F. BARNES.

HARROW.

No. 192,407. Patented June 26, 1877.

fig: 1.

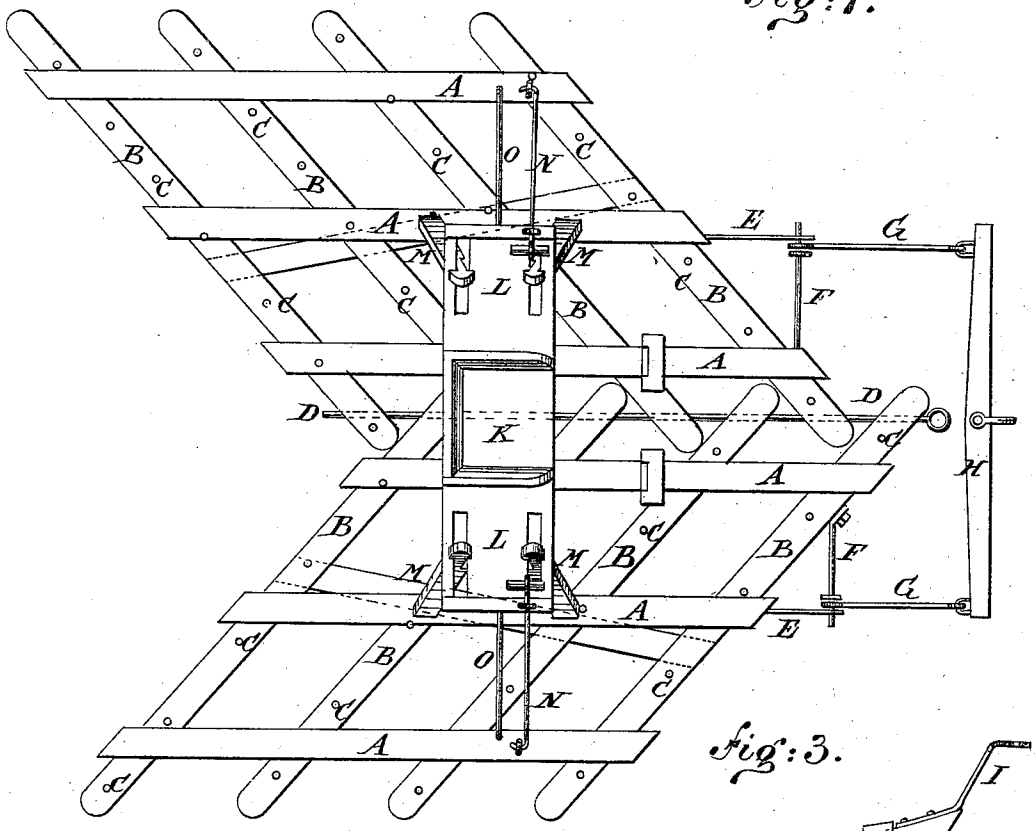


fig: 3.

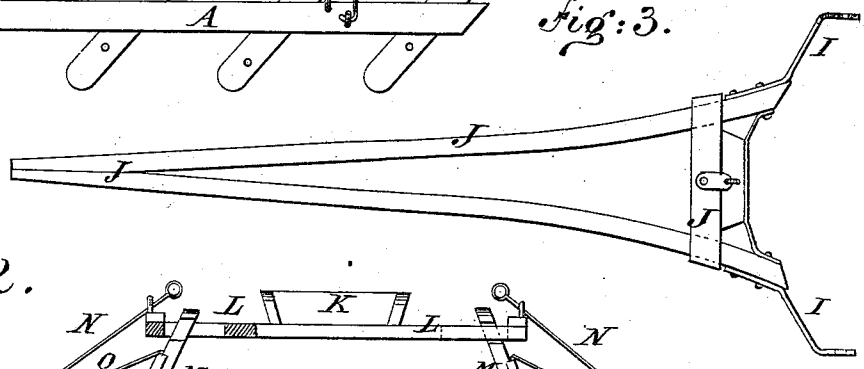
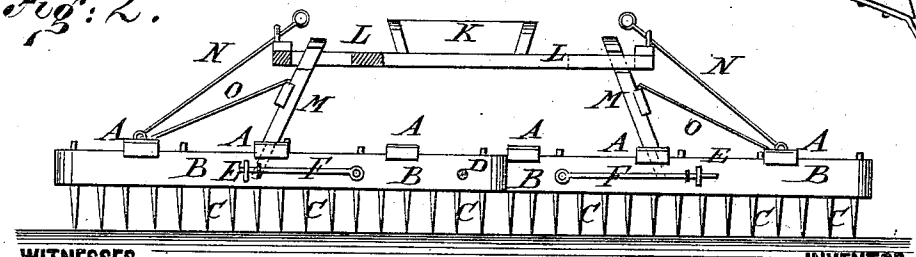


