W. T. McGHEE.

Harrow.

No. 160,929. Patented March 16, 1875.

Fig 1.

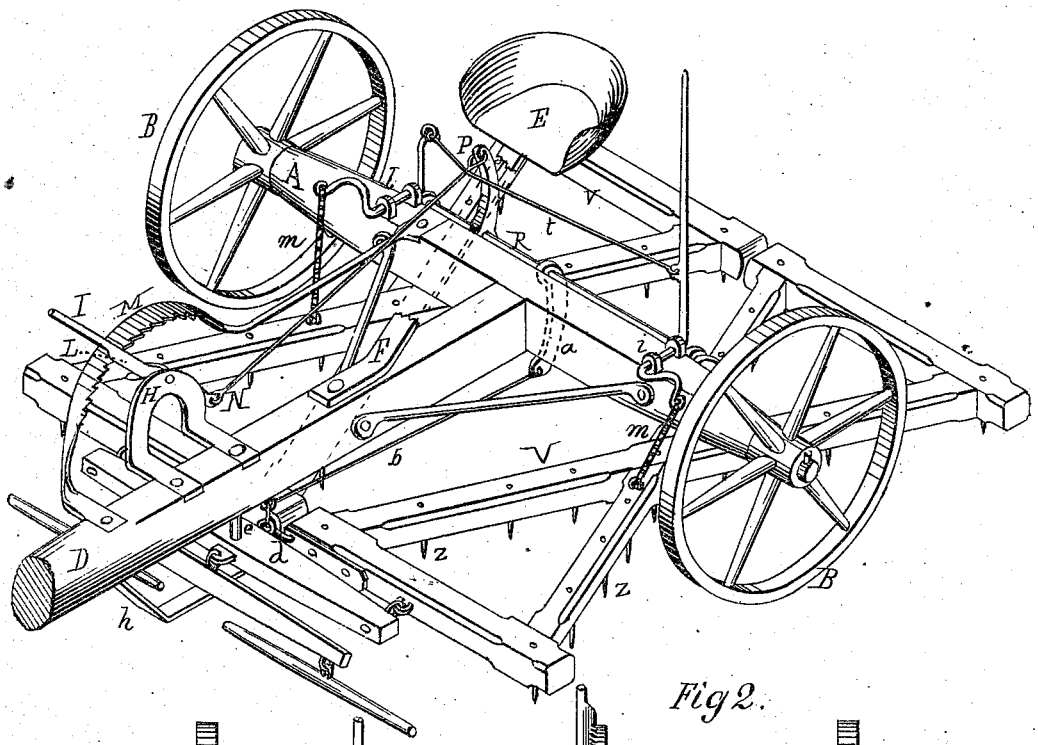


Fig 2.

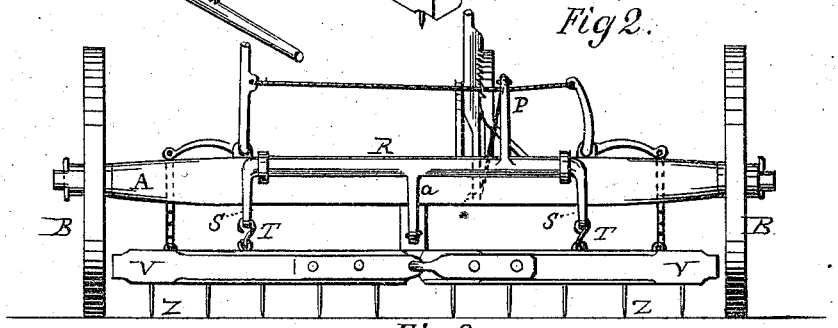
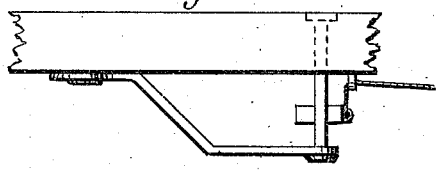


Fig 3.



Witnesses:
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by his attys.
Cox and Cox

UNITED STATES PATENT OFFICE.

WILLIAM T. McGHEE, OF WHEELING, MISSOURI, ASSIGNOR TO HIMSELF, JAMES C. GISH, AND WILLIAM W. EDGERTON.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **160,929**, dated March 16, 1875; application filed January 18, 1875.

To all whom it may concern:

Be it known that I, WILLIAM T. McGHEE, of Wheeling, Livingston county, Missouri, have invented a new and useful Improvement in Harrows, of which the following is a full and clear specification, reference being had to the accompanying drawings.

