

No. 653,833.

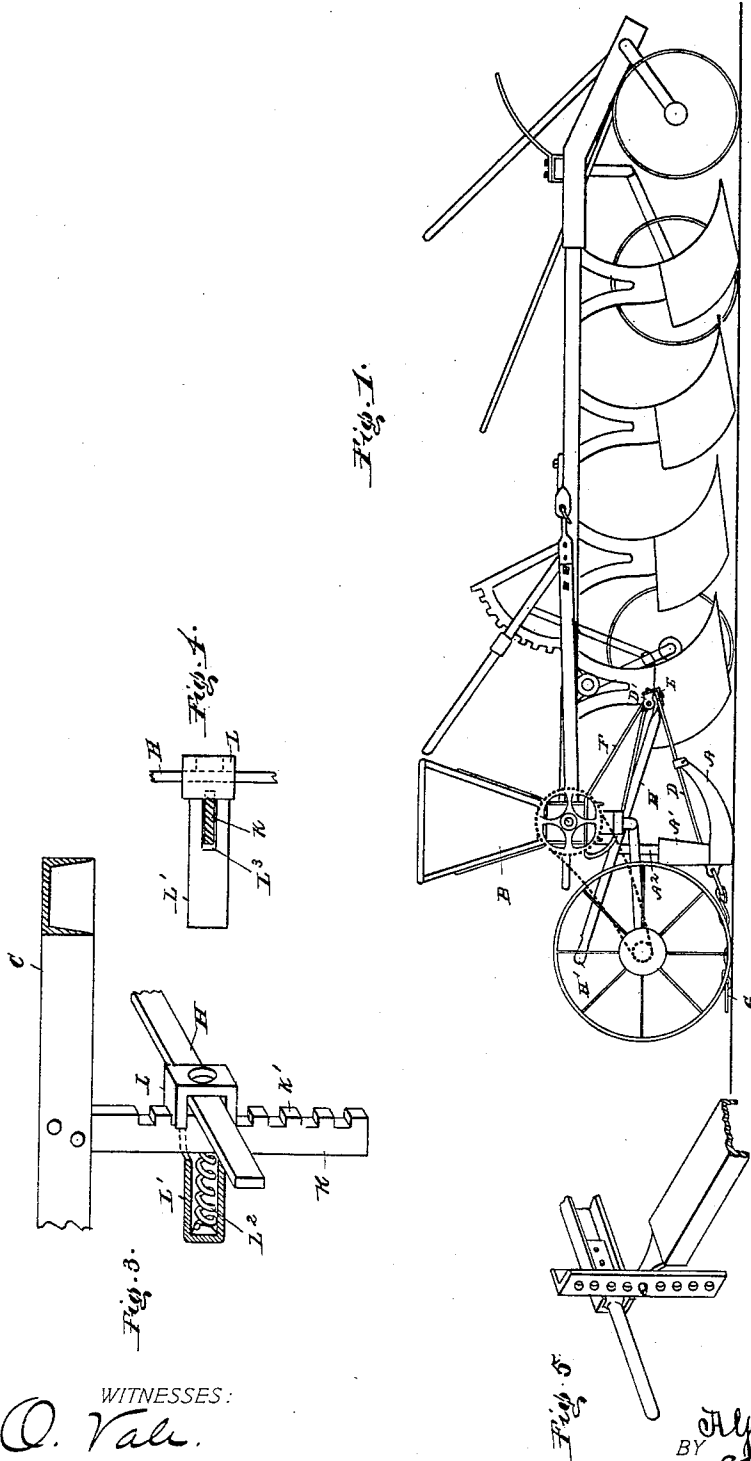
Patented July 17, 1900.

A. V. WILBUR.
SEEDER.

(Application filed Oct. 23, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
O. Vale.
G. H. Marsh.

INVENTOR.
Alphonso V. Wilbur.
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ATTORNEYS.

