

E. K. HAYES.
Double-Row Stalk-Cutters.

No. 147,936.

Patented Feb. 24, 1874.

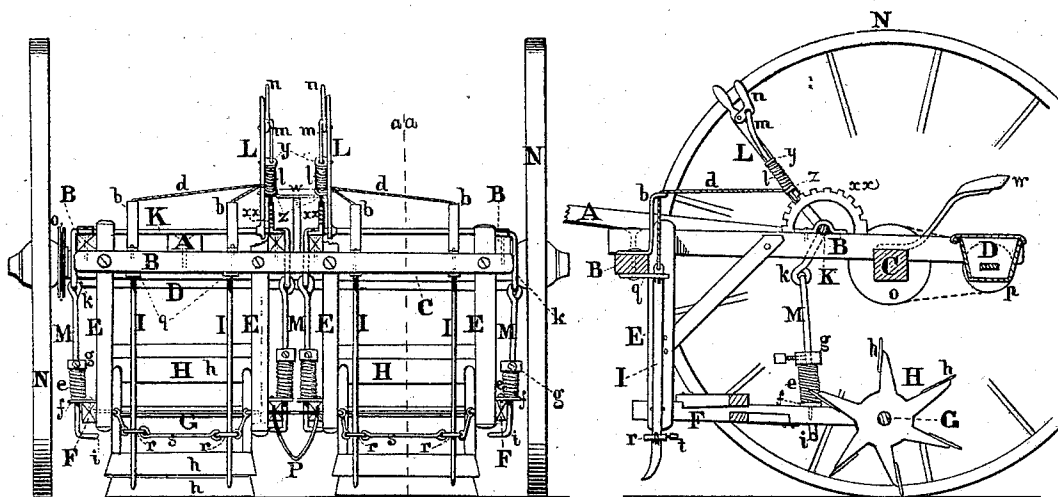


Fig. 2.

Fig. 1.

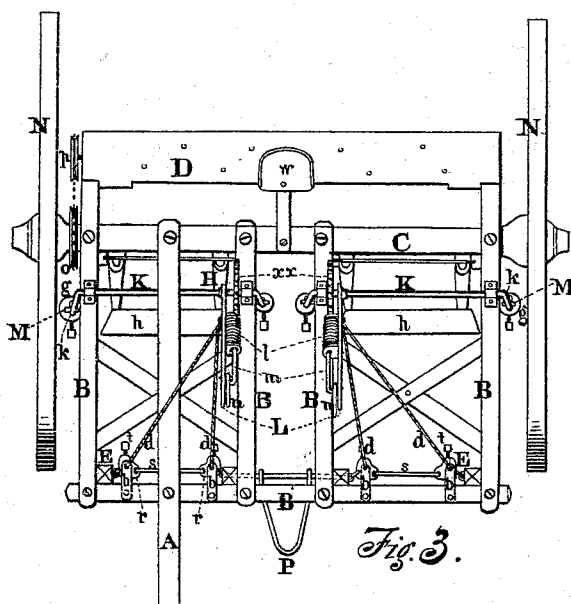


Fig. 3.

Winners—
Ernst Jones
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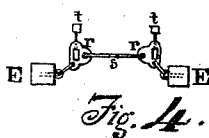


Fig. 4.

Eugene H. Hayes,
by C. Shurlock, his Atty.

UNITED STATES PATENT OFFICE.

EUGENIO K. HAYES, OF LA FAYETTE, ILLINOIS.

IMPROVEMENT IN DOUBLE-ROW STALK-CUTTERS.

Specification forming part of Letters Patent No. **147,936**, dated February 24, 1874; application filed October 1, 1873.

To all whom it may concern:

Be it known that I, EUGENIO K. HAYES, of La Fayette, in the county of Stark and in the State of Illinois, have invented a Double-Row Stalk-Cutter and Seeder Combined; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a sectional elevation along the line *a a*, Fig. 2; Fig. 2, front elevation; Fig. 3, a plan; Fig. 4, a plan of the lower blocks *r* of the straightening-rods *I I*, &c., the whole showing one of the forms in which I construct the machine.

This invention relates to a peculiar construction and combination of devices, as will be hereinafter more fully explained, and pointed out in the claim.

