H. D. Dann.

Grain Drill.

No. 49,730. Patented Sept. 5, 1865.

Fig: 1.

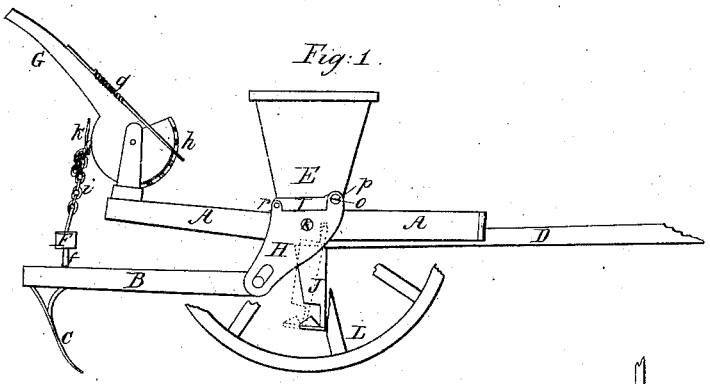


Fig: 2.

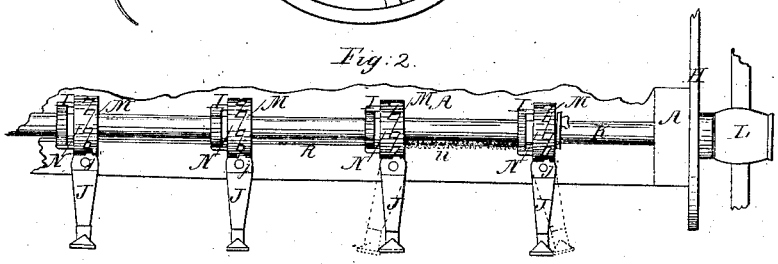


Fig: 3.

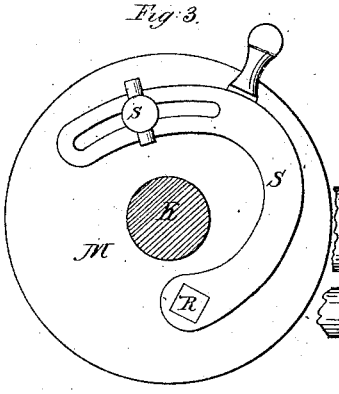


Fig: 5.

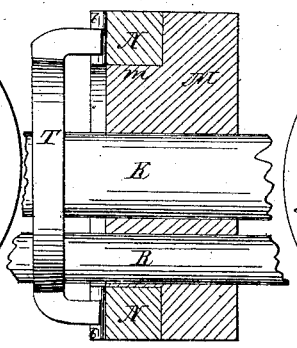
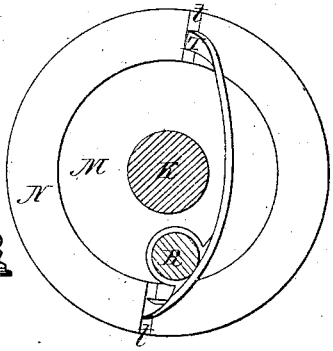


Fig: 4.



Witnesses;
P. J. Dodge,
R. D. Smith

Inventor.
H. D. Dann

UNITED STATES PATENT OFFICE.

H. D. DANN, OF WAUPUN, WISCONSIN.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **49,730**, dated September 5, 1865.

To all whom it may concern:

Be it known that I, H. D. DANN, of Waupun, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Seeding-Machine; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of my machine, the wheel being broken away for the purpose of showing its construction more perfectly. Fig. 2 is a rear elevation, showing the construction of the seed-cells and seed-tubes, portions of the frame not being represented. Figs. 3, 4, and 5 are enlarged views of the seed-cells, showing their construction and operation.

The nature of my invention consists, first, in a peculiar construction of the parts forming the seed-cells, so that the size of said cells may be varied at pleasure, a single operation sufficing for all or any number of the cells; second, a peculiar construction of the seed-tubes, whereby they are enabled to occupy a vertical position at all times and insure a perfect separation and scattering of the seed; third, peculiar construction of other parts, which will be best understood by reference to the following description.