fig: 2.



WITNESSES:

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FRANK BARNES, OF FAIRMOUNT, NEBRASKA.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **192,407**, dated June 26, 1877; application filed April 2, 1877.

To all whom it may concern:

Be it known that I, FRANK BARNES, of Fairmount, in the county of Fillmore and State Nebraska, have invented a new and useful Improvement in Harrows, of which the following is a specification:

Figure 1 is a top view of my improved harrow. Fig. 2 is a front view of the same. Fig. 3 is a detail view of the tongue.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved harrow, which shall be simple in construction, convenient in use, and effective in operation, harrowing the ground thoroughly with once passing over it.

The invention consists in the combination of the two pairs of rods with the forward inclined bars of the two parts of the harrow-frame; in the combination of the tongue with the two pairs of rods and two parts of the harrow-frame; in the combination of the seat, the slotted seat-board, the standards and their braces, with the two parts of the harrow-frame; and in the combination of the pull-rods with the seat-board and the two parts of the harrow-frame, as hereinafter fully described.

The harrow-frame is formed in two parts, each of which is formed by attaching three longitudinal bars, A, to four inclined bars, B. To the inclined bars B are attached the teeth C, which are set vertical when the harrow is used as a walking-harrow, and are set at a rearward inclination when it is to be used as a riding-harrow. The two parts of the harrow-frame are arranged with the inner ends of the inclined bars B abutting against each other alternately, as shown in Fig. 1, and are hinged to each other by a long rod, D, passing through the said overlapping ends.

To the middle part of the forward inclined bars B are attached the ends of two rods, E, arranged parallel with the line of draft, and the forward ends of which have eyes formed upon them to receive the outer ends of the rods F. The rods F are arranged at right angles with the line of draft, and their inner ends are attached to the inner parts of the forward inclined bars B. The rods E F are designed to receive the ends of rods G, to the forward ends of which the ends of a double-tree, H, are attached. The rods E F are also designed to receive the ends of arms I attached to the rear end of the tongue J, when a tongue is to be used. K is the driver's seat, which is attached to the center of a board, L, the end parts of which are slotted longitudinally to receive the necks or tenons formed upon the upper ends of the standards M, the lower ends of which are attached to the middle parts of the middle bars A of the parts of the harrow-frame, so that the driver's weight may rest squarely upon the middle parts of the parts of the harrow-frame.

This construction allows the outer ends of either part of the harrow-frame to be raised to free its teeth from rubbish, to pass obstructions, &c.

N are rods, the lower ends of which are hooked into staples attached to the outer bars A of the harrow-frame. The inner ends of the rods N pass through keepers attached to the ends of the board L, and have handles attached to them, so that the outer parts of the harrow-frame can be conveniently raised by pulling upon the said rods N.

The standards M are strengthened by braces O, the lower ends of which are attached to the outer bars A, and their upper ends are attached to the cross-bar connecting the standards at each end of the board L.

The harrow may be used either with or without the driver's seat, as may be desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the rods E F with the forward inclined bars B of the parts of the harrow-frame, substantially as herein shown and described.

2. The combination of the tongue I J with the rods E F and the parts of the harrow-frame, substantially as herein shown and described.

3. The combination of the seat K, the slotted seat-board L, the standards M, and the braces O with the two parts of the harrow-frame, substantially as herein shown and described.

FRANK BARNES.

Witnesses:
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