S. T. FERGUSON.
Hand Corn-Planters.

No. 196,078. **Patented Oct. 16, 1877.**

FIG. I

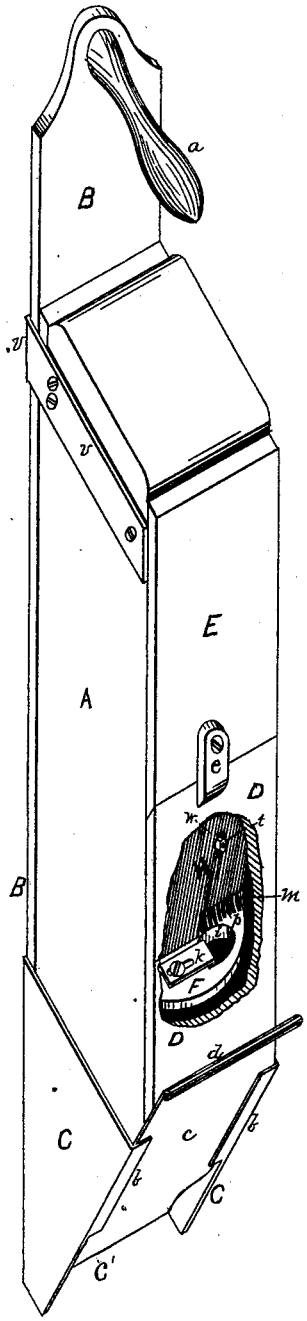


FIG. III.

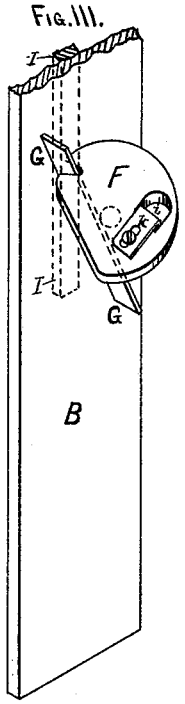


FIG. IV.

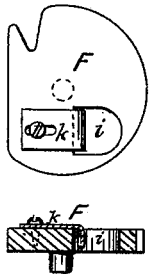


FIG. V.

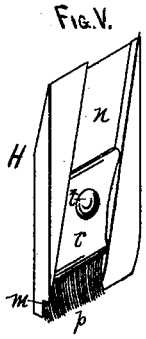
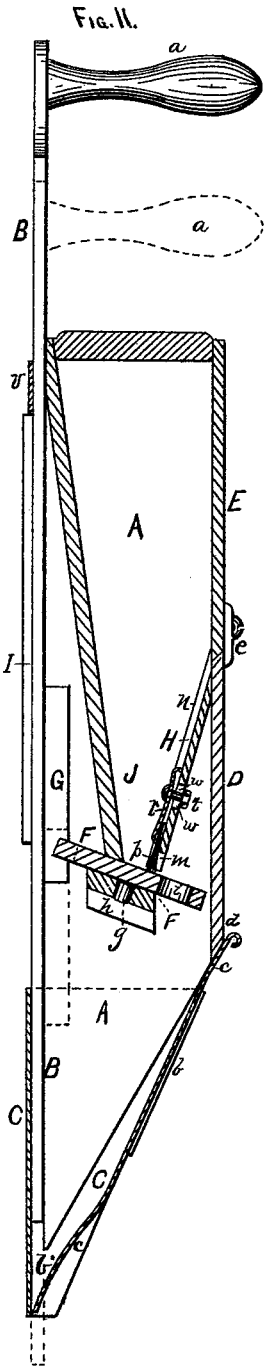


FIG. II.



WITNESSES.
C. N. Woodward
John T. Halsted

Sam'l T. Ferguson,
INVENTOR, By
Louis Fesser, Hles. Attys.

UNITED STATES PATENT OFFICE.

SAM T. FERGUSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE MONITOR PLOW WORKS, OF SAME PLACE.

IMPROVEMENT IN HAND CORN-PLANTERS.

Specification forming part of Letters Patent No. **196,078**, dated October 16, 1877; application filed June 15, 1877.

To all whom it may concern:

Be it known that I, SAM T. FERGUSON, of Minneapolis, in the county of Hennepin, in the State of Minnesota, have invented certain new and useful Improvements in Hand Corn-Planters, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure I is a perspective view, with a portion of the door broken out to show the interior. Fig. II is a sectional side elevation. Fig. III is a perspective view of the oscillating valve and a portion of the slide, showing the method of operating it. Fig. IV shows a plan and cross-section of the oscillating valve. Fig. V is a perspective view of the cut-off, showing the method of attaching the bristles.

This invention relates to hand corn-planters; and consists in the form and method of operating the dropping-valve, as hereinafter specified.

