

(No Model.)

2 Sheets—Sheet 1.

W. J. PIRKLE.
SEEDING MACHINE.

No. 461,708.

Patented Oct. 20, 1891.

Fig. 1.

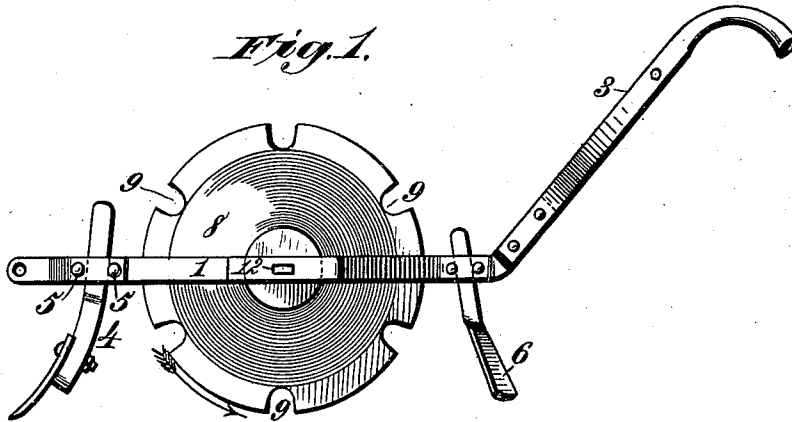


Fig. 2.

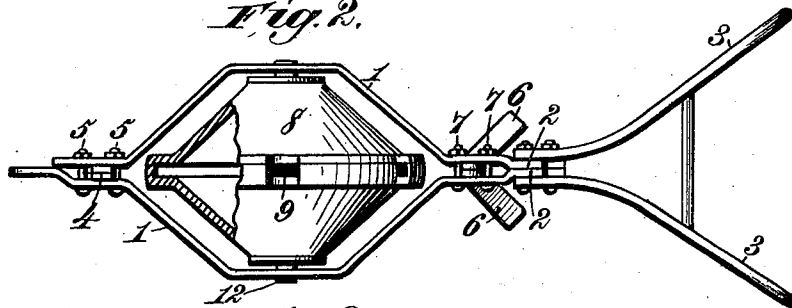


Fig. 3.

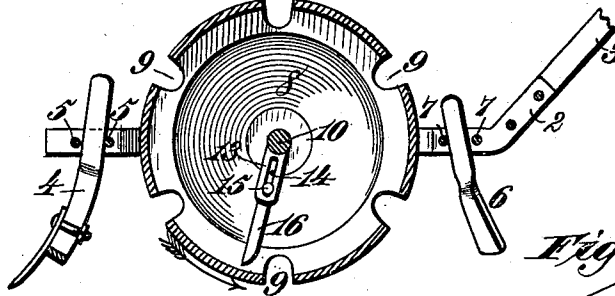


Fig. 5.

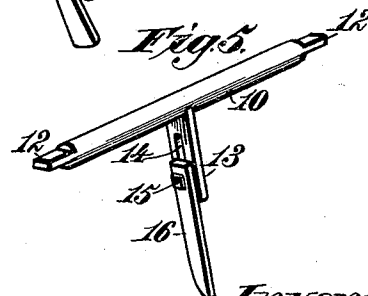
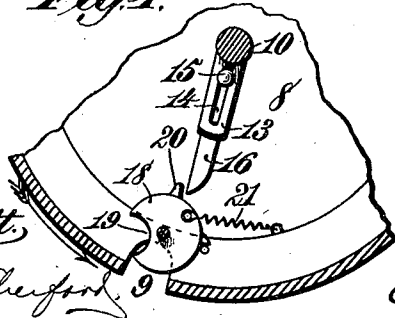


Fig. 4.



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2 Sheets—Sheet 2.

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Fig. 7.

