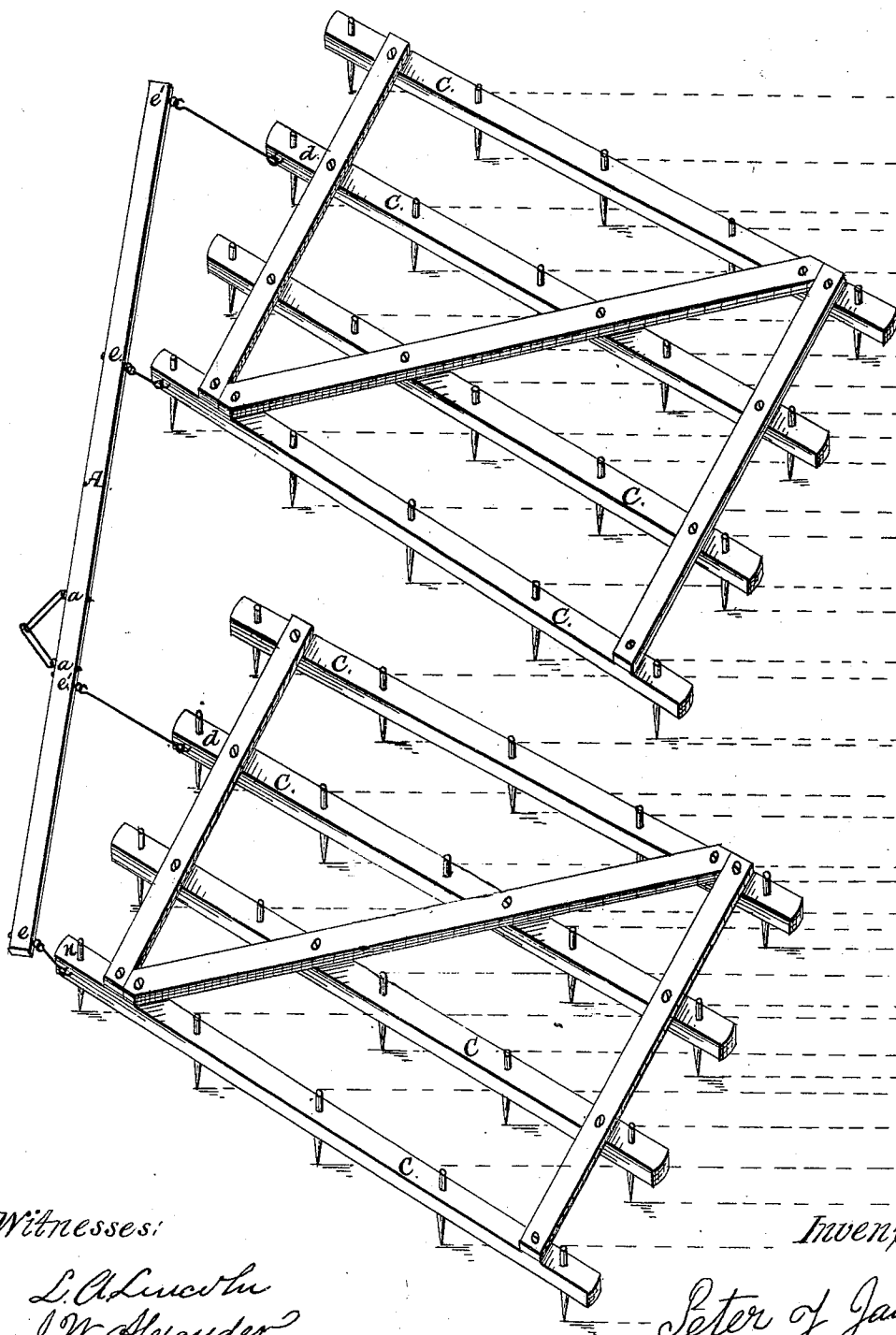


P. J. JACOBY.

HARROW.

No. 177,128.

Patented May 9, 1876.



Witnesses:

L. A. Lincoln
J. W. Alexander

Inventor:

Peter J. Jacoby.

