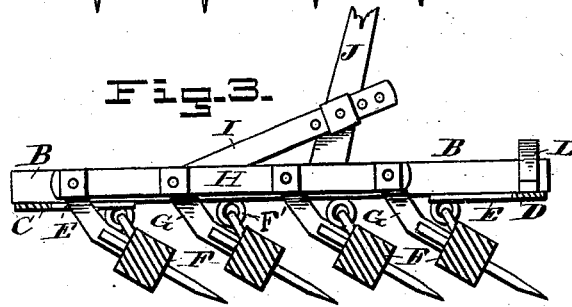
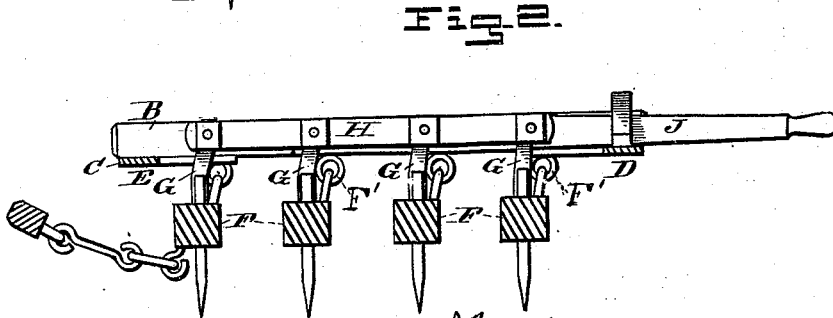
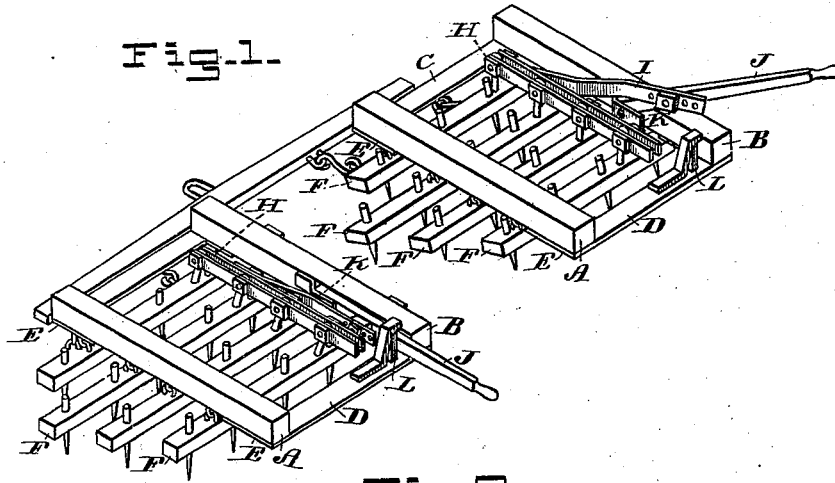


H. F. WASMUND.  
Harrow.

No. 204,268.

Patented May 28, 1878.



WITNESSES:

*H. B. Brown*  
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# UNITED STATES PATENT OFFICE.

HENRY F. WASMUND, OF TECUMSEH, NEBRASKA.

## IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. 204,268, dated May 28, 1878; application filed November 12, 1877.

*To all whom it may concern:*

Be it known that I, H. F. WASMUND, of Tecumseh, in the county of Johnson and State of Nebraska, 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.

This invention relates to certain improvements in harrows; and the invention consists in the special construction and arrangement of parts, which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and arrangement, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a perspective view, showing two sections of my harrow connected together. Fig. 2 is a section showing the teeth in a vertical position; and Fig. 3 is a section showing the teeth thrown back to allow the trash to pass off.

This invention is designed as an improvement on that class of harrows having the tooth-bars flexibly attached to or journaled in the side bars of the frame, and operated by a lever to free the teeth of accumulated sticks and roots.

Objection is made to harrows of the above-described construction, for the reason that when the tooth-bars are attached or journaled direct to the frame the harrow will not stand the rough usage which it is, in a great many cases, subject to; and to obviate this objection I have designed and constructed a harrow, as will be hereinafter more fully set forth.

The frame of my harrow is made rectangular, or in any other suitable shape, and consists of two side pieces, A B, held together by iron pieces C D, having their ends E bent at right angles, and extended a suitable distance on the side pieces A B. By constructing the frame in this manner its conformation is such that it will be securely held and braced, thereby preventing the corners from springing or working loose in making short turns.

The cross-bars F are hinged by links F' to the frame, so as to be thrown back, as shown

in Fig. 3, to clear the teeth of sticks, &c., which will pass off as the harrow is continued to be moved.

From each cross-bar F extends an arm, G, having their upper ends bent at an angle, as shown in Figs. 2 and 3, and loosely bolted between two stiff iron bars, H, as shown. To these bars H is attached one end of an arm, I, having the other end adjustably connected to a lever, J, fulcrumed to the frame side-piece B, and securely held by a brace, K. To the iron end piece D is secured a suitable catch, L, for holding the lever J down in place, thereby retaining the harrow-teeth in a vertical position.

By adjusting the lever one or more holes in the arm I, the pitch of the teeth may be regulated—that is, they may be set straight up or at any desired angle.

In the drawing I have shown two sections fastened together, but if desired they may be uncoupled, and one section used.

When the teeth become clogged or filled with sticks, &c., they may be cleaned without stopping the horses by freeing the lever from its catch L and shoving it forward, as shown in Fig. 3, when the teeth will be thrown backward, thereby allowing the sticks, &c., to pass off. The lever is then pulled back until it comes in contact with the catch L, for holding it down in place.

When the harrow is to be taken from one place to another the teeth may be thrown back, as shown in Fig. 3, and the harrow dragged, whereas the common harrow now in use has to be carried from place to place in a cart.

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

The combination of the frame A B and tooth-bars F with the lever J, adjustable arm I, bars H, arms G, and links F', all constructed and arranged substantially in the manner shown and described.

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

HENRY F. WASMUND.

Witnesses:

S. J. HERMAN,  
ANDRES LOWE.

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