2 Sheets—Sheet 1.

M. ZIMMERMAN.

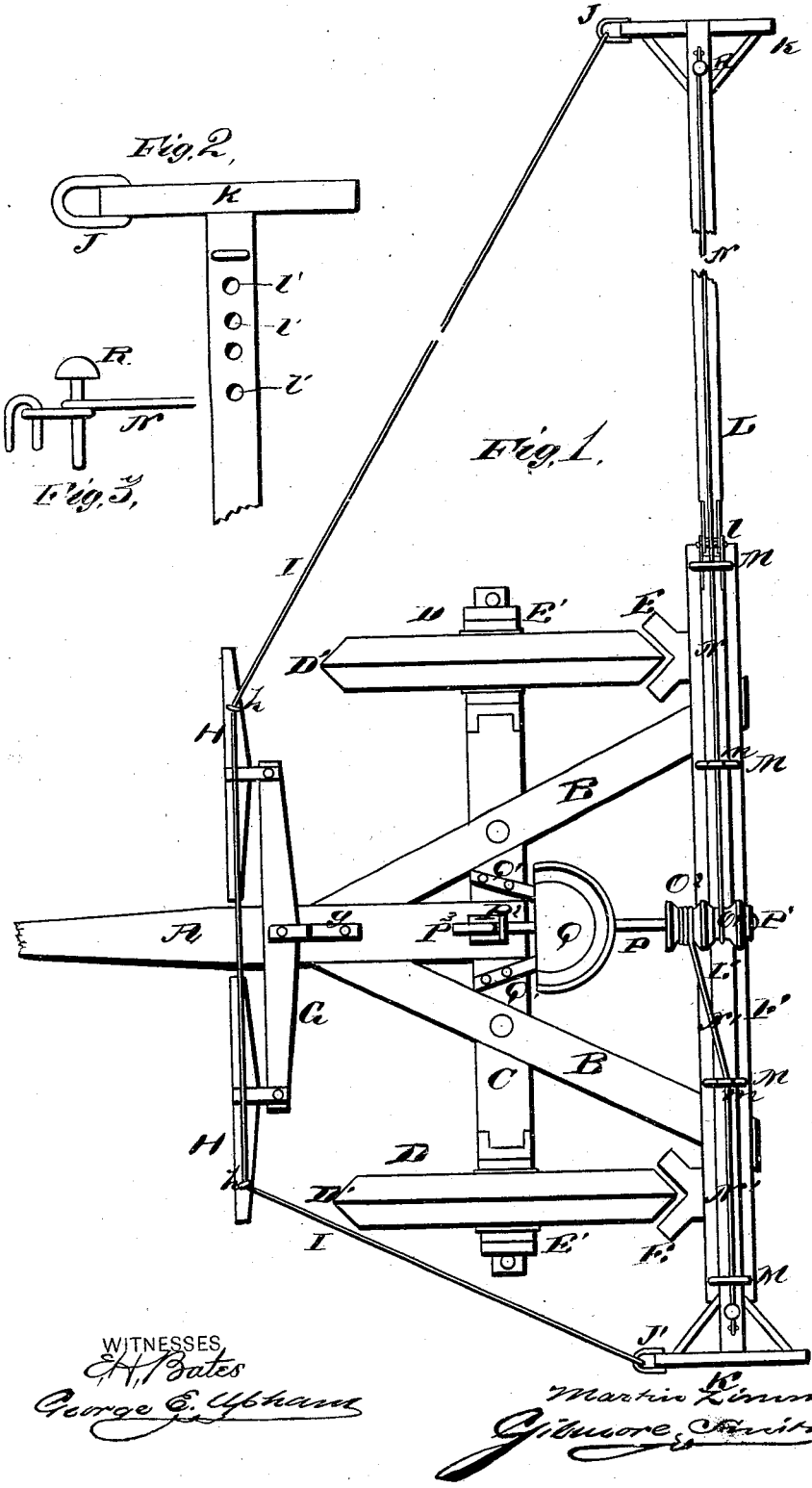
CORN-MARKER.

