

W. H. WULFE.

Harrows.

No. 151,644.

Patented June 2, 1874.

Fig. 1.

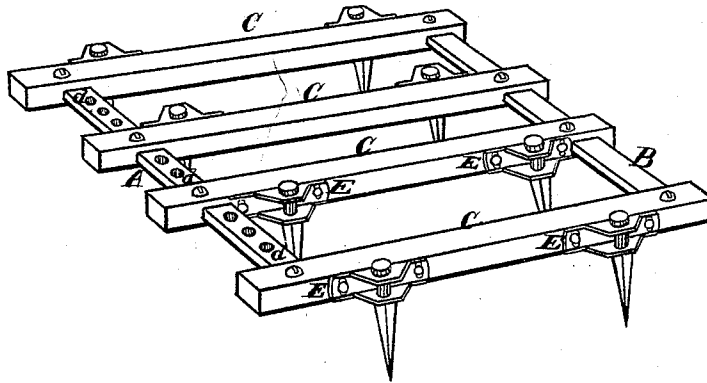
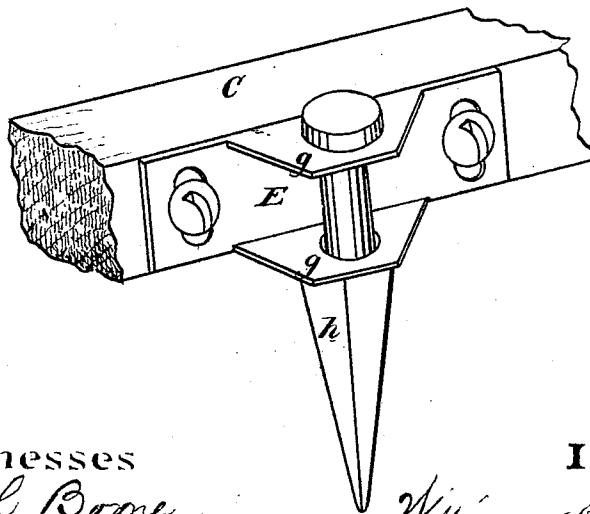


Fig. 2.



Witnesses

John L. Boone
C. M. Richardson

Inventor

William H. Wolfe
by Sewey & Co
attys

UNITED STATES PATENT OFFICE.

WILLIAM H. WOLFE, OF SANTA CLARA, CALIFORNIA.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. 151,644, dated June 2, 1874; application filed March 3, 1874.

To all whom it may concern:

Be it known that I, WILLIAM HUDSON WOLFE, of Santa Clara, Santa Clara county, State of California, have invented a Harrow; and do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My improvement consists in applying teeth to a harrow so that they can turn or revolve in their bearings and thus relieve themselves of any accumulation of weeds, roots, or straw which would otherwise clog it. I also attach the tooth-holder, in some instances, so that it will have a twisting or shifting motion so as to allow the tooth to turn at an angle to either side, and thus relieve itself and pass obstructions which would otherwise break or strain it. The same arrangement which provides for this twisting motion also permits the tooth-holder to move up and down vertically a short distance.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a perspective view of my harrow. Fig. 2 is an enlarged view of one tooth and its attaching-plate.

A is the front and B the rear timbers of the harrow; and C C C are the cross timbers or beams, to which the teeth are secured. The front timber A is provided with numerous holes, *d d*, so that the attachment of the double-trees can be made at any desired point along its length. E E are what I call the tooth-holders. Each tooth-holder consists of a plate of metal, having two of its opposite edges, *g*, bent at right angles to the plate and paral-

lel with each other. The intervening portion of the plate is just as wide as the thickness of the beam, so that when it is secured to the side of the beam the bent edges will extend outward from the upper and lower edges of the beam. To secure this plate to the beam, I usually make a transverse slot in each end of the intervening plate, and through each slot I pass a screw or bolt into the beam, so that the plate or either end of it can move up and down. The tooth *h* I construct with a round upper portion, and this round portion I pass upward through circular holes in the bent edges *g* of the plate E, and either head it at the upper end, or it may, preferably, pass through a thimble and be secured in the thimble by a set-screw. This allows the tooth to be adjusted and made longer in case of wear. In this manner the tooth can revolve in a horizontal plane. Thus it will be seen that should the tooth become clogged by an accumulation of weeds, roots, or straw it can revolve and free itself, while the movement permitted by the loose attachment of the plate E will allow it to shift either way in order to avoid obstructions. The plates E may be attached permanently to the beams, so that the teeth have only a rotary motion, if desired.

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

The tooth-holders E, having a shifting motion, in combination with the rotary tooth *h*, substantially as and for the purpose above described.

In witness whereof I hereunto set my hand and seal.

WILLIAM HUDSON WOLFE. [L. s.]

Witnesses:

GEO. H. STRONG,
C. M. RICHARDSON.