No. 653,053. Patented July 3, 1900.

M. & C. ZÖLLNER.

SEEDING MACHINE.

(Application filed Jan. 16, 1900.)

(No Model.)

FIG. 1.

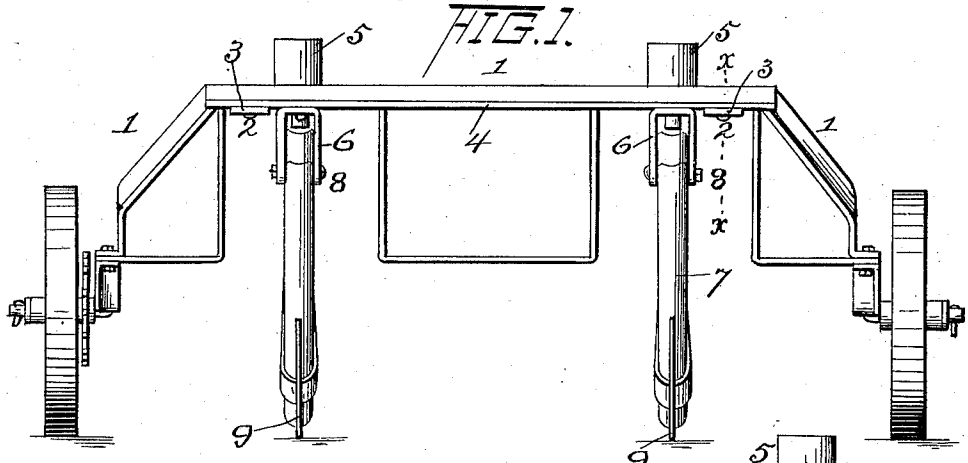


FIG. 2.

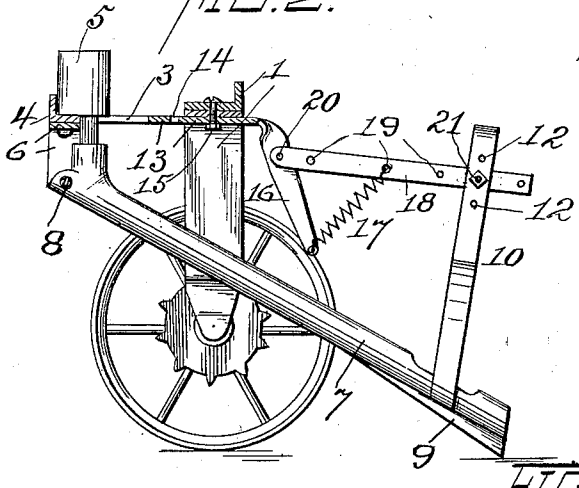


FIG. 3.

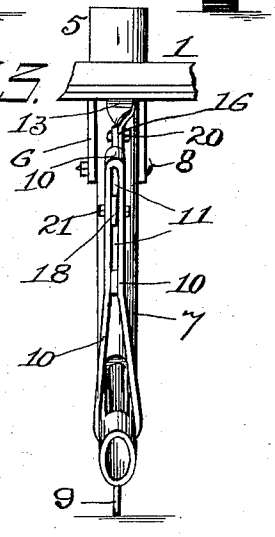
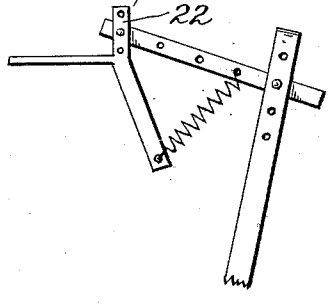


FIG. 4.



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UNITED STATES PATENT OFFICE.

MATTHES ZÖLLNER AND CARL ZÖLLNER, OF FATE, TEXAS.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 653,053, dated July 3, 1900.

Original application filed September 30, 1899, Serial No. 732,187. Divided and this application filed January 16, 1900. Serial No. 1,663. (No model.)

To all whom it may concern:

Be it known that we, MATTHES ZÖLLNER and CARL ZÖLLNER, citizens of the United States, residing at Fate, in the county of Rockwall and State of Texas, have invented certain new and useful Improvements in Seeding-Machines, of which the following is a specification.

This invention relates to seeding-machines, and particularly to an improved means for flexibly hanging the seed-tubes from a cultivator or other similar frame, as disclosed in our application filed September 30, 1899, Serial No. 732,187, and of which this application is a division. While this device is preferably used in connection with the cultivator covered by the said application, it may be attached or connected to any suitable frame or used in connection with other forms of cultivators or it may be worked independently.

To this end the invention consists in the novel construction and arrangement of the several parts.

In the accompanying drawings, forming part of this application, Figure 1 is a front view of a cultivator-frame from which the seed-tubes are hung by our improved device. Fig. 2 is a section on the line *x x*, Fig. 1. Fig. 3 is a rear view of a seed-tube. Fig. 4 is an elevation of a modification.

The same numeral references denote the same parts throughout the several views of the drawings.

To the frame 1 is secured at 2 one end of the arms 3. Their other ends support a bar 4, to which the hoppers 5 are secured, and a tube-bracket 6 depends from the under side of the said bar in front of each hopper, in which brackets the upper ends of the tubes 7 are pivoted at 8. The lower ends of the tubes are provided with a furrow-opening blade 9 and a vertically-disposed standard 10, having a forked bottom end secured to the tubes and a top end having a slot 11 and holes 12 at right angles to the slot.

The means for flexibly hanging the tubes consists of the same device for each tube, and therefore only one will be described, which comprises an angle-hanger having a flat end 13, having one or more holes 14, by means of which and a bolt 15 it is secured adjustably to the frame 1, a depending end 16, to which is connected one end of a spiral spring 17, a lever 18, having holes 19, by means of which and the bolts 20 and 21 it is pivoted in the slot 11 and to the depending portion 16, with the other end of the spiral spring secured to the said lever 18. The end of the lever 18 which works in the slot 11 may have a slot in lieu of the bolt-holes, and with either the lever is capable of adjustment to vary the tension of the spring, so that the tube may have a greater or less pressure on the ground. In Fig. 4 there is an upward projection 22, to which the lever is pivoted. It is obvious, therefore, that the tube by its flexible hanging is free to follow the undulations and irregular surfaces of the ground during the operation of seeding.

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

1. The combination, with a frame, and the seed-tubes, of means for flexibly and adjustably hanging the tubes from the frame, comprising the tube-standard, the hanger, the lever pivoted to the standard and to the hanger, and the spiral spring connected to the lever and to the hanger.

2. The combination in means for flexibly hanging seed-tubes, of the brackets to which the tubes are pivoted, the tube-standards, the hangers adjustably secured to a suitable frame and having a depending portion, the levers pivoted to the said depending portion and to the said standards, and the spiral springs connecting the depending portions with the said levers.

3. The combination, with a seed-tube having a vertically-disposed standard forked at one end and slotted at the other, of the angle-hanger having a flat end and a depending portion, the lever pivoted to the depending portion and to the said slotted end, and the spiral spring having one end secured to the said depending portion and the other end secured to the lever between the pivoted portions of the latter.

4. The combination, with a frame, the hopper-bar connected to the frame, and the tubes having a vertically-disposed standard, of the brackets depending from the said bar and in which the tubes are pivoted to swing vertically, and the flexible means to control the vertical movement of the tubes.

In witness whereof we hereunto set our hands in the presence of two witnesses.

MATTHES ZÖLLNER.
CARL ZÖLLNER.

Witnesses:
J. G. DAVISON,
J. M. TAYLOR.