure-hopper, *z z* in Fig. 2 showing the plane of section. Fig. 7 is a detached view of the brush-plate of the manure-hopper. Fig. 8 is a detached view of the slides at the bottom of the manure-hopper.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists in a peculiar arrangement of the seed-hoppers, shafts, and rollers, as hereinafter described.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A A represent two parallel bars, the ends of which are connected to a curved bar, B, the form of which is plainly shown in Fig. 2. The bars B A A constitute the frame of the machine. The bars A A are slotted longitudinally, the slots extending the whole length of the bars, and the front end of the frame is supported by a wheel, C, the axle *a* of which is fitted in proper bearings at the under side of the bar B. The back end of the frame is supported by two wheels or rollers, D D, which are placed on a square shaft or axle, E, which extends the whole width of the machine, the shaft or axle having its journals fitted in the lower ends of adjustable pendants F F, attached to the back ends of the curved bar B. The wheels or rollers D D are fitted loosely on the shaft or axle E, and are secured at desired points thereon by keys *b*. (Seen in Fig. 2.)

G G are two handles, attached to the bars A A by screws *c*, passing through the slots in said bars. These handles may be adjusted to any desired points on the bars A A.

H represents a square shaft, the journals of which are fitted in uprights *d* at the ends of the bar B. The shaft H is parallel with the bars A A, and is placed a short distance above them, and at a point between the two. The shaft H is rotated from the axle *a* of the wheel C by means of a chain, *e*, which passes over a cone of pulleys, *f*, on the shaft H, and around a cone of pulleys, *g*, on the axle *a*. The cone *f* is placed loosely on the shaft H, and secured at any desired point thereon by a key, *h*. The cone *g* is placed loosely on the axle *a*, and forms a clutch, which is connected or thrown into and out of gear with the hub of the wheel C by means of a lever, I.

J J represent two seed-hoppers. The upper ends of these hoppers are of flaring shape, and the lower ends are of rectangular form, and pass down between the bars A A, the bottoms of the hoppers resting upon plates *i*, attached to the upper ends of conveying-spouts *j*. The bottoms of the hoppers are fitted in recesses *k* in the plates *i*, as clearly shown in Figs. 3 and 4. To the front and back sides of the seed-hoppers J J flanges *l* are attached, and screw-bolts *m* pass through said flanges, and also through the ends of the plates *i*, the screw-bolts passing through the slots of the bars A A. It therefore will be seen that by loosening the screw-bolts *m* the hoppers J and spouts *j* may be moved and adjusted nearer together or farther apart, as may be desired. The shaft H passes through the hoppers J J, and on said shaft H, and within each hopper J, a distributing-wheel, K, is placed. These wheels have recesses or holes made in their disks in the usual way, and brushes *u*, attached to spring-plates *o*, bear against the periphery of the wheels, one on each side, as shown in Fig. 3. At the sides or edges of the wheels K flanges *p* are formed—one at each side of each wheel—and to the inner sides of each hopper a plate, *q*, is attached. The lower ends of these plates are cut in semicircular form, and fit over the wheels just inside the flanges *p*, as shown clearly in Fig. 4. The plates *q*, fitting over the flanges *p*, prevent the seed from passing down between the wheels K and sides of the hoppers J. In most seeding-machines, when rotating distributing-wheels are employed, broken seed, grit, &c., will find its

way between the wheels and the sides of the hoppers, and considerable friction will be caused thereby, and in many cases seed will escape from the hoppers down between the sides of the wheels K and the sides of the hoppers. The flanges on the wheels and the lower ends of the plates fitting over the wheels inside the flanges effectually prevent this. The lower ends of the spouts *j* are curved so as to form shares, as clearly shown in Fig. 3.

L represents a hopper, which is secured to the bars A A in precisely the same way as the hoppers J J. Two hoppers L are intended to be used, but only one is shown in the drawings. Within the hopper L and upon the shaft H a wheel, M, is placed. This wheel has a corrugated periphery, as shown clearly in Figs. 5 and 8, and the corrugations may be oblique or angular with the shaft H.

To the inner side of the hopper L a plate, *r*, is attached, and this plate extends down, and is bent in a horizontal position, as shown at *s*, Fig. 6, and then inclined, as seen at *t*. The inclined portion *t* is slotted, and the wheel I projects through the slot in said inclined portion *t*. The lower end of the inclined portion of the plate *r* is connected with a plate, *u*, attached to the inner side of the front end of the hopper L. The upper end of this plate *u* is connected to the hopper by a screw, *v*, which passes through a slot in the plate, and the lower end of the plate *u* has a brush attached to it.

To the upper surface of the horizontal part *s* of the plate *r* two plates, *w w*, are attached by a set-screw, *a'*. The upper ends of these plates are placed one over the other, and the screw *a'* passes through oblong slots cut in each plate. The lower parts of the plates *w* are inclined corresponding to the inclination of the part *t* of the plate *r*. The lower inclined parts of the plates *w* are reduced in width, being not more than one-third as wide as the upper parts, and the narrow parts are placed each side of the wheel M. It will be seen that by raising the plate *u* the inclined portion *t* of the plate *r* may be raised, and consequently by adjusting the plate *u* a greater or less degree of inclination may be given to the bottom of the hopper, and by adjusting the plates *w w* laterally the width of the opening through which the wheel M projects may be enlarged or contracted, as desired. This adjustment of the plates *w*, in connection with the adjustment of the plate *r*, allows a greater or less quantity of fertilizing material—such as gypsum, lime, guano, bone-dust, &c.—to be sowed with the seed, and constitutes a perfect regulating device.

N represents the conveying-spout of the hopper L. The lower end of this spout terminates just behind the share of the spout *j*. (Seen in Figs. 1, 4, and 5.) By having the spout N arranged in this way the fertilizing material will not be in contact with the seed, for, in consequence of having the lower end of the spout N behind the share, the seed is partially covered before the fertilizing material passes out of the spout N. This is an important feature of the invention, because most fertilizers have a tendency to injure and destroy the germinating principle of the seed.

As regards the operation of the seed-distributing wheels K, it is precisely the same as that of ordinary machines in which rotating wheels are used. The same may be said of the wheel M in the hopper L.

We do not claim adjustable hoppers irrespective of the arrangement herein shown, for adjustable hoppers have been previously used; but,

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The within-described arrangement of shaft H and hoppers I I and L with shaft E and rollers D D.

A. M. GOULD.
A. FLANDERS.

Witnesses:
JACOB HALL,
JOHN ANDERSON.