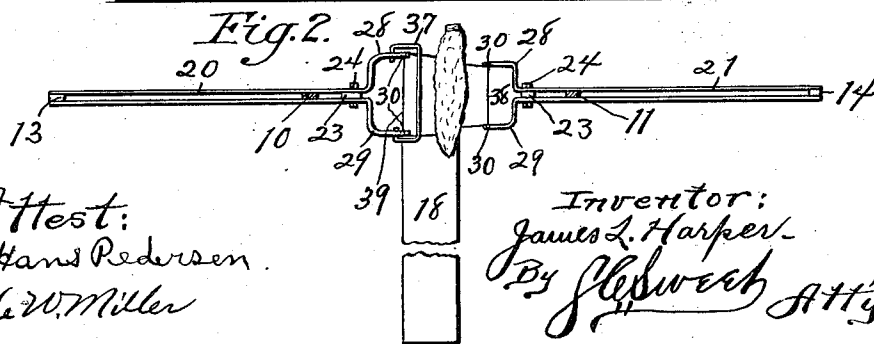
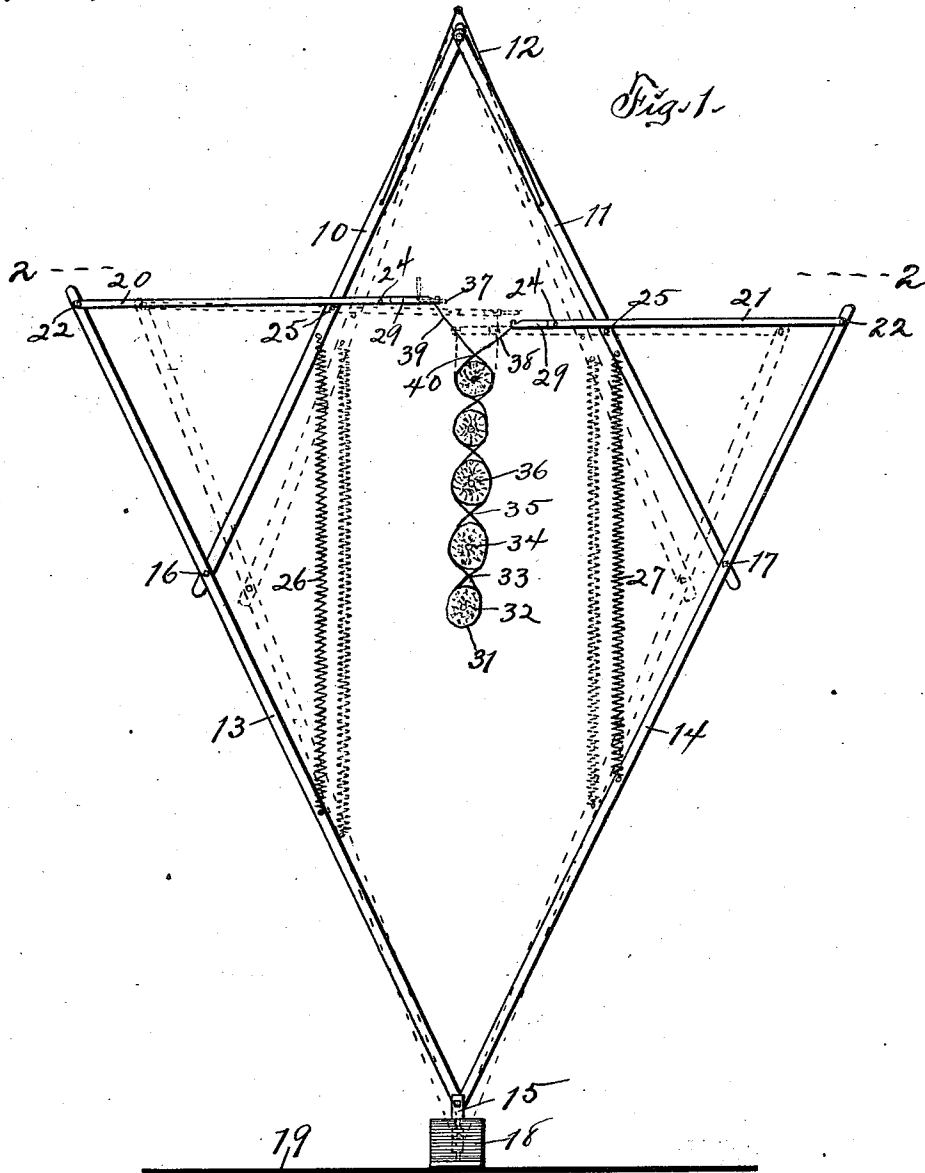