No. 189,008. Patented March 27, 1877.

Fig. 2.

Fig. 3.

Fig. 1.



WITNESSES.
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2 Sheets—Sheet 2

M. ZIMMERMAN.

CORN-MARKER.

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Fig. 1.

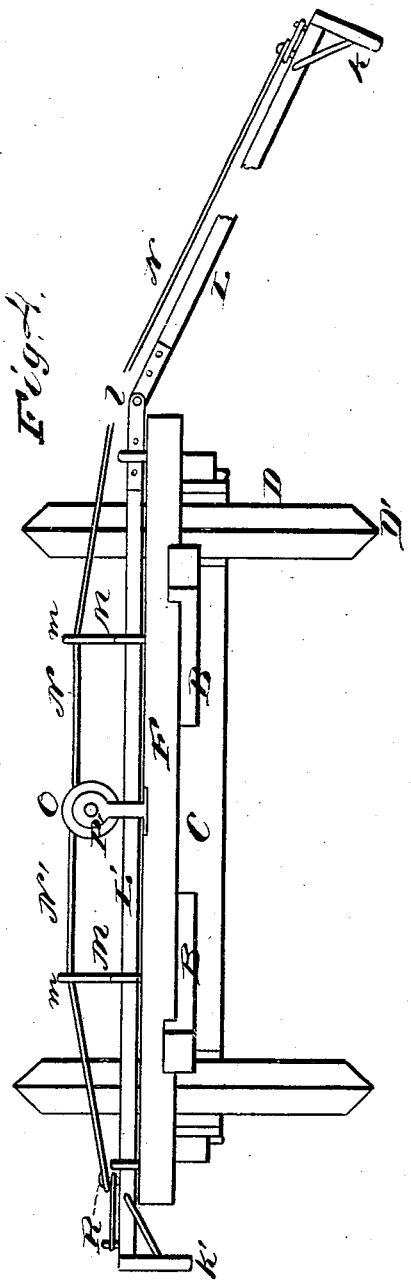
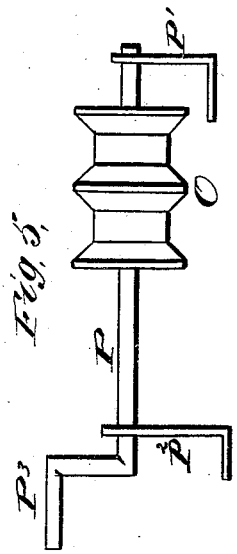


Fig. 2.



WITNESSES

E. H. Bates

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UNITED STATES PATENT OFFICE

MARTIN ZIMMERMAN, OF MOHICAN TOWNSHIP, ASHLAND COUNTY, OHIO.

IMPROVEMENT IN CORN-MARKERS.

Specification forming part of Letters Patent No. 189,008, dated March 27, 1877; application filed February 3, 1877.

To all whom it may concern:

Be it known that I, MARTIN ZIMMERMAN, of Mohican township, in the county of Ashland and State of Ohio, have invented a new and valuable Improvement in Corn-Markers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of corn-marker, and Figs. 2 and 3 are detail views. Fig. 4 is a rear view thereof, and Fig. 5 is a detail view of the same.

This invention relates to corn-row markers; and it consists in peculiar means, hereinafter fully described, for shifting the marker from side to side, and regulating the width of the spaces between the rows.

In the accompanying drawings, A designates the draft-tongue of my corn-marker, and B B designate the hounds thereof. The rear end of said tongue and the middle parts of said hounds are set into an axle, C, on which turn the transporting-wheels D D. Said wheels are doubly beveled, so as to present, in each case, a sharp middle circumferential ridge or edge, D′. This form enables them to cut the furrows as they move forward, thus dispensing with plows or marking-points. The earth carried up by said furrowing-wheels is cleaned from them by V-shaped scrapers E E, which are secured to and project from the under side of a long cross-bar, F, supported by the rear ends of hounds B B.