The invention further consists in the manner of forming the nose and guides for a face-spring of one piece of sheet metal, and in the method of holding the face-spring in place, as hereinafter described.

A is the case or frame, provided with a sliding back, B, which extends up above the top of the case, and is provided with a handle, *a*, by which to operate it.

C is a sheet-metal case, made to enwrap three sides of the lower part of the case A, and with two of its sides inclined, as shown, to form a wedge-shaped nose, to enable it to be forced into the ground. The front of this case C is left entirely open, with the exception of two guides, *b b'*, which hold a sheet-steel plate, *c*, in place, and which forms the front of the wedge-shaped bottom. This steel face-plate extends up beyond the angle in the case A, as shown at *d*, forming a wedge-shaped cavity, into which the lower beveled edge of the door or cover D is placed, while its upper end is made to fit against the angular lower edge of the front board E of the case A, where it is held by a button or other catch, *e*. By this means enough pressure can be brought to bear upon the face-plate *c* to hold it at any point, so that it may be adjusted to any desired extent.

F is an irregularly-shaped plate or valve, set at an angle upon a cross-piece, *h*, upon which it is held by a center spur, *g*.

G is an inclined plate or guide, secured to the inside of the slide B, and which fits into a groove in the rear of the valve F, by which means the valve is oscillated as the slide B is raised and lowered.

i is an opening through the front edge of valve F, through which the grain is dropped, and is provided with an adjustable slide, *k*, to regulate the size of the opening and the number of kernels to be planted in each hill.

H is an inclined cut-off, having a notch, *m*, cut out of one corner, and an angularly-shaped groove, *n*, cut in the back, (see Fig. V,) in which a number of bristles, *p*, are secured by a plate, *r*, and bolt *t*. This plate *r* has its upper and lower edges bent over at right angles, so as to obtain a narrow bearing upon the bristles, to more firmly hold them. The bristles extend downward, so as to completely cover the notch *m* and touch the valve F, and thus act as a brush, to sweep off the superfluous grain and prevent too many kernels being carried out with the valve F. The inclined plate H also acts as a partition, to prevent the grain from passing over the valve F into the hopper.

w is a slot, through which the bolt *t* passes in the cut-off H, so that when the bristles become worn they can be adjusted to their proper position. It also enables me to adjust the bristles to suit different kinds of grain, as some will need stiffer bristles than others.

The operation is as follows: The adjustable slide *k* and the face-spring *c* being set in the proper position to adapt them to the size of the grain to be planted, the nose C is forced into the ground, and the slide B pushed down until stopped by the stop I, which will throw the valve F backward by the action of the inclined plate G, and the cavity *i* will be filled by the falling grain which will be placed in the hopper J. When the slide B is drawn upward by the action of the operator in removing the planter from the soil, the valve will be returned to its former position, when the brush *p* will prevent more than the required quantity of grain from passing out, while the grain in

the cavity *i* will drop down into the nose C, when the slide B must be again run down to force this grain into the ground; but this double action of the slide will be necessary only in planting the first hill, as thereafter there will always be a reserve quantity in the nose.

The method of arranging and operating the valve F is a very important one, as its action is very positive and simple, and will act with very little friction. The inclining of the valve is also an important feature, as it not only forms a hopper-bottom to the reservoir J, to assist the exit of the grain, but causes every kernel of grain to run out of the machine.

The manner of forming the nose C in one piece with the guides *b b'*, and in the manner of adjusting the face-spring *c* by the bevel-edged door D, is a very simple, novel, and useful feature, as it not only forms a cheap, strong, and simple nose, but affords a very sure and simple adjustment, without the use of screws or other catches. Another great advantage in the face-spring *c* is that, by its pressing against the lower end of the slide B, it acts as a scraper to remove all the earth that may adhere to it when withdrawn from the ground.

I am acquainted with the patent of F. H. Roberts, March 1, 1864, No. 41,784, who shows an oscillating valve, actuated by a web on the plunger and a notch in the valve, in the same manner as mine; but his valve is horizontal, while mine is inclined; and his valve has four ports or grain-exits, working in connection with four ports or perforations in a stationary plate beneath the valve, while I use but one port, and only a narrow strip without perforations in place of the under plate.

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

1. In a hand corn-planter, the inclined dropper-plate F and converging seed-chamber, in combination with the half-support *h* and operating-slide B G, substantially as described.

2. The combination and arrangement of the beveled metal nose C, having the guides *b b'*, made in one piece therewith, and the spring face-plate *c*, substantially as hereinbefore described.

3. The combination and arrangement of the spring face-plate *c* and the bevel-edged door D, in the manner and for the purpose hereinbefore explained.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SAM T. FERGUSON.

Witnesses:
C. N. WOODWARD,
LOUIS FEESER.