J. L. HARPER.
SEED CORN STRINGER.
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1,046,183.

Patented Dec. 3, 1912.



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UNITED STATES PATENT OFFICE.

JAMES L. HARPER, OF NEWTON, IOWA.

SEED-CORN STRINGER.

1,046,183.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed January 27, 1910. Serial No. 540,899.

To all whom it may concern:

Be it known that I, JAMES L. HARPER, a citizen of the United States of America, and resident of Newton, Jasper county, Iowa, have invented a new and useful Seed-Corn Stringer, of which the following is a specification.

The object of this invention is to provide means for stringing ears of seed-corn preparatory to hanging the same in suitable locations for curing.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a face view of the complete device. Fig. 2 is a cross-section on the indicated line 2—2 of Fig. 1.

Heretofore it has been common to impale ears of seed-corn on spiked racks; to tie together ears of seed-corn by means of the husks thereof; to tie together ears of seed-corn by means of a single string or cord; and, more recently, to carry a plurality of ears of seed-corn in crossed loops of a doubled string, cord or binder. The purpose and object of employing a doubled string, cord or binder and arranging the ears of corn in crossed loops thereof is to maintain said ears in approximately parallel relations and spaced apart so that the kernels of one ear do not contact with those of another. My invention has to do with mechanical devices for supporting the string, cord or binder during the operation of applying the ears of seed-corn thereto and carrying end loops of said binder to and fro relative to each other to form successive crossed loops to receive and support the ears. Heretofore it has been customary to employ two persons in stringing seed-corn in the doubled binder, one person supporting and interweaving the loops of the binder while the other person supplied the ears thereto. By the use of my present invention I do away with the services of one person and substitute for his manipulations the mechanical devices hereinafter described.

In the construction of the device as shown the numerals 10, 11 designate supporting bars which are pivotally connected at their upper ends by a bolt 12 and are suitably supported as from a rafter (not shown) of a building. Draft bars 13, 14 are provided and are pivotally connected at their lower

ends to a pedal-hanger 15 and extend upwardly in diverging planes from said hanger. The draft bars 13, 14 extend across and are pivoted by bolts 16, 17 to lower end portions of the supporting bars 10, 11. A pedal or treadle 18 is swiveled at one end to the lower end portion of the pedal-hanger 15 and rests at its opposite end on a floor or ground surface 19. Arms 20, 21 are provided. Each arm 20, 21 is formed of parallel bars embracing at one end the upper end portion of a draft bar 13 or 14 and pivoted thereto by a bolt 22. Inner end portions of the bars constituting the arms 20, 21 are spaced apart by washers 23 and connected by bolts 24 extending through said washers. The supporting bars 10, 11 extend loosely between the bars constituting the arms 20, 21, between the washers 23 and bolts 22, and pins 25 are mounted through the supporting bars beneath and serve to support said arms. One of the pins 25 is slightly higher than the other so that inner end portions of the arms 20, 21 are held at different elevations and susceptible of overlapping without contact with each other. Retractable coil springs 26, 27 connect intermediate portions of the supporting bars 10, 11 to intermediate portions of the draft bars 13, 14. The points of attachment of the springs 26, 27 to the supporting bars preferably are below the arms 20, 21 and the points of attachment between said springs and the draft bars 13, 14 are below the bolts 16, 17. Fingers 28, 29 are formed on and spread apart at the inner ends of the arms 20, 21 and each finger is formed with an upwardly opening notch 30 in its inner end. The fingers on the arm 20 preferably are spread apart a greater distance than are the fingers on the arm 21.

