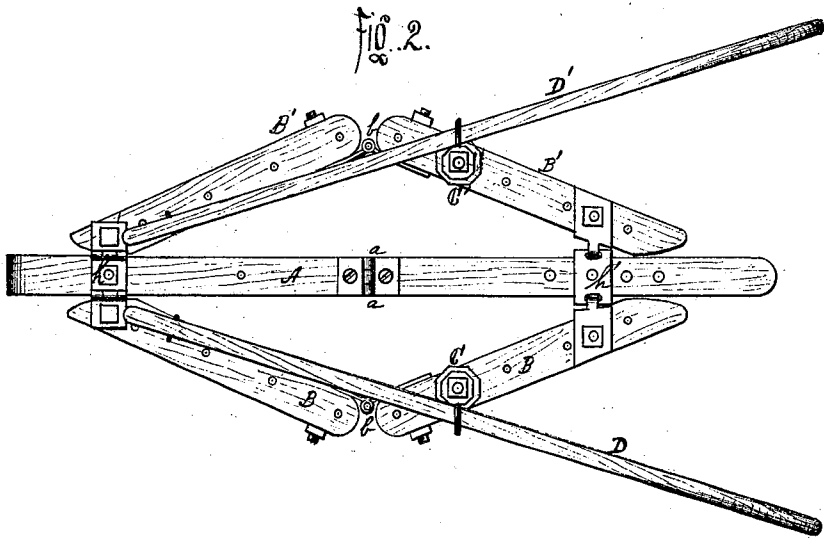
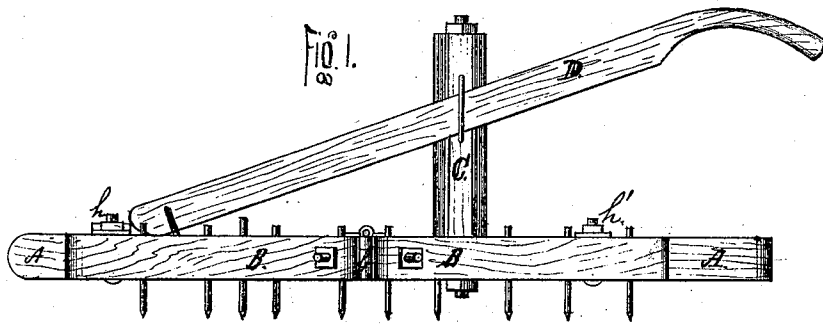


J. Dingman,

Harrow.

No. 107,344.

Patented Sept. 13, 1870.



Witnesses:

L. A. Pettit
J. C. K. Brown

Inventor:

J. Dingman
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Attorneys.

United States Patent Office.

JAMES DINGMAN, OF DECATUR, ILLINOIS.

Letters Patent No. 107,344, dated September 13, 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, JAMES DINGMAN, of Decatur, in the county of Macon and State of Illinois, have invented a new and improved Harrow; 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 accompanying drawing making a part of this specification, in which—

Figure 1 is a side view.

Figure 2 is a top view.

The object of this invention is to provide, for the use of agriculturists, a cheap and convenient flexible harrow, either side or end of which can be raised independently of the rest of the instrument, for the purpose of cleaning the teeth, avoiding obstacles, &c. To this end,

My invention consists, substantially, of one center beam, A, which may or may not be made in two pieces, articulated together at the center, as shown at *a*, so that either end can be raised independently of the other; two side beams, B B', articulated to the center beam, as shown at *h h'*, and each consisting of two pieces articulated together at the center, as seen at *b*; two vertical standards, C C', for the purpose of supporting the rear or upper end of the handles; and two inclined handles, D D', articulated or otherwise fastened, at their forward or lower end, to the forward end of the side beams or center beams, as shown in the drawing.

One of the hinges *h h'*, preferably the rear one, is adjustable along the center beam, by means of a pin and series of holes, or other equivalent device, so that the side beams may be made to project laterally outward, more or less, as may be desired. The ends of these beams are rounded or beveled, as seen in fig. 2, to adapt them thus to be changed in position.

The lower end of the handles D D' are likewise formed to adapt said handles to have their vertical inclination changed and adjusted at pleasure, which may be done by fastening them to the standards C C', at different points, by any suitable device.

Each harrow may be provided with one beam, A, formed of a single straight piece of wood, and another formed of two pieces jointed together, as shown and described, the two pieces being interchangeable, so that either form of harrow can be employed at pleasure, according to the nature of the soil, and of the work required upon it.

In harrowing corn, the former construction of center beam is preferable, the object being mainly to secure adjustability of the sides or wings. In harrowing old or fallow ground, the hinged center beam is preferable, the object being to enable the operator to raise either wing, or either end of the instrument, for the purpose of clearing the teeth or avoiding rocks, stumps, roots, &c., without the necessity of lifting the body of the harrow.

For any kind of work, however, either form is eminently adapted, being far superior to the harrows heretofore brought before the public.

Having thus described my invention,

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

A harrow, constructed of the jointed side pieces B B'; the rigid or jointed center beam A, the adjustable hinge *h*, vertical standards C C', and the handles D D', substantially as and for the purposes set forth.

To the above specification of my improvement I have set my hand this 14th day of July, 1869.

JAMES DINGMAN.

Witnesses:

WM. E. NELSON,
K. H. ROBY.