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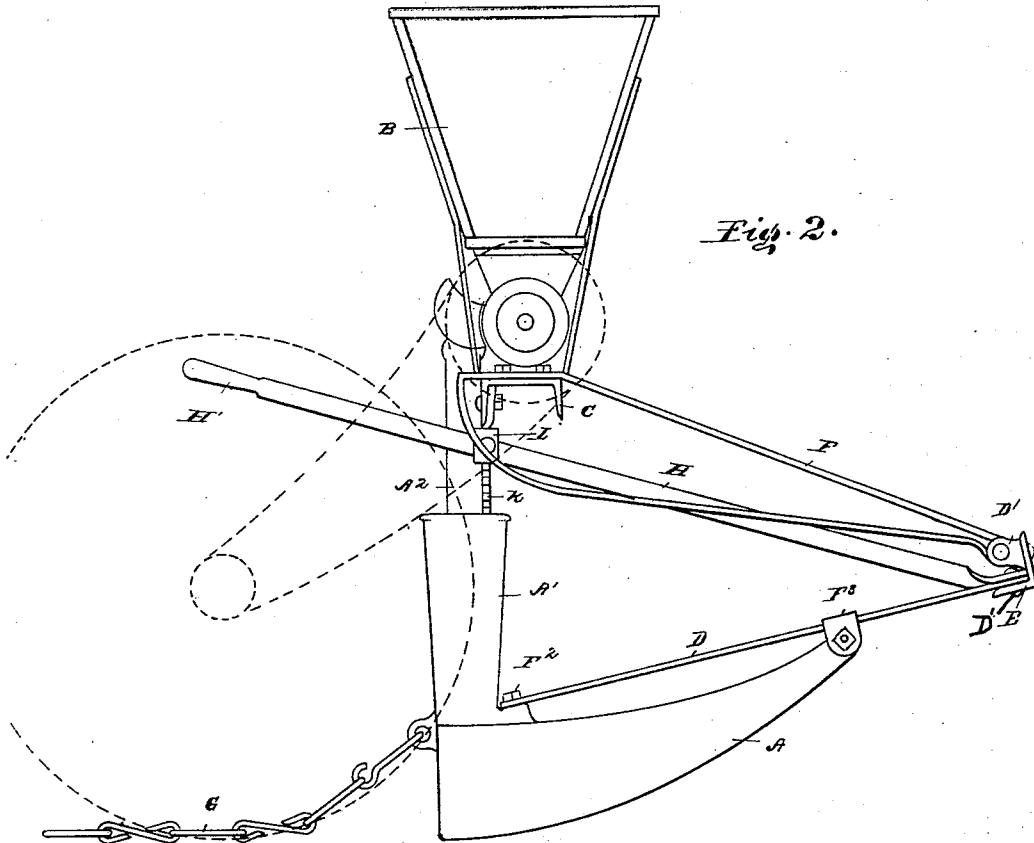
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WITNESSES:

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INVENTOR.
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UNITED STATES PATENT OFFICE.

ALPHONSO V. WILBUR, OF STOCKTON, CALIFORNIA.

SEEDER.

SPECIFICATION forming part of Letters Patent No. 653,833, dated July 17, 1900.

Application filed October 23, 1899. Serial No. 734,582. (No model.)

To all whom it may concern:

Be it known that I, ALPHONSO V. WILBUR, a citizen of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Seeders; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in seeders, and particularly to that class of seeders which may be attached to a gang-plow.

In the drawings, Figure 1 is a side view of a seeder constructed in accordance with this invention and attached to a gang-plow. Fig. 2 is a side elevation of a seeder, the supporting-wheel and driving mechanism being shown in the dotted lines. Fig. 3 is a detail view in perspective and partly in section of the carrying-beam, the pressure-lever, and detent. Fig. 4 is a detail view in plan of the locking device for the pressure-lever. Fig. 5 is a detail view in perspective of the means for attaching the inner end of the seeder to the plow-frame.

Heretofore seeders of this character have depended for the pressure of the shoes upon and into the ground upon the springs on which they have been mounted. In many qualities and conditions of soils this pressure has proved insufficient to sink the shoes. Again, in a large majority of land it is variable in the same fields, and where the shoes have a constant pressure the planting will be deeper in one section than in another.

It is the object of the present invention to overcome the above-mentioned objection and to simplify the construction.

To facilitate the description of the present invention with reference to the drawings, I use designating-letters to distinguish the parts illustrated.

Thus the letter A is used to distinguish the furrow-opening shoe. This is provided with the usual spout or receiver A', into which the seed are dropped from the flexible pipe A², and the seed feeding or separating mechanism, which may be of any of the known constructions. The seed-feeding mechanism, to-

gether with the hopper B, are mounted on the carrying-beam C, which is constructed from the channel-beam, the flanges being turned down, as shown in Fig. 2 of the drawings. This carrying-beam supports also the shoes A through the brace-bars F, the cross-bar E, and the springs D. The brace-bars F are shown as being formed from a continuous piece or strap, which is bolted on the carrying-beam, the rear extension passing down and being returned forward under the beam and joined to the forward end of the upper section to form an eye to receive a pivot on the plate D' on the cross-bar E. There are two brace-bars—one at each end of the cross-bar. While light, the brace-bars are comparatively rigid. The cross-bar E is formed from light angle-iron and extends across the front of the seeder. Into the angle of this bar are butted the squared ends of the springs D, where they are rigidly secured by the single rivets D'. This construction of the cross-bar admits of the use of a single rivet to hold the spring in line. The spring operates to relieve the shoe of any sudden upward lift and to permit each shoe to act independently. Each shoe is secured to its spring by the bolt F² and the clip F³. At the rear of the shoes are secured the chains G, which cover the seeds after the same are dropped.

