

T. J. HOLMES. SR  
HARROWS.

No. 190,322.

Patented May 1, 1877.

Fig. 1.

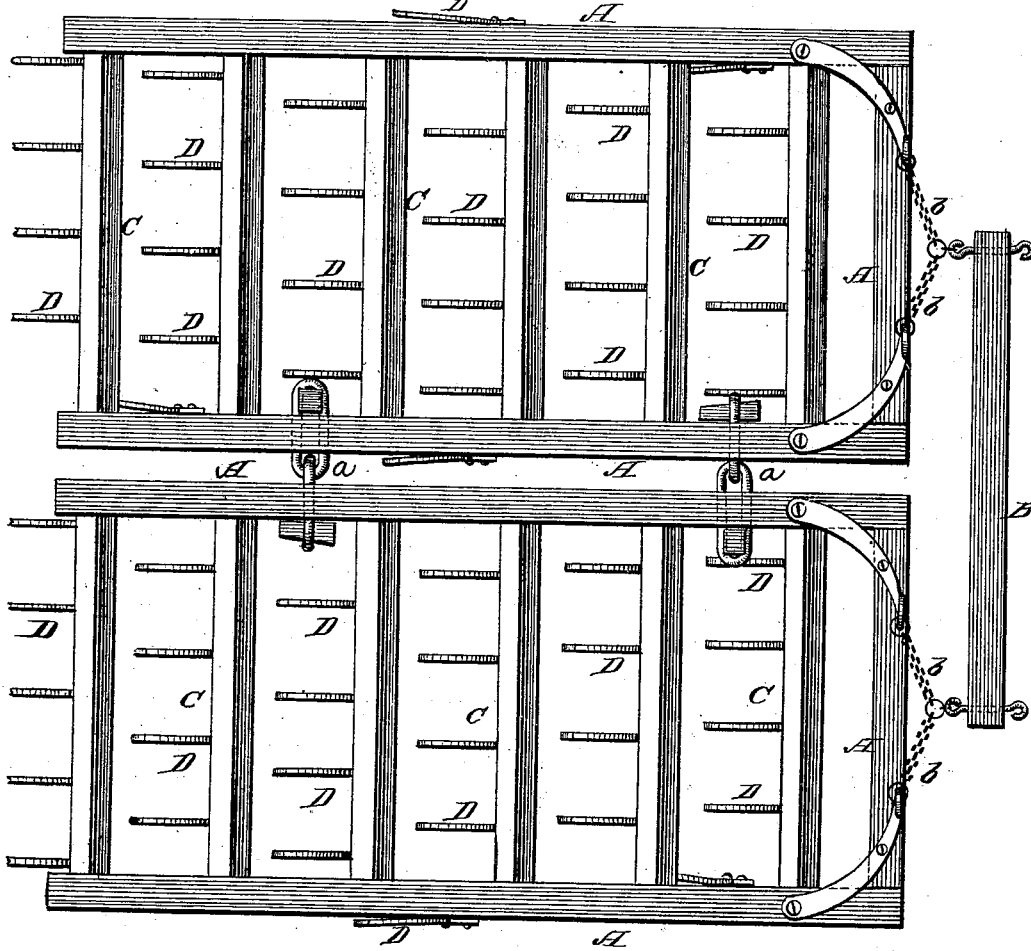
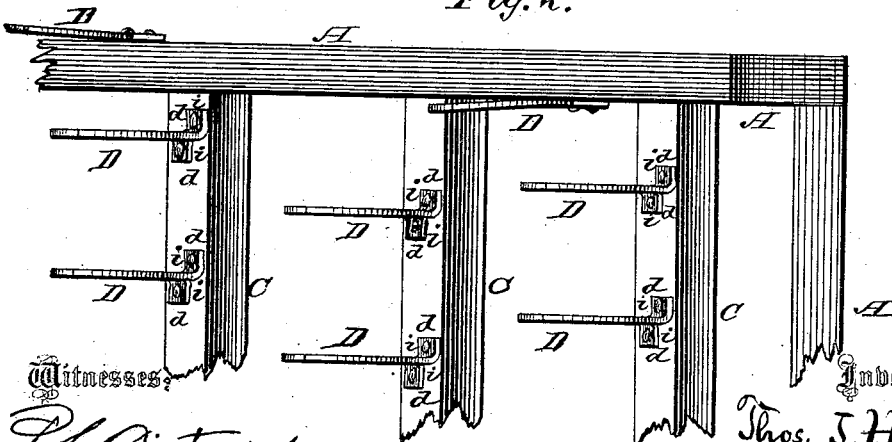


Fig. 2.



Witnesses:

P. C. Dieterich  
Frank H. Duffy

Inventor:

Thos. J. Holmes, Jr.

Per: C. H. Watson & Co. Attorneys.

# UNITED STATES PATENT OFFICE.

THOMAS J. HOLMES, SR., OF MASON CITY, ILLINOIS.

## IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **190,322**, dated May 1, 1877; application filed January 26, 1877.

*To all whom it may concern:*

Be it known that I, THOMAS J. HOLMES, SR., of Mason City, in the county of Mason and State of Illinois, have invented certain new and useful Improvements in Harrows; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to sod-harrows; and it consists in the construction and arrangement of a reversible double-edged cutter, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a plan view of a harrow embodying this invention. Fig. 2 is an enlarged bottom view of a portion of the frame.

A A represent two rectangular frames placed side by side, connected by connections *a*, and at their front ends connected by chains *b b* with the double-tree or draft-bar B. In each frame A are set a number of diamond-shaped bars, C C, transversely across the frame. On the lower rear side of each bar C are secured any suitable number of cutters, D D. Each of these cutters is formed of a single straight metal plate or bar, sharpened to a cutting-edge on both edges. The upper end of the cutter is split in the center for a short distance, and the two pieces bent to opposite sides at right angles, forming lips or flanges *d d*, through which bolts *i i* are passed to

fasten the cutter to the bar C. The double-edged cutter D thus constructed can be reversed whenever desired by simply removing the bolts *i*, turning the cutter one-half around, and then inserting the bolts through the same bolt-holes. Thus, when one edge gets dull, the cutter can easily be turned around to bring the sharp edge to the work. They can also readily be removed for sharpening, when required; or when any cutter should get broken they can easily be taken off and others put on.

Having thus fully described this invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In a harrow having connected frames A A, with diamond-shaped cross-bars C C, the double-edged reversible cutters D, having their upper ends split, and the parts turned outward in opposite directions, forming tips or flanges *d*, and fastened to the cross-bars C of the harrow-frame by the bolts *i* through said flanges, all constructed and arranged as described, whereby the cutters may be reversed and fastened by the same bolts in the same bolt-holes in the cross-bars, as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THOMAS J. <sup>his</sup> × HOLMES, SR.  
mark.

Witnesses:

J. P. HUDSON,  
J. N. MITCHELL.