(No Model.)

W. DULIN.

HAND SEED PLANTER.

No. 521,763. Patented June 19, 1894.

Fig. 3.

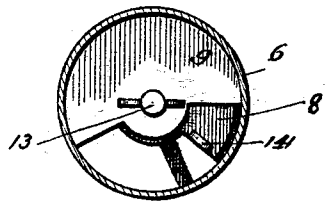


Fig. 4.

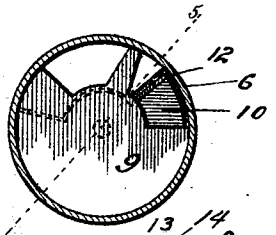


Fig. 5.

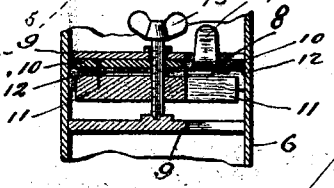


Fig. 1.

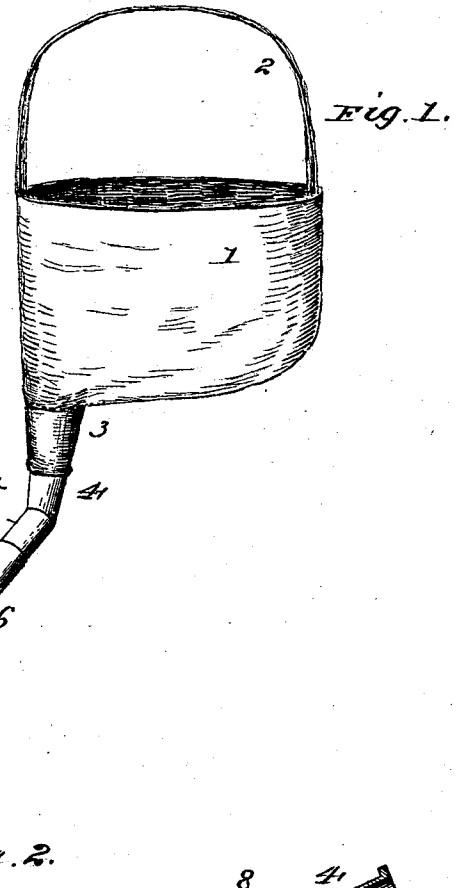


Fig. 2.

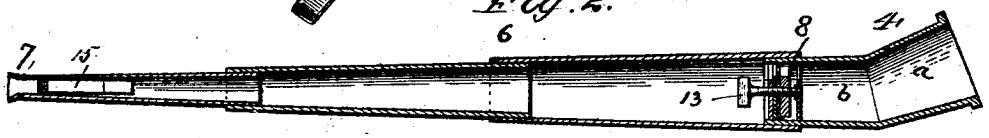


Fig. 6.

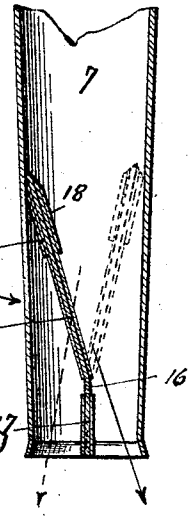
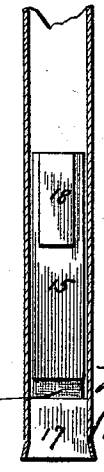


Fig. 7.



Witnesses

G. M. Lamasure

Chas. A. Muzzy.

Inventor

William Dulin

By Alexander & Davis

Attorneys

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM DULIN, OF AVOCA, IOWA, ASSIGNOR OF ONE-HALF TO H. R. DULIN, OF SAME PLACE.

HAND SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 521,763, dated June 19, 1894.

Application filed March 30, 1894. Serial No. 505,743. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DULIN, a citizen of the United States, residing at Avoca, in the State of Iowa, have invented certain new and useful Improvements in Hand Seed-Planters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a new and improved hand broadcast seed-sower, and it has for its object to provide a simple and efficient form of device which may be operated with much less exertion than the ordinary forms of sowers, and by means of which the seed will be evenly distributed over the ground, a specially constructed self-acting valve or deflector being located in the outer end of the sowing-spout for this purpose, said valve serving to prevent the seed falling too thick or in a mass at the ends of each stroke.

Another object of the invention is to provide a simple and easily-operated regulating-valve to control the flow of seed through the sowing spout.

In the drawings:—Figure 1 is a view of the device complete. Fig. 2 is a longitudinal sectional view of the sowing-spout. Fig. 3 is a sectional view of the sowing-spout showing the regulating valve; Fig. 4 a similar view showing the upper side thereof; Fig. 5, a vertical sectional view of said valve. Fig. 6 is a horizontal sectional view of the end of the sowing spout; and Fig. 7 a similar view thereof taken at right angles to Fig. 6.