The position of the shoes A with relation to the ground is governed by the position of the cross-bar E on its hinges D'. As the cross-bar is rotated to throw the shoes downward an added pressure of the shoes on the ground is applied through the springs. By rotating the cross-bar in the reverse direction this pressure may be diminished and the shoes may be raised free of the ground, if desired, as in moving the implement from field to field. The position of the cross-bar is regulated and controlled by the lever H, which is rigidly attached to the cross-bar, as shown in Fig. 2. This lever extends backward under the carrying-beam C and is provided with a handle H', by which the free end is raised and lowered to rotate the cross-bar on its hinges. This lever is locked in position on a detent K, which is bolted to the carrying-beam C and is provided with a toothed edge,

as shown in Figs. 2 and 3. The locking device by which the lever is secured in position is shown in Figs. 3 and 4. It consists in the hollow cylindrical extension L', which is adapted to receive the spiral spring L² and is provided with the slots L³ in the upper and lower walls, through which the detent K may pass freely. Secured to the end of the extension L' is an open-sided box L, through the open sides of which is passed the lever H, as shown in Fig. 3. The upper and lower or full sides of this box are adapted to fit between the teeth K' of the detent.

In assembling the parts the spring L² is first placed in the extension L'. The box L is then placed on the lever H, the spring L² then compressed, and the detent K inserted in the slots L³, when the spring is released to press on the back of the detent and force the full sides of the box L between the teeth K'. The parts are then in the operative position.

When it is desired to raise or lower the lever H, it is accomplished by throwing it outward from the detent, carrying the box L with it, until the full sides are freed from the teeth K' and compressing the spring L². The lever may now be moved up or down. When in the desired position vertically, the lever is moved toward the detent to allow the full sides of the box to engage the teeth of the detent.

When pressure on the shoes A is required, the lever H is depressed, causing a slight or heavy pressure on the ground through the medium of the springs D, which exert pressure in proportion to the depression of the lever H. By raising the lever H as far as it will go the shoes will be raised from the ground.

Having thus described this invention, what is claimed is—

1. In a machine of the nature indicated, a shoe for grooving the ground, a beam supported upon the machine and having a substantially-vertical wall, a spring secured to said shoe and having its outer end squared and abutting against said beam-wall, and means for securing said spring to said beam; substantially as described.

2. In a machine of the nature indicated, a shoe for grooving the ground, an angle-beam supported upon the machine and having substantially vertical and horizontal walls, a spring secured to said shoe and having its outer end squared and abutting against the said vertical beam-wall, said spring resting upon the said horizontal beam-wall, and means for securing the spring to the beam; substantially as described.

3. In a machine of the nature indicated, a shoe for grooving the ground, a spring supported upon the machine-frame at a point removed from the shoe and connected to the shoe near the rear thereof, and connection between the forward portion of the shoe and the spring intermediate the spring ends; substantially as described.

4. In a machine of the nature indicated, a carrying-beam, a brace-bar secured thereto, said bar having a portion resting upon said beam and having one end extending forwardly and its other end extending downwardly and then passing forwardly to a point at which it joins said first-mentioned forwardly-extending portion, a shoe for grooving the ground, and a bar secured to said shoe and also to said forward end of the brace-bar, whereby said shoe is supported from said brace-bar; substantially as described.

5. In a machine of the nature indicated, a carrying-beam, a brace-bar secured thereto, said bar having a portion resting upon said beam and having one end extending forwardly and its other end extending downwardly and then passing forwardly to a point at which it joins said first-mentioned forwardly-extending portion, said brace-bar having an eye formed between the two forwardly-extending portions, a shoe for grooving the ground, a bar secured to said shoe, and a pivot member in the eye in the brace-rod and connected to the said bar secured to the shoe, whereby the shoe is pivotally supported from the brace-bar; substantially as described.

6. In a seeder provided with a suitable feeding mechanism for delivering the desired quantity of seed into the grooves formed by the shoes for grooving the ground; arms extended forward from the carrying-beam of the seeder; a cross-bar having a vertical flange, and pivotally attached to the forward end of the said arms; flat-square-ended springs attached to said cross-bar with the square end against the vertical flange to hold the springs in line; the said shoes for grooving the ground suitably attached to the rear end of the said springs; a lever attached to the said cross-bar to rotate the same; and a suitable locking device to hold the lever in position; substantially as described.

7. In a machine of the nature indicated, an operating-lever, a detent having teeth upon one side thereof, and a member embracing both the lever and detent and having movement transverse to the detent, said member having parts adapted to engage the teeth of the detent and thus lock the lever in position; substantially as described.

8. In a machine of the nature indicated, an operating-lever, a detent having teeth upon one side thereof, a member embracing both the lever and detent and having movement transverse to the detent, said member having parts adapted to engage the teeth of the detent and thus lock the lever in position, and means for yieldingly holding the said parts in engagement with said teeth; substantially as described.

9. In a machine of the nature indicated, an operating-lever, a detent having teeth upon one side thereof, a hollow extension having slots in its walls through which slots said detent passes, an open-sided box upon the extension adjacent the detent through which

box the said lever extends, the full sides of
said box being adapted to engage the teeth
upon the detent, and a spring in said hollow
extension and having bearing against said
5 detent and the extension to normally hold
the said box in engagement with the said
teeth; substantially as described.

In testimony whereof I have hereunto set
my hand this 12th day of October, 1899.

ALPHONSO V. WILBUR.

Witnesses:

E. F. MURDOCK,
G. W. MARSH.