The invention relates to an improved harrow; and consists in the devices arranged and operated in the manner hereinafter detailed.

The object of the invention is to provide a riding-harrow, either or both sections of which can be separately or simultaneously elevated, to clear them of rubbish, and held in such suspended position.

Figure 1 is a plan view of a device embodying the invention. Fig. 2 is a rear view of the same, showing an elevation of the parts in rear of the axle A.

In the accompanying drawings, A represents an axle, supplied at its ends with the wheels B, midway between which is secured the rear end of the tongue D, projecting a suitable distance forward, and having its front end sustained between the horses by the neck-yoke. The driver's seat E is secured above the center of the axle A by means of a bar-spring, F, the lower end of which is attached to the tongue D, upon which, at a suitable distance from the seat E, is provided the arched standard H, upon the upper part of which is pivoted the middle part of the lever I, the upper end whereof is provided with a handle, and midway between handle and pivot with a pawl, L, which engages the teeth of the arched ratchet M in such manner as to prevent the handle of the lever being moved toward the front. The lower end of the lever depends downward a proper distance, and is connected by means of a rod or rope, N, with the upper end of the standard P, the base of which is rigidly secured to the rock-shaft R, which works in bearings secured upon the rear surface of the axle A. At each end of the shaft R is provided the standards S, which depend downward and backward, and are connected by links T or other suitable attachments with the center of the harrow-frames V, which, in the present instance, are made of an **X** shape, connected at their inner ends by hinges, and provided on their under surfaces with the teeth Z. At the center of the shaft R is provided another standard, *a*, which projects downward and forward, and provided at its lower end with a rope, *b*, connecting it with the double-tree *d*, connected at each end to the frames V, and at its center pivoted upon the elongated king-bolt *e*, the lower end of which is secured to the rear end of the brace *h*, secured to the tongue D, and depending downward and rearward, the king-bolt being thus formed so as to permit the double-tree to be elevated as the standard *a* is moved backward and the frames V raised. On the axle A, on each side of the driver's seat, is secured the crank rock-shafts *i* and *l*, the former provided with a handle, and midway with an eye, through which passes a rope or chain, *t*, connecting this shaft with the shaft *l*, the rope passing under the rope N. The center of the rock-shafts work in bearings secured to the axle A, whence they depend downward and outward, their lower ends connected by a rope or chain, *m*, with the harrow-frames V.

From the above it is evident that upon the lever I being retracted the shaft R is rotated, elevating the standards S and raising the frames V. At the same time the standard *a* is operated, which causes the elevation of the double-tree *d* in accord with the elevation of the frames.

The action of the lever aforesaid also draws the standard P downward, and it thus coming in contact with the rope *t* draws it downward, thus rotating the rock-shafts *i* and *l*, and raising the outer edges of the frames V.

In this manner both frames are simultaneously elevated, and may be thus suspended by placing the pawl L in the proper notch on the ratchet M.

When it is desired to elevate the right-hand frame V the rock-shaft *i* is moved from the driver's seat. This rotates the crank *l*,

producing the desired effect. A contrary movement of the shaft *i* elevates the left-hand frame.

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

1. In combination with the frames V V, hinged together at their front and rear ends, the rock-shaft R, provided with the standards S S and arms P *a*, the double-tree *d*, elongated king-bolt *e*, and the lever I, engaging with the rack M, and connected to the arm P by the rope N, constructed and operating substantially as and for the purposes set forth.

2. The combination with the frames V V, suspended at their front ends by the double-tree *d* and king-bolt *e*, and at their centers by the standards S S of the rock-shaft R, the crank rock-shafts *i* and *l*, rope *t*, and chains *m m*, substantially as and for the purposes set forth.

3. The frames V V, suspended at their front ends by the double-tree *d* and king-bolt *e*, and at their centers by the standards S S on the rock-shaft R, the latter being provided with the arm *a*, connected with the double-tree *d* by the rope *b* and the arm P, connected with the lever I by the rope N, in combination with the crank rock-shafts *i* and *l*, connected with each other by the rope *t*, and with the frames V V by the chains *m m*, substantially as and for the purposes hereinbefore set forth.

In testimony that I claim the foregoing improvement in harrows, as above described, I have hereunto set my hand and seal this 29th day of December, 1874.

W. T. McGHEE. [L. S.]

Witnesses:
E. H. BOWER,
S. L. JACKSON.