D. C. REED.

Harrow.

No. 201,946. Patented April 2, 1878.

Fig. 1.

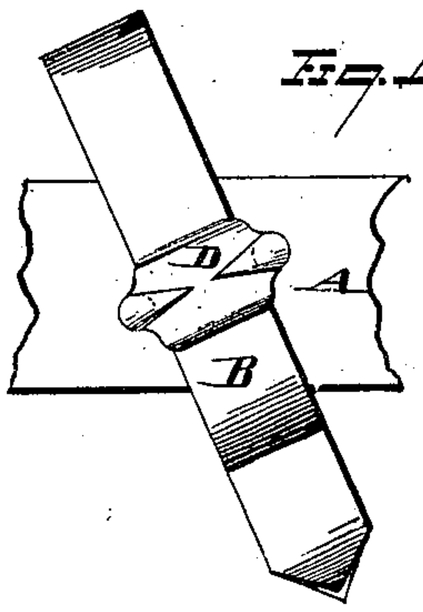


Fig. 2.

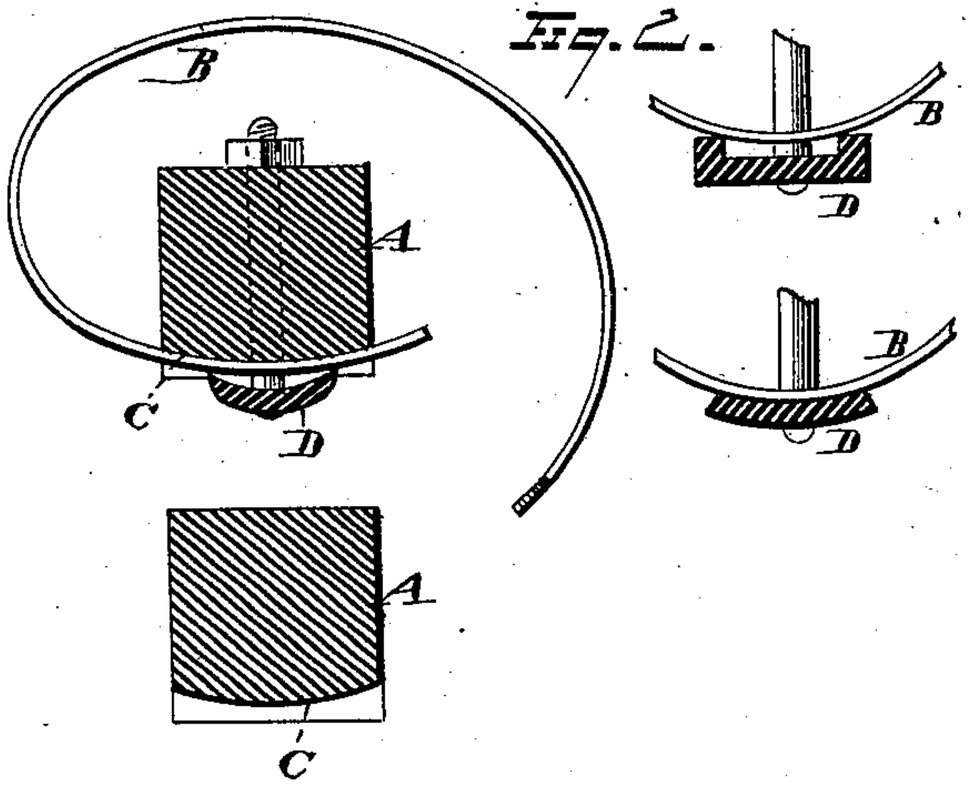


Fig. 3.

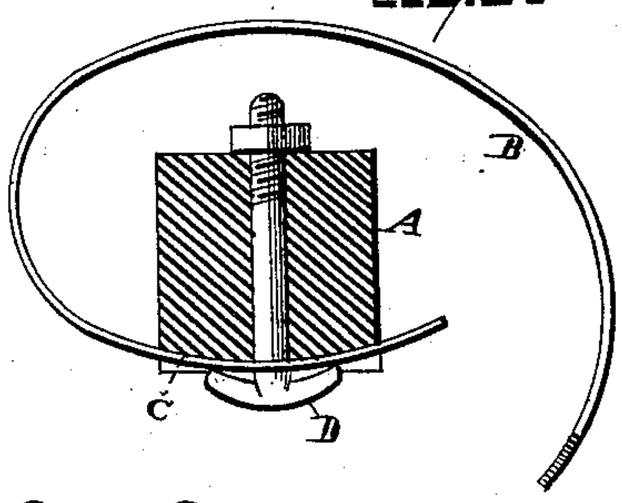


Fig. 4.