In the drawings, *A* represents the pole or tongue, attached to one side of the frame *B B*, to allow the draft-horses to walk, each, in a furrow. The double-tree or treble-tree is hitched to the clevis *P*. *B B* is a horizontal square frame, crossed, fore and aft, by two parallel center bars, *B B*, in the middle, all the fore-and-aft bars being attached to the axle *C*, behind which the same frame supports a seed-box, *D*; *C*, the axle, which carries the driver's seat *W*; *D*, the seed-box, containing a horizontal shaft or "stirrer," which carries, on its outer end, a band-wheel, *p*, connected by a band with a similar wheel, *o*, upon the supporting-wheel *N*. *E E E E* are four vertical bars, one being fastened to the inner angle formed by the intersection of each of the four fore-and-aft bars *B B B B* of the frame with the front bar *B* of the frame. These are braced by bars to the adjoining frame-bars *B B*. *F F F F* are four oscillating bars, pivoted, in pairs, to the lower ends of the vertical bars *E E E E*, each pair being braced together at the middle, and supporting, at the rear, the axle of their respective rotary cutters *H H*. *H H* are rotary stalk-cutters, of a common form, with horizontal blades *h*. *I I I I* are vertical bars or stalk-straighteners, moving vertically in slots in their respective guides *q q q q*, attached to the under side of the front

bar *B* of the frame, and below in one of the blocks *r r r r*, which are linked together in pairs by a small bar, *s*, and on either side to the lower end of one pair of vertical bars *E E*. Each block *r* is provided with a set-screw, *t*, for the retention of the bar *I*. The lower points of the latter curve forward, and are each suspended by a cord, *d*, to the nearest lever *L*, which cord first passes through one of the eyes *b b b b*, attached to the front bar *B*. *K K* are two horizontal crank-shafts, pivoted, in a line in front of the axle, upon the frame *B B B*, each terminating, at either end, in a crank, *k*, attached to a vertical rod, *M*, hereafter described. *L L* are two levers, each fixed upon one of the said crank-shafts *K*, next to the two inner bars of the frame, each being fitted with a spring, *l*, between two slotted lugs, *y z*, which forces downward a catch-rod, *m*, into a ratchet erected on the said frame-bar *B*. *M M M M* are four vertical rods, depending, respectively, from one of the cranks *k k* of the shafts *K*, each ending, below one of the bars *F*, in an elbow or occasional support for said bar, first passing through an eye, *f*, projecting from said bar. A set-block, *g*, and set-screw are placed on each rod to gage the force of the spiral spring *e*, situated between said block and the projecting eye or lug *f*. *N N* are the supporting-wheels of the machine; *P*, the clevis or point of draft, hung upon a bar or pin which forms the pivot of the bars *F F*.

The operation of this machine is as follows: When the same is in transit to the place of operation, the levers *L L* are thrown backward to the rear, where they are retained by the ratchets *x x x x*, which position of the levers elevates the cranks *k k*, the bars *M M*, &c., bars *F F*, &c., and their respective cutters *H H*; also elevating the stalk-straighteners *r r*, &c., by the tension upon the cords *d d*, &c., also attached to said levers. On reaching the field, the levers *L L* are thrown forward on the segmental ratchets *x x x x*, so that the cranks *k k* are pressed downward upon the heads of their respective rods *M M*, &c., and these, in turn, upon their springs *e*, which latter press upon their respective bars *F F*, &c., and these upon the axle of the cutters *H H*. The springs *e e* act at once as a

downward force, and as a retractile one when uneven ground is traversed, and keep both ends of the cutter in contact with the stalks and the soil, whatever the variety of slope of soil. The springs *ee* are graduated to soft or harder soil, or other requirements, by the set-screw in each block *ggg*. The straightening-rods *rrrr* pass over the soil in advance of the cutters *H H*, and may also be graduated to the required level by the set-screws *t* in each of the slotted adjusting-blocks *rrrr*, which latter are linked loosely together to obviate any strain on them from impediments or irregularity of surface of the ground. As to the seed-sowing box *D*, it is stirred, as above described, and figures merely in an economical point of view, as an accessory to the machine. This machine is drawn by three horses attached to a treble-tree or double-tree, hitched

to the clevis *P* at the lower ends of the central bars *E E*, near the ground.

What I claim as my invention is—

The vertical stalk-straighteners *I*, adjustable set-screw blocks *r*, links *s*, guides *g*, eye-supports *b*, and cords *d*, in combination with the ratchet-levers *L*, crank-shafts *K*, connecting with rods *M*, provided with adjusting set-screw block, and spiral springs *e*, all constructed and arranged in the manner and for the purposes as herein set forth.

In testimony that I claim the foregoing double-row stalk-cutter and seeder I have hereunto set my hand this 20th day of September, 1873.

EUGENIO K. HAYES.

Witnesses:

JAMES M. MORSE,
WM. M. CANNON.