UNITED STATES PATENT OFFICE.

PETER J. JACOBY, OF STERLING, ILLINOIS.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **177,128**, dated May 9, 1876; application filed June 12, 1875.

To all whom it may concern:

Be it known that I, PETER J. JACOBY, of Sterling, in the county of Whitesides and State of Illinois, have invented certain Improvements in Harrows, of which the following is a specification:

My invention has reference to that class of harrows in which two or more sections are attached to and drawn by one common draw-bar, and more particularly relates to providing a simple and practical mode of so attaching such sections to such draw-bar as that the sections may maintain their respective positions and distances relative to the draw-bar and to each other, and yet dispense with any connections between the sections.

Figure 1 is a plan view of a harrow embodying my invention, with dotted lines forward of the draw-bar, showing the line of draft.

C C are ordinary harrow-sections, except that, in order to secure a proper amount of work where the sections lap, and to cause the teeth to properly divide the intervals, the sections are made from three and a half to four inches wider across the rear than across the front. A is an ordinary draw-bar. Each section is attached, at its left-hand front corner, to the draw-bar A, at *e*, by means of a clevis, link, and staple, short rod, or a short chain, by which the section is drawn. The sections are then each drawn slightly to the right, and again attached to draw-bar by a longer rod attached to the front end of the next to the last beam, and to the draw-bar at *e'*.

The principle involved in this mode of attachment is, that the greater resistance on the right of the line of draft, occasioned by the greater part of each section being on the right of such line of draft, causes each section to tend or swing toward the left, and, in effect, precludes any disposition or tendency of the sections to swing or veer toward the right. Then, by means of the adjustment of the guide or regulating-rods *d d*, the sections are held from swinging to the left, and their relative position is secured without any intersection attachment.

The advantage of dispensing with all connection of one section with another is obvious from the one consideration of ease of

lifting one section from the rear for the purpose of cleaning.

The operation of cleaning the harrow—lifting it to disengage weeds, roots, grass, straw, or stalks—varies, of course, with the character and condition of the ground; but in all ground more or less lifting is necessary. When the sections are connected, not only is it more laborious to lift the sections, but one cannot be lifted but a certain height, and even then the remaining section or sections are disturbed and drawn out of place. Again, were the sections attached only at one place to the draw-bar, in a hollow or depression, on turning around, one section would crowd under or over the other, while in working on a ridge the sections would separate and leave a strip unharrowed between them.

In my invention each section can be raised to nearly or quite a right angle with the ground without in the least involving the lifting or disturbing of any other section, and, by the equilibrium produced in the tendency of the sections to swing to the left, and their retention by the guide-rods *d d*, the sections can neither separate from nor crowd upon each other.

It is to be remembered that there is no draft forward on the guide-rods *d d*, but that the latter merely steady, as it were, the sections. The draft is alone from the left-hand front corner of each section, and midway between the points of draft the team is hitched to the links *a a* on the front of the draw-bar. These links are placed a short distance apart on the draw-bar, and brought together on the whiffletree-clevis, so as to hold the draw-bar square across the line of draft. The guide-rods may be attached to the front end of either of the three right-hand beams, being changed in length to correspond to the distance between such respective points and the draw-bar, and the draft-point may be changed to the right-hand front corner, and the guide-rods be changed to the left.

Another great advantage secured in my invention is the readiness and completeness with which each section adjusts itself to the unevenness of the ground, there being nothing to prevent either side of a section from rising

or lowering without affecting the others or the draw-bar.

I am aware that harrows have been used having sections and draw-bar connected by chains of different length, and also others with two connections to the draw-bar on each section, and having no intersecting connection; but

What I claim as my invention is—

The sections C, connected to the draw-bar A by loose connections *e*, and drawn and held

from the direct line of draft by the extended loose connections *e'*, whereby the sections tend to swing in one way only, and are at the same time allowed to conform to the unevenness of the ground, combined and arranged as and for the purpose set forth.

PETER J. JACOBY.

Witnesses:

L. A. LINCOLN,

J. W. ALEXANDER