Referring to the various parts by numerals and letters 1, designates the seed-holding sack; 2 the supporting strap therefor; 3 the depending flexible sleeve or tube formed on one of the lower ends or corners of the sack; 4 a short elbow-section formed of tin or other suitable sheet metal and secured to the lower end of the sleeve 3, said section consisting of the downwardly extending part *a* and the downwardly and outwardly-inclined part *b;* 6 the sowing-spout, said spout being formed of telescopic sections fitted together, as shown, the lower section being formed flat or oblong near its outer end and flared slightly outward at its extreme outer end. The sowing-spout tapers from its inner to its outer end and its sections fit together in such a manner that they may be folded or telescoped when desired.

8 is the regulating valve which is located at the lower end of elbow-section 4 and operates between two rigid disks or plates 9, which plates are suitably slotted for the passage of the seed. The valve 8 consists of metal disk 10 of a smaller diameter than the spout 6, a disk of leather of an equal diameter with the metal disk, and a disk 12 of cloth, which is located between the metal and leather disks and is of a greater diameter than the spout 6, and when the valve is placed in said spout the disk 12 operates as a packing-ring and effectually prevents any seed working around the sides of the valve. These disks are all cut away as shown to correspond to the cut away portion of the disks 9 and are all secured together in any suitable manner. Passing loosely through the lower disk 9, its upper end bearing against the upper disk, is a set-screw 13. This screw is threaded through the valve 8, and operates to secure said valve in its adjusted positions. The valve may be set in the desired position, to permit the required quantity of seed to pass through the slots in plates 9, by means of the thumb-piece 14 formed thereon, and then secured rigidly in that position by turning the set-screw 13 to the right, which action will draw the valve 8 down to the lower plate 9 and clamp it securely. When it is desired to change the position of the valve the screw 13 is turned to the left, thereby raising the valve from the lower plate 9 and permitting it to be readily adjusted by means of the thumb-piece 14.

In the flat portion 7 of the lower section of the sowing spout is located a self-acting fly-valve or deflector 15. This valve is formed of a strip of flexible material 16, of a suitable length, whose lower end is secured to a rigid partition 17 which extends transversely of the narrow portion of the tube at its outer end. Thin metal plates are secured on each side of the piece 16 and extend substantially across the narrow portion of the tube as shown, said plates covering the piece 16 throughout its length except a short section just above

the partition 17, said uncovered portion of the flexible material serving as a hinge for the valve. Small weights 18 are secured to the upper end of the valve to cause it to move quickly from side to side of said tube as the spout is quickly moved from side to side in sowing. The object of this fly-valve is to prevent the wasting of seed at the ends of each throw of the spout, as instead of the seed continuing to flow in the direction of the completed throw during the interval of rest between each movement of the spout, the valve 15 will, the instant the spout comes to rest, be moved by inertia in the direction of the movement of the spout until it contacts with the side of the spout and it will then direct the seed in the direction opposite to that in which it was previously moving, as shown by dotted lines in Fig. 6 of the drawings. It will thus be seen that wasting of the seed at the ends of the throw of the spout will be avoided as it will be instantly deflected back, and a new throw begun even before the spout has begun its movement for the new throw. As is manifest this valve 15 may be made in any suitable manner, and its hinge formed of any suitable material and be of any suitable construction. The form of the valve 8 may also be varied, and it may be constructed of any suitable material, as is manifest.

Having thus fully described my invention, what I claim is—

1. A seed sower consisting of a seed receptacle, a sowing-spout connected thereto, and an automatic deflector or fly-valve mounted in the lower or outer end of the sowing-spout and adapted to change the direction of the flight of the seed the instant the spout comes to rest, at the ends of the throws, substantially as described.

2. A broadcast seeder consisting of a seed receptacle a sowing-spout connected thereto, and an automatic deflector mounted in the lower end of the sowing spout, said deflector consisting of a plate of suitable length, approximately fitting the spout, said plate being hinged therein at its lower end, substantially as described.

3. A broadcast seeder consisting of a seed receptacle a sowing-spout connected thereto said spout tapering from its upper to its lower end, its lower end being formed oblong, a transverse partition in said oblong end, and a laterally swinging valve hinged to said partition, substantially as described.

4. A broadcast seeder consisting of a seed-receptacle, a sowing-spout connected thereto, and a valve in the sowing spout, said valve consisting of two slotted stationary plates, two separated disks of a smaller diameter than the sowing spout and a disk of yielding material secured between the disks of unyielding material, the edge of said disk being bent over on the outer edge of one of the disks of unyielding material to form a packing ring when the valve is in the spout, said disks being cut away as shown, and a set screw securing the disks between the slotted plates, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM DULIN.

Witnesses:
G. P. BRECKENRIDGE,
R. L. HARBEN.