The same letter refers to the same part wherever it occurs.

A is the main frame, constructed in any ordinary or suitable manner; B, one of the drag-bars bearing the covering-teeth C.

D is the tongue. E is the hopper.

F is a bar, from which the outer ends of the drag-bars are suspended by means of the pins *f*.

G is the lever by means of which the drag-teeth are simultaneously raised out of the ground. Upon the upper side of G is the bolt *g*, the end of which is pushed by a spring against the inner surface of the segment *h'*, or protruded through any one of the holes in said segment, as may be desirable, thereby retaining said lever in any required position. The attachment between the lever G and the bar F may be varied in length at pleasure by hooking one or another of the links of the chain *i* over the hook *k*.

H is an iron plate, preferably of iron, attached to the end of the main frame. Its functions are to form an attachment for the hopper, to suspend the forward ends of the drag-bars, and to strengthen the machine.

I is another metallic plate, secured to the hopper for the purpose of securing said hopper firmly to the machine. Through a hole, *o*, in the plate H is passed a projection, *p*, upon the plate I, and this being repeated at the other end of the hopper, a secure attachment is formed, which also acts as a joint and allows the hopper to be turned down on its side for the purpose of emptying or cleaning. When the hopper is to be secured in its upright position a pin is passed through corresponding holes in both plates, as at *r*. The hopper is constructed in any suitable manner, and is provided with a slide at its bottom, which may be made to cut off entirely the flow of seed.

J J are the seed-tubes and scatterers.

K is the main axle or shaft. If, as I prefer, the axle is used as shown, one wheel, L, is rigidly attached to it, and thereby becomes the driver, while the other is placed upon it loose in the ordinary manner. It is obvious, however, that the shaft carrying the seed-cups may be disconnected from the axle of the machine and operated in any other way, if desirable.

The seed-cells are formed in two parts. The part M, having the section shown in Fig. 5, and indented like a ratchet-wheel, as shown in Fig. 2, is secured rigidly to the shaft K. Upon the shoulder *m* is fitted the ring N, having corresponding indentations, so that when the two are perfectly closed together they present a perfect cylinder. When N is partially rotated upon *m* it is evident that the inclined sides in contact with each other will cause N to assume an oblique movement, at the same time that the vertical sides will be separated and cells of greater or less dimensions be formed. The number of the cells in each cylinder, as well as the number of cylinders on the shaft, may be considered a matter of convenience. To insure facility and accuracy in changing the dimensions of the cells, I pass the small rod R through suitable holes in the parts M, and upon one end I place the curved and slotted lever S, having the set-screw *s* to retain it in any desired position. To the rod R, I attach arms T contiguous to the side of the part N. The ends of T are bent, as shown

in Fig. 5, and rest in slots *t* in the part N. The spring *u* is placed between one of the parts M and one of the arms T, and by that means all of the arms T are pressed toward their respective parts N, and close contact between M and N is thereby at all times secured. It is obvious with this arrangement that when the rod R is rotated the arms T are moved around the axis of R, and they, in turn, cause the parts N to rotate and open or close the cells, as the case may be; and as the rod R may be moved or rendered rigid at pleasure, and as it operates all of parts N at the same time, it is obvious that the cells must be enlarged or diminished uniformly. When the seed passes from the seed-cells it drops through the tubes J upon the pyramidal scatterers beneath, and is thereby scattered in all directions; and as the tubes J are not rigidly attached to the frame of the machine, but are hung upon the pins *j*, they are at liberty to oscillate like pendulums with each variation of the level of the machine in passing over the undulations of the ground. This being the case, it is apparent that it makes no difference whether the machine is moving over level ground or not, the seed will fall direct through the tubes upon the scatterers and be distributed with equal uniformity.

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

1. In combination with the parts M and N, forming the seed-cells of a seeding-machine, the rod R, arms T, and lever S, arranged and operating substantially as described.

2. The seed-tubes J, suspended from the frame of the machine so that they may at all times hang in a vertical position, substantially as described, and for the purpose set forth.

H. D. DANN.

Witnesses:
P. T. DODGE,
R. D. O. SMITH.