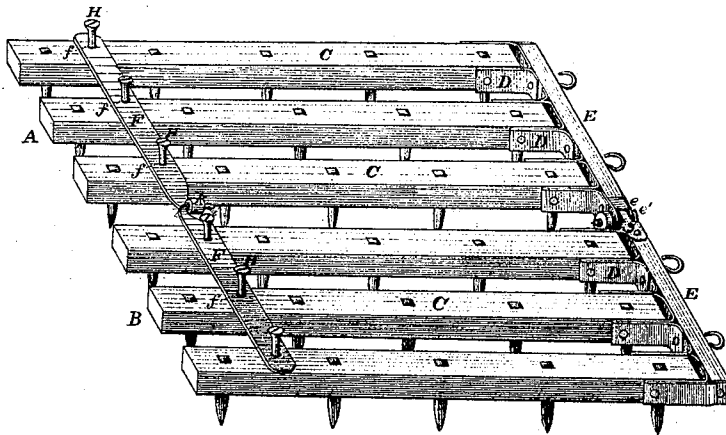


W. P. Jones

Harrow.

No. 107,057.

Patented Sept. 6. 1870.



Witnesses,

H. A. Daniels  
J. H. Weston

W. P. Jones Inventor, by  
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Washington D. C.

# United States Patent Office.

WILLIAM P. JONES, OF ARCADE, NEW YORK.

Letters Patent No. 107,057, dated September 6, 1870.

## IMPROVEMENT IN HARROWS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM P. JONES, of Arcade, in the county of Wyoming and in the State of New York, have invented a new and useful Improvement in Harrows; and do hereby declare that the following description, taken in connection with the accompanying drawing hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvement, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent.

My invention relates to that class of improvements made use of for pulverizing the earth, commonly known as square harrows; and

The nature thereof consists in certain modifications in the construction and arrangement of the details of the same, by means of which difficulties which have heretofore attended the use of harrows are obviated, by causing the bars containing the teeth to act independently of each other.

In the accompanying drawing, which illustrates my invention and forms a part of the specification thereof, is represented a perspective view of a harrow with my invention applied thereto.

The construction, operation, and relative arrangement of the component parts of my invention are as follows:

The frame is manufactured of tough and sound timber, and consists of two principal parts, A and B, hinged together in the manner hereinafter described.

The longitudinal bars C, containing the teeth, are pivoted at one of their ends within metallic receptacles or clips, D, rigidly secured by means of bolts or otherwise, to the inner side of the end pieces or transverse bars E.

The said clips are furnished with flanges through which the bolts, fastening them to the transverse bar E, pass.

The object of pivoting the said ends of the longitudinal bars C, within the stationary clips D of cross-

bar E, is to allow them to vibrate up and down, adapting them to the irregularities of the ground over which they pass.

F F designate two transverse metallic strips connecting the opposite ends of the longitudinal bars C together by means of screw-bolts, H H, passing through apertures, f, cut in the said strips.

The said screw-bolts pass loosely through the apertures f, for the purpose of allowing that end of the longitudinal bars C which they enter, to freely vibrate, in the manner and for the purpose described, in connection with the pivoted ends of said bars.

Upon the inner end of one of the strips F is formed an eye, k, into which fits or enters a hook, i, formed on the inner end of the other one of the said strips, thus hinging one end of the frames or parts A and B together, the opposite end of the said frames or parts being hinged together by means of metallic clips, e and g, the one having a bolt or screw, e', with nut passing through the other, and the latter embraced by the former.

The two parts A and B of the harrow being thus hinged together, either part thereof may be lifted, in order to discharge weeds, roots, or other obstructions.

Having thus described my invention, I will proceed to indicate what I claim and desire to secure by Letters Patent, in the following clause:

I claim—

The arrangement of the longitudinal bars C, metallic clips D, transverse bars E, hinges e e' g and i k, metallic strips F, bolts H, and apertures f f, constructed and operating substantially as described and shown.

In testimony that I claim the foregoing, I have hereunto set my hand this 22d day of January, 1870.

WILLIAM P. JONES.

Witnesses:

E. P. CARTER,

C. A. WOODWORTH.