

(No Model.)

F. J. HENRY & F. A. TAYLOR.
HARROW FRAME.

No. 454,474.

Patented June 23, 1891.

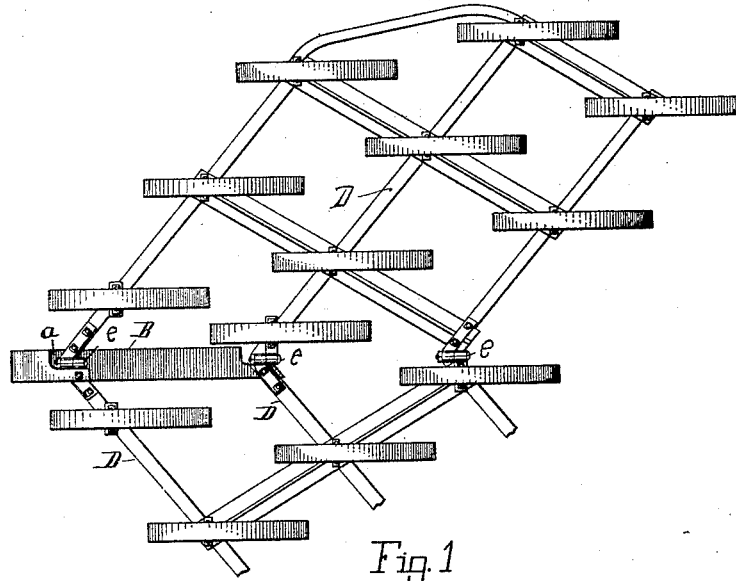


Fig. 1

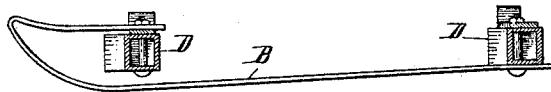


Fig. 2

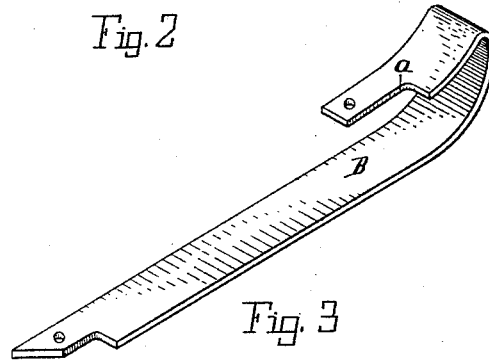


Fig. 3

Witnesses:

Walter S. Wood
James Baumann

Inventors.

Frank J. Henry & Frederick A. Taylor
By *Lewis C. Wash*
Att'y.

UNITED STATES PATENT OFFICE.

FRANK J. HENRY AND FREDERICK A. TAYLOR, OF KALAMAZOO, MICHIGAN.

HARROW-FRAME.

SPECIFICATION forming part of Letters Patent No. 454,474, dated June 23, 1891.

Application filed November 18, 1890. Serial No. 371,798. (No model.)

To all whom it may concern:

Be it known that we, FRANK J. HENRY and FREDERICK A. TAYLOR, citizens of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Harrow-Frame, of which the following is a specification.

This invention relates to that class of harrows in which frames are used which are known to the trade as "butterfly frames"—that is, the frames consist of two members hinged together, the draft-bars of which frame are at an oblique angle inclining to the rearward from the hinges.

The object of the invention consists of a guard to protect the nose of the harrow-frame at its front apex, as more fully explained below.

In the drawings forming a part of this specification, Figure 1 is a plan view. Fig. 2 is an enlarged section on a line with the part B in Fig. 1, and Fig. 3 is an enlarged perspective view of a lettered detail in Fig. 1.

Referring to the lettered parts of the drawings, D D represent the two wings of an ordinary style of butterfly harrow-frame. These wings are hinged together at *e* in the usual way, as in Fig. 1.

In using a harrow on stony and grubby ground great difficulty has been experienced on account of the harrow-frame coming in contact with said obstructions, which obstructions when the nose of the harrow-frame comes against them very frequently break or warp the frame or prevent further progress until the frame is lifted over the obstruction. To obviate this difficulty we have provided the frame with a shoe or guard B, which guard or shoe consists of a runner-shaped piece of metal, as in Fig. 2. This guard is made by bending a strip of metal back upon

itself at the forward end a short distance, and is made of a sufficient width to shield the nose end of the forward beam of each wing of the frame, and also to shield the hinge which hinges said nose ends together. The rear end of the runner is attached to the second ones of the draft-bars where they are hinged together. The front and upper end of the runner is attached to the front ends of the draft-bars where they are hinged together, as shown in Fig. 2. This end is termed the "nose" of the harrow-frame. The runner B extends well beyond the nose of the frame, as in Fig. 2, and is turned up at the front, like the nose of a sled-runner. By this means should the nose of the frame come in contact with an obstruction the guard would slide over it and prevent damage to the frame and the ends thereof and its hinge or a stoppage of the team in order to lift the frame over said obstruction.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

The combination of the wings hinged together and the guard attached at its lower rear end to the beams of the frame in the rear of the nose thereof, thence extending forward beyond the hinged nose, and from thence folding back upon itself and being attached to said nose, shielding the forward ends of both the forward beams of the wings and their hinge, substantially as set forth.

In testimony of the foregoing we have hereunto set our hands in the presence of two witnesses.

FRANK J. HENRY.
FREDERICK A. TAYLOR.

Witnesses:

JAMES BAUMANN,
FRANK BAUMANN.