J. PENTREATH & J. Q. CROSBY.

Harrow.

No. 205,410. Patented June 25, 1878.

Fig. 1.

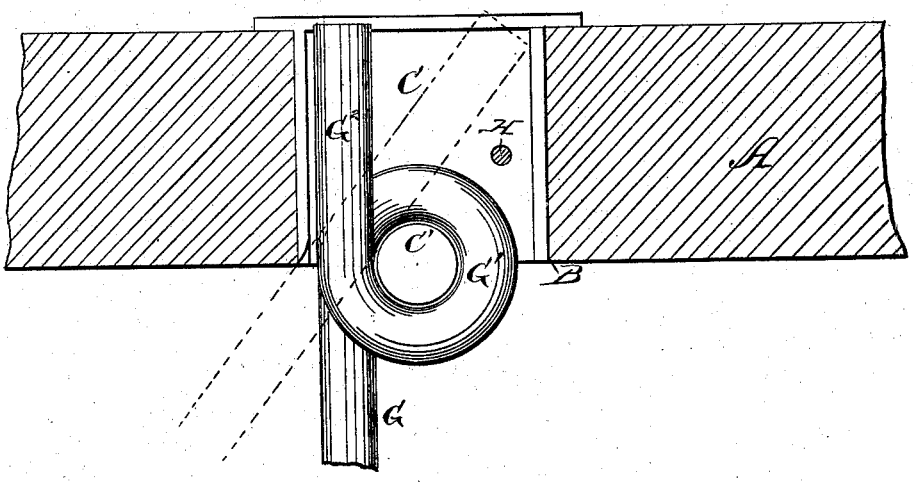


Fig. 2.

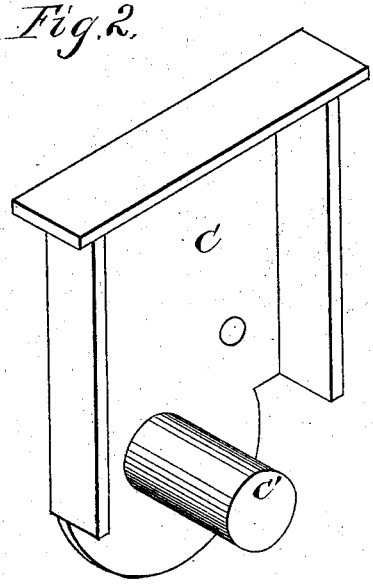
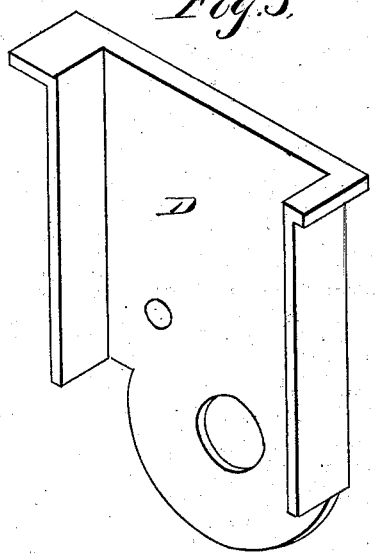


Fig. 3.



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per

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UNITED STATES PATENT OFFICE.

JOHN PENTREATH AND JOHN Q. CROSBY, OF NEWARK, N. J., ASSIGNORS TO THE NEW YORK PLOW COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN HARROWS.

Specification forming part of Letters Patent No. **205,410**, dated June 25, 1878; application filed November 26, 1877.

To all whom it may concern:

Be it known that we, JOHN PENTREATH and JOHN Q. CROSBY, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Harrows; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of our invention relates to improvements in harrows, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a longitudinal section, showing our tooth and holder in position; and Figs. 2 and 3 are detail perspective views of our holder.

A represents a section of the harrow-frame, provided with a slot or mortise, B, for receiving the tooth-holder. This tooth-holder is formed of halves C D, one of said halves, C, having an axial stud, C′, either forming a part of said half or made separate, as it will be seen that a bolt can be used in its place, if desired. Still I prefer that said stud form a part of one of the halves, and be cast or otherwise made with it. The other half, D, is made with a hole, in which the end of said stud fits.

The stud C′ serves, by entering the female portion of the holder, as a dowel, and prevents the two from shifting.

G represents the tooth, made of spring-steel, and coiled at G^1 by suitable means, to give it an opening of such size as to rotate easily on the stud C′. This coil gives also a spring to the tooth.

The tooth is extended beyond the coil or opening G^1, as seen at G^2, for the purpose of having this extension act as a guide or limit to its forward or backward movement, as it abuts either on one side or the other of the tooth-holder. When the tooth is rotated as far as the holder will permit in one direction the tooth will be slanting, and when it abuts against the opposite side it will be straight.

The coil G^1 taking around the axial stud C′ gives the tooth a spring and prevents its breaking in strong ground.

It will readily be seen from the above that, when the improved harrow-tooth is in a proper frame, if the power be applied at one end of the frame the teeth will all stand perpendicular, and if applied at the opposite side the teeth will draw slanting.

The tooth-holder C D is held in the frame by a bolt or pin, H, passing through the frame, then through the holder, and holding the holder in the frame and binding the holder and frame together securely, and preventing the wood from splitting when subjected to a side strain.

The tooth is reversible in its action, as above stated.

The object of the drawing cut is to leave the soil smoother, and by its peculiar angling draw-cut to more completely cover the seed.

The peculiar benefit derived from having the tooth so made that it will work either straight or angling is that the farmer can use it for pulverizing and for a smoothing or seeding harrow, and not incur the expense of having two harrows, as this harrow will do the work of two separate harrows.

We are aware that a bisected tooth-holder, within which the harrow-tooth is pivoted, is not new, as also a harrow-tooth having an eye formed by a coil and extending in both directions from such eye; hence we do not claim the same, broadly, as our invention.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The socket or holder C D, made in two parts, one part provided with an axial stud, C′, extending from one part of the holder into

a hole in the other part to pass through an eye formed on a harrow-tooth, substantially as and for the purposes herein set forth.

2. In a harrow, the combination of the slotted or mortised frame A, the bisected tooth-holder C D, provided with the axial stud C′, and the harrow-tooth G, formed with the coil G^1 and extension G^2, all constructed substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JOHN PENTREATH.
JOHN Q. CROSBY.

Witnesses:
J. FRANK FORT,
JAS. B. BARLOW.