On said tongue A is pivoted a double-tree, G, having a metal strap, *g*, and bearing, in the usual manner, whiffletrees H H. Each one of said whiffletrees has on its upper side, near its outer end, a guide-loop or guide-staple, *h*, through which passes cord or chain I, extending in a curved line from the front end of gage-block K to that of similar gage-block or marker K′. Said cord or chain is attached to clips or loops J J′ on said blocks K K′. These gage-blocks are secured upon the outer ends of two gage-bars, L L′, which are hinged vertically together at their inner ends, and move lengthwise in guides M M on the top of cross-bar F. Said guides are four in number, and the two inner ones are provided with raised guiding-eyes *m m*, through which pass cords N N′. These cords are, respectively, secured at their outer ends to gage-blocks K K′, and at their inner ends to doubly-grooved drum or spool O. (Shown in detail in Fig. 5.) The cord or chain N winds upon groove O^1 of said spool O, and the cord or chain N′ upon groove O^2 of the same, and the arrangement of said cords is such that when the said spool is turned to wind one of them the other is unwound thereby. The said spool or drum O is turned by means of a crank-shaft, P, journaled in bearings P^1 P^2, secured, respectively, to axle C and cross-bar F. Said shaft is provided with a crank-arm, P^3, which is within convenient reach of the operator occupying seat Q, supported by curved seat-bars Q′ Q′ on axle C.

By turning said spool in either direction the bars L L′ are shifted accordingly. Whenever the hinge *l* passes beyond the end of cross-bar F the outer end of extended bar L or L′ will drop till the gage-block K or K′ carried thereby reaches the ground. Thus, either gage-block may be used, as may prove most convenient, the one on the other side of the machine being withdrawn from use at the same time that the former one is dropped. By shifting hinge *l* to a point above any part of bar F both the gage-blocks K K′ are held above the ground for convenience in turning; or the hinge *l* may be shifted beyond either end of said bar F, and the projecting gage-bar L or L′ may then be turned upward out of the way. This will be found useful in passing through gates or narrow lanes. All the above shiftings are accomplished by turning spool O more or less in one direction or the other.

The distance between the rows is regulated by means of the following devices: The journals of axle C are made long enough for wheels D D to slide in and out thereon, and provided with washers E′. By increasing the number of said washers on the outside of said wheels, and decreasing the number thereof on the inside of said wheels, the said wheels are brought closer together. By shifting said washers in like manner from the outside to the inside, the distance between said furrowing-wheels D D is increased. Bars L L′ are adapted to conform to said changes, by providing each of

them with a longitudinal series of perforations, *l' l'*, near the outer ends of said bars L L', as shown in detail in Fig. 2. In one of these perforations, *l'*, of each gage-bar is placed a pin, R, around which, as shown in Fig. 3, is wound the cord or chain N N', which operates the said gage-bar. By shifting said limiting-pins R from one of said holes *l'* to another the longitudinal movement of gage-bars L L' is regulated, so as to correspond to the adjustment of wheels D D, already described. Cord or chain I acts as a brace for the gage-bars L L', and relieves the running-gear from unequal strain.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a corn-row marker, a pair of endwise-shifting gage-bars hinged together at their inner ends, in combination with a rotating spool and cords running therefrom to the outer ends of said gage-bars, substantially as and for the purpose set forth.

2. The combination of cross-bar F, having guides M *m*, with gage-bars L' L, shifting-cords N N', doubly-grooved spool O, and crank-shaft P, substantially as and for the purpose set forth.

3. The combination of bracing-cord I, guides *h h* on whiffletrees H H, gage-bars L L', and shifting apparatus, substantially as and for the purpose set forth.

4. The combination of laterally-adjustable transporting-wheels D D with bars L L', having perforations *l' l'* and limiting-pins R R, grooved spool O, and shifting-cords N N', substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MARTIN ZIMMERMAN.

Witnesses:
NATHAN GLENN,
DANIEL M. KAHL.