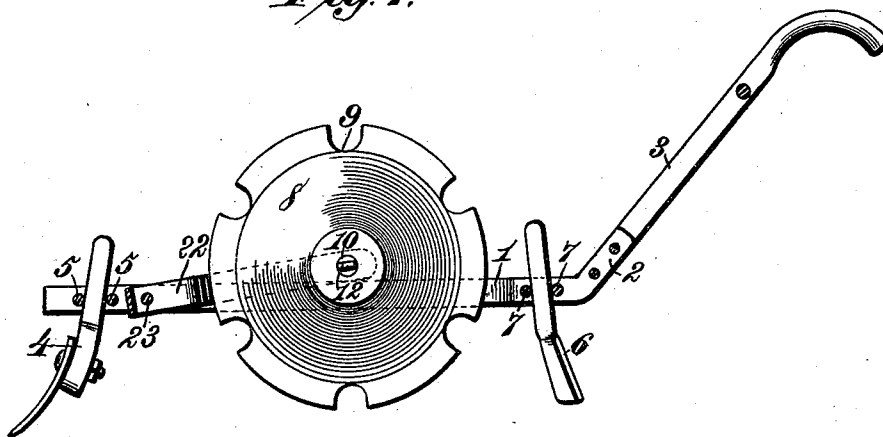
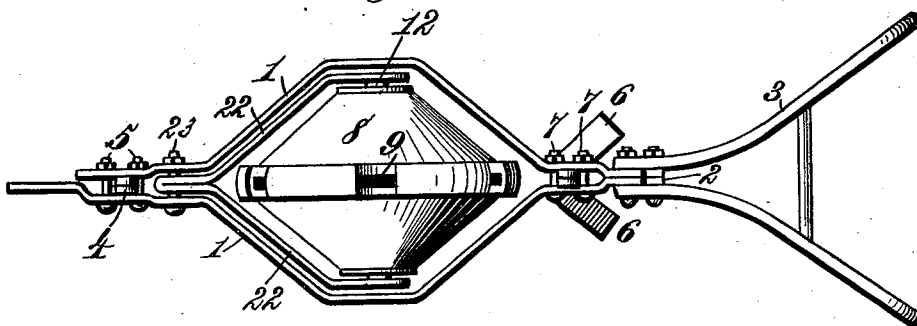


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM J. PIRKLE, OF CUMMING, GEORGIA.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,708, dated October 20, 1891.

Application filed June 3, 1891. Serial No. 394,948. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. PIRKLE, a citizen of the United States, residing at Cumming, in the county of Forsyth and State of Georgia, have invented new and useful Improvements in Seeding-Machines, of which the following is a specification.

This invention relates to that type of seeding-machines wherein a revolving drum travels on the surface traversed and is provided with seed-discharging orifices in its tread portion.

The objects of my invention are to improve and simplify the prior machines, to render them more economical in construction, and to provide a novel force-feed mechanism for positively ejecting the seed through the seed-discharging orifices in the tread of the drum.

To accomplish all these objects my invention involves the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of a seeding-machine embodying my invention. Fig. 2 is a top plan view of the same, showing the seed-drum partly in section. Fig. 3 is a longitudinal central sectional view of the same. Fig. 4 is a detail sectional view of a portion of the seed-drum, showing a modification for planting corn. Fig. 5 is a detail perspective view of the non-rotating axle with its agitator, which serves as the force-feed mechanism. Fig. 6 is a detail top plan view showing a modification of the invention, and Fig. 7 is a sectional side elevation of the same.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, where it will be observed that the frame of the seeding-machine is composed of two opposite side bars 1, converged at their front and rear extremities and having the rear portions extended upwardly to provide arms 2, to which the guiding-handles 3 are bolted or otherwise suitably attached. A vertically-adjustable furrow-opener 4 is clamped between the front extremities of the side bars through the medium of clamping-bolts 5 in such manner that the opener can be raised and lowered to vary its depth of penetration,

and consequently regulate the depth of planting. A pair of rearward divergent covering-blades 6 is clamped between the rear extremities of the side bars through the medium of clamping-bolts 7, so that such blades can be raised and lowered, as conditions require, while they operate to cover the seed deposited in the furrow by the double conical seed-drum 8.

The seed-drum is composed of two similar dish-shaped disks properly secured together to form a central annular tread portion, in which the seed-discharging orifices 9 are formed.