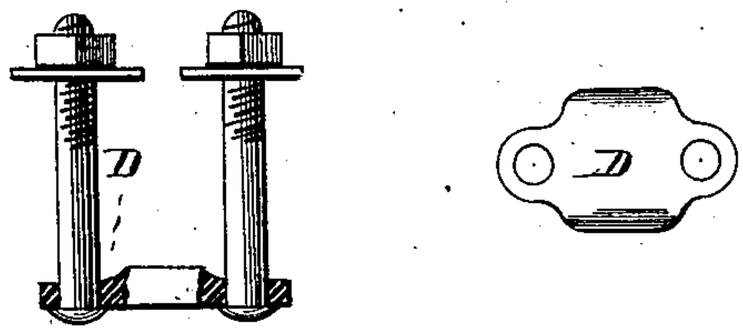


Fig. 5.

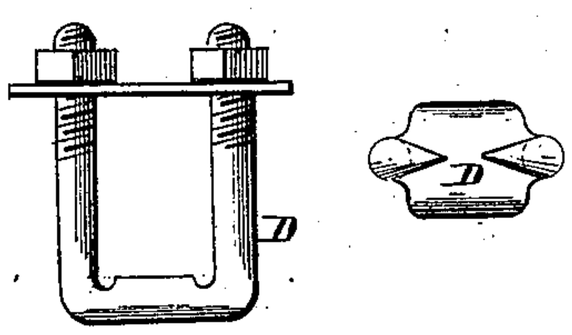
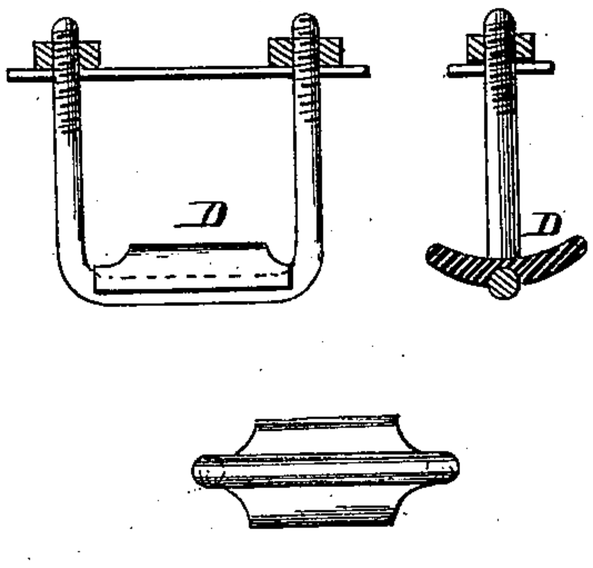
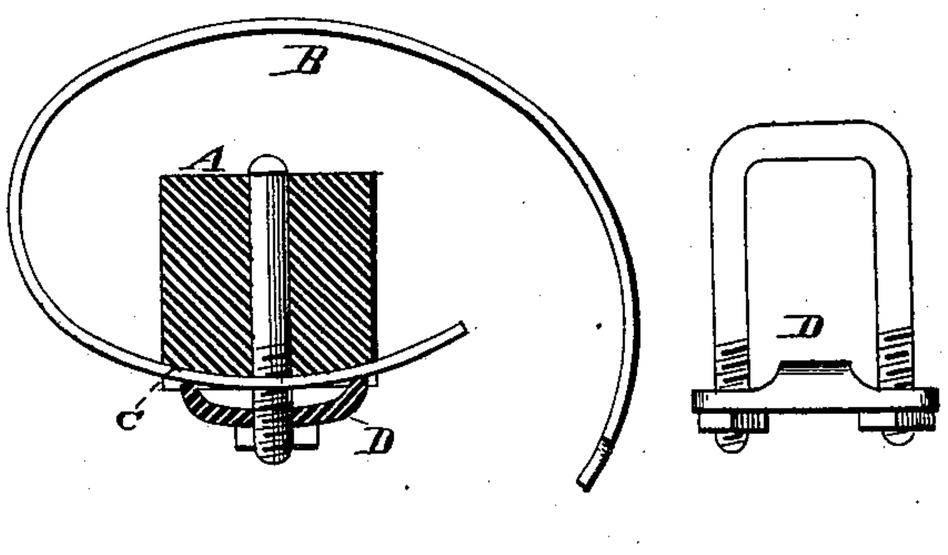


Fig. 6.