A relatively long endless loop 31 of twine or cord is provided and is hung on the fingers 28, 29 and in the notches 30 thereof in such manner that parallel loops of said twine depend from said arms and upper portions of the twine extend across the fingers in parallel planes. Then an ear 32 is placed in the parallel depending loops of the twine; foot pressure is applied to the treadle 18 and said treadle is caused to draw downward on the draft bars 13, 14; downward movement of the draft bars resisted by the support 12 acting through the supporting bars 10, 11 causes an inward movement of the upper ends of the draft bars;

inward movement of the upper ends of the draft bars moves the arms 20, 21 inward across the pins 25 and causes the fingers on one arm to carry a loop of the twine through the loop of the twine carried by the fingers of the other arm and forms a cross in the twine as at 33; an ear 34 is placed on the cross 33; foot pressure is relieved from the treadle; the springs 26, 27 raise the draft bars 13, 14 and treadle to normal position, thus moving the upper ends of the draft bars and the arms thereon outwardly; outward movement of said arms forms a cross such as 35 in the twine; and another ear 36 is placed on said cross 35. Successive manipulations in one direction and spring actuations in the opposite direction provide crosses in the twine to receive successive ears to the full capacity of the twine. A yoke 37 is pivoted on the fingers of the arm 20 and is adapted to contact with that portion of the twine loop 31 engaged by said fingers and retain said loop on said fingers. When the desired number of ears have been placed in the depending loops of the twine and the portion 38 of said twine has been withdrawn through the portion 39 thereof, (Fig. 1) to form a cross 40 of the twine, the operator grasps the portion 38 between the fingers on the arm 21 and raises it from said fingers, the fingers 28, 29 holding the portion 39 in spread condition as the portion 38 is passed through it. Then the operator releases the portion 39 from the fingers of the arm 20 and permits it to fall against and in embracing relations with the portion 38. Thereafter the strung ears are suspended by engaging the portion 38 over a suitable support (not shown) extraneous to this machine. Then a new loop of twine is applied to the machine and the operation is repeated until the desired number of ears are strung and suitably suspended for curing.

I claim as my invention—

1. A seed-corn stringer, comprising supporting bars depending from a suitable support and pivotally connected, draft bars crossing and pivotally connected to said supporting bars, said draft bars also being pivotally connected, a pedal pivotally connected to said draft bars, springs connecting the supporting bars and draft bars, arms pivoted on the draft bars and extending across the supporting bars, pins in said sup-

porting bars supporting inner end portions of said arms, and fingers on said arms adapted to support a loop of cord or wire.

2. A seed-corn stringer, comprising supporting bars depending from a suitable support and pivotally connected at their upper ends, draft bars crossing and pivotally connected to said supporting bars, said draft bars also being pivotally connected at their lower ends, a pedal pivotally connected to said draft bars, springs connecting intermediate portions of the supporting bars and draft bars, arms pivoted to upper ends of the draft bars and extending across the supporting bars, pins in said supporting bars supporting inner end portions of said arms, and fingers on said arms adapted to support a looped hanger, the fingers on one arm being spread apart farther than the fingers on the other arm.

3. A seed-corn stringer, comprising a flexible frame, pedally-operated means for elongating said frame, springs for contracting said frame, upward extensions on lower members of said frame, arms on said extensions and extending inwardly therefrom and crossing the upper members of said frame, said arms being arranged for rectilinear reciprocation in parallel planes, said arms being adapted to carry and interweave a looped binder.

4. In a device for stringing seed corn, a loop support for a dependent loop of cord or wire having horizontally spaced guides for the loop, a second loop support having spaced guides for the loop, and means permitting one loop support to be moved through the plane defined by the loop depending from the other loop support.

5. A seed-corn stringer including superposed shiftable loop-supporting members and a pedal, and a connection extending from said pedal to one of the loop supporting members for longitudinally shifting one of said members relative to the other to carry the loop supported on said member through the plane defined by the loop depending from the other of said members.

Signed by me at Newton, Iowa, this 18 day of June, 1909.

JAMES L. HARPER.

Witnesses:

O. B. WOODROW,
C. L. WOODROW.