The seed-drum is adapted to revolve upon a non-rotating axle or spindle 10, having its opposite ends provided with square or angular tenons 12, fitted into mortises in the side bars of the planter-frame for the purpose of retaining the axle or spindle in an immovable position while the seed-drum revolves thereupon. The non-rotating axle or spindle is cylindrical at points between the square or angular tenons for enabling the seed-drum to revolve as the planter is advanced by the draft-team, and centrally between the extremities of the axle or spindle is rigidly attached a depending arm 13, provided with a vertical slot 14, in which is adapted to move a transverse clamping-bolt 15, that supports an adjustable agitator-arm 16, having its lower extremities adapted to enter the orifices 9 as the drum revolves. The arms 13 and 16 constitute a force-feed mechanism for positively ejecting the seed through the seed-discharging orifices 9 as the said drum revolves. In the revolution of the drum, as indicated by the arrow thereupon, Fig. 3, the free extremity of the adjustable agitator-arm 16 enters and projects partially through the seed-discharging orifices, and thereby forcibly ejects the seed and deposits it in the furrow made by the furrow-opener, after which the covering-blades operate on the soil to cover the seed. The arm 16 is adjustable through the medium of its clamping-bolt 15 and the slot 14 in the arm 13 for the purpose of increasing or decreasing the feed. By this means the agitator serves as a force-feed and as a feed-regulator.

The planter above described is particularly designed for planting cotton-seed, and the

construction provides a very simple and economical machine, which is practicable and efficient in operation.

The simplicity of the planter renders it very desirable, and the combination and arrangement are such as to provide absolute certainty of dropping the seed, regularity of distribution, and accurate spacing of the seed, while the seed-drum presses the soil down in the center of the furrow.

The agitator is so relatively arranged upon the non-rotating axle or spindle as to project slightly forward of a vertical line through the center of the drum, whereby such agitator acts to force the seed out in front of the tread of the drum as the latter rotates.

The space between the drum and the covering-blades enables the operator to view the seed before they are covered, and therefore perfect planting can be accomplished.

To render the machine above described susceptible of planting corn or peas, I provide a rotating dropping-cylinder 18 at each one of the seed-discharging orifices 9, as will be understood by reference to Fig. 4, where a single one of the cylinders is exhibited; but as all are alike the description of one will be sufficient for all. The cylinder 18 is provided with a concavity 19, which constitutes a seed-cup, and the cylinder is suitably journaled inside the seed-drum in juxtaposition to a seed-discharging orifice 9. The periphery of the cylinder is provided with a rib or lug 20, adapted to strike the agitator-arm as the seed-drum revolves in such manner that the cylinder is turned to move the seed-cup into coincidence with the seed-discharging orifices 9 for depositing the seed contained in such seed-cup. As the cylinder moves past the agitator-arm and is thereby disengaged from such arm, a spring 21, eccentrically attached at one end to the cylinder and at the opposite end to the seed-drum, operates to automatically restore the cylinder to its normal position, (indicated in Fig. 4.) By this means a force-feed mechanism is also provided for planting corn with a machine having a revolving drum of the character specified.

In using the planter on uneven or rough ground it is desirable that the seed-drum be

susceptible of freely rising and falling to adapt itself to the surface traversed, and to accomplish this I secure the square or angular ends of the shaft 10 in the rear extremities of a yoke or Y-shaped frame 22, arranged between the side bars comprising the frame 1, and has its front contracted extremity pivoted on a transverse pin or bolt 23, as in Figs. 6 and 7, in such manner that the drum in rolling over the uneven or rough land will automatically rise and fall to obtain accurate planting.

Having thus described my invention, what I claim is—

1. A seeding-machine consisting of side bars converged at the front and rear extremities, which are provided, respectively, with a vertically-adjustable furrow-opener and a pair of vertically-adjustable covering-blades, a double conical seed-drum having a central tread rolling in direct contact with the soil and provided with a series of separated discharge-orifices, a non-rotating axle or spindle secured at its ends to the side bars and provided with a rigid pendent arm having a longitudinal slot, and an adjustable agitator-arm having a clamping-bolt movable along the slot of the rigid arm for adjusting the agitator-arm to project more or less into the seed-discharge orifices, substantially as described.

2. A seeding-machine consisting of a frame, a double conical seed-drum having a central tread rolling in direct contact with the soil and provided with a series of separated seed-discharge orifices, a non-rotating axle having angular ends mortised in the frame and provided with a rigid pendent arm having a longitudinal slot 14, and an adjustable agitator-arm 16, provided with a clamp-bolt 15, extending through the slot in the rigid arm for adjusting the agitator-arm, substantially as described.

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

WILLIAM J. PIRKLE. [L. S.]

Witnesses:

M. C. SIMS,

H. W. STRICKLAND.