WITNESSES

Ed. F. Nottingham

A. W. Bright.

INVENTOR

D. C. Reed.

By Sieggett and Sieggett.

ATTORNEYS

UNITED STATES PATENT OFFICE.

DEWITT C. REED, OF KALAMAZOO, MICHIGAN.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **201,946,** dated April 2, 1878; application filed December 26, 1877.

To all whom it may concern:

Be it known that I, DEWITT C. REED, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Harrows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in harrows, and more particularly to that class of harrows wherein the teeth are spring-teeth, or of bow form.

My invention consists more particularly in a novel means for adjusting the said tooth so as to give to its point a greater or less depth of cut, which is effected by making that portion of the tooth which is adjacent to the frame curved and resting on a curved seat, and secure it thereto by a clip or its equivalent, by the loosening of which the tooth may be thrown forward or pushed back beneath its fastening, thus lowering or raising its point, as will be hereinafter set forth and claimed.

In the drawing, Figure 1 is a plan view, and Fig. 2 a sectional view, of a harrow-tooth and section of a harrow-frame embodying my invention. Fig. 3 presents a separate view of a clip which secures the tooth upon its curved seat. Fig. 4 represents a variation, wherein, instead of employing a clip, I may employ two bolts and a plate. Fig. 5 presents another variation, in which a plate is secured by a clip passing over it. Fig. 6 presents another variation, wherein the clip is employed, but introduced from the opposite side of the frame from that upon which the tooth rests, and in connection therewith a plate and nuts.

A is a section of a harrow-frame. B is a curved harrow-tooth, the tooth being of a character known as "spring-tooth," though, so far as my invention is concerned, the said tooth may or may not be a spring-tooth. C is a curved seat, formed on the frame, and made to conform in its curvature to that of the curved tooth which rests upon it. D is a clip whereby the tooth is secured upon its seat. The cross-bar or loop portion of the clip is formed concave upon its under side, and with a concavity greater than the corresponding portion of the harrow-tooth, so that when brought down to a firm bearing upon the tooth this cross portion of the clip will find a firm bearing at its edges upon the tooth, and hold it snugly and rigidly upon its curved seat.

If the depth of cut is too great it is only necessary to loosen the nuts upon the clip, and then slide the tooth backward on its curved bearing, which action raises the point of the tooth. When in its proper position the clip is again firmly secured by the nuts. If the tooth has not a sufficient depth of cut, the clip is loosened and the tooth slid forward on its curved bearing, and finally secured in its proper position.

It is apparent that my invention admits of variations without departing from its principle. Thus, instead of employing a continuous clip, that part resting upon the tooth may be simply a bar or plate perforated at its ends for the passage of bolts, which bolts are drawn snug by nuts upon the other side of the frame. So, also, a plate might rest upon the harrow-tooth, and be held in its place by an ordinary clip, of uniform dimensions throughout, the plate not being perforated, but simply grooved along that portion where the clip passes, in order to hold the clip in its place; or the clip might be inserted from the opposite side of the frame, and its prongs passed through the plate adjacent to the harrow-tooth, and be there secured by nuts.

Other forms will readily suggest themselves, the principal feature of my invention being that the tooth shall rest upon a curved seat, and be capable of being adjusted longitudinally through its said seat, and thereby either elevate or depress its working-point.

I am aware that it is not new with me, broadly considered, to adjust a harrow-tooth longitudinally upon its frame, so as to vary the depth of cut thereof, and hence I do not include the same in my invention.

What I claim is—

1. The combination, with a harrow-frame and harrow-tooth secured thereon, so as to be longitudinally adjusted, of a fastening-clip,

formed as described, whereby only its two transverse edges have bearing against the tooth, substantially as set forth.

2. The combination, with a harrow-frame provided with a curved seat, of a curved tooth and clip or its equivalent, D, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DEWITT C. REED.

Witnesses:

WELLS W. LEGGETT,

W. E. DONNELLY.