(No Model.)

C. W. PAGE.

Harrow.

No. 228,382. Patented June 1, 1880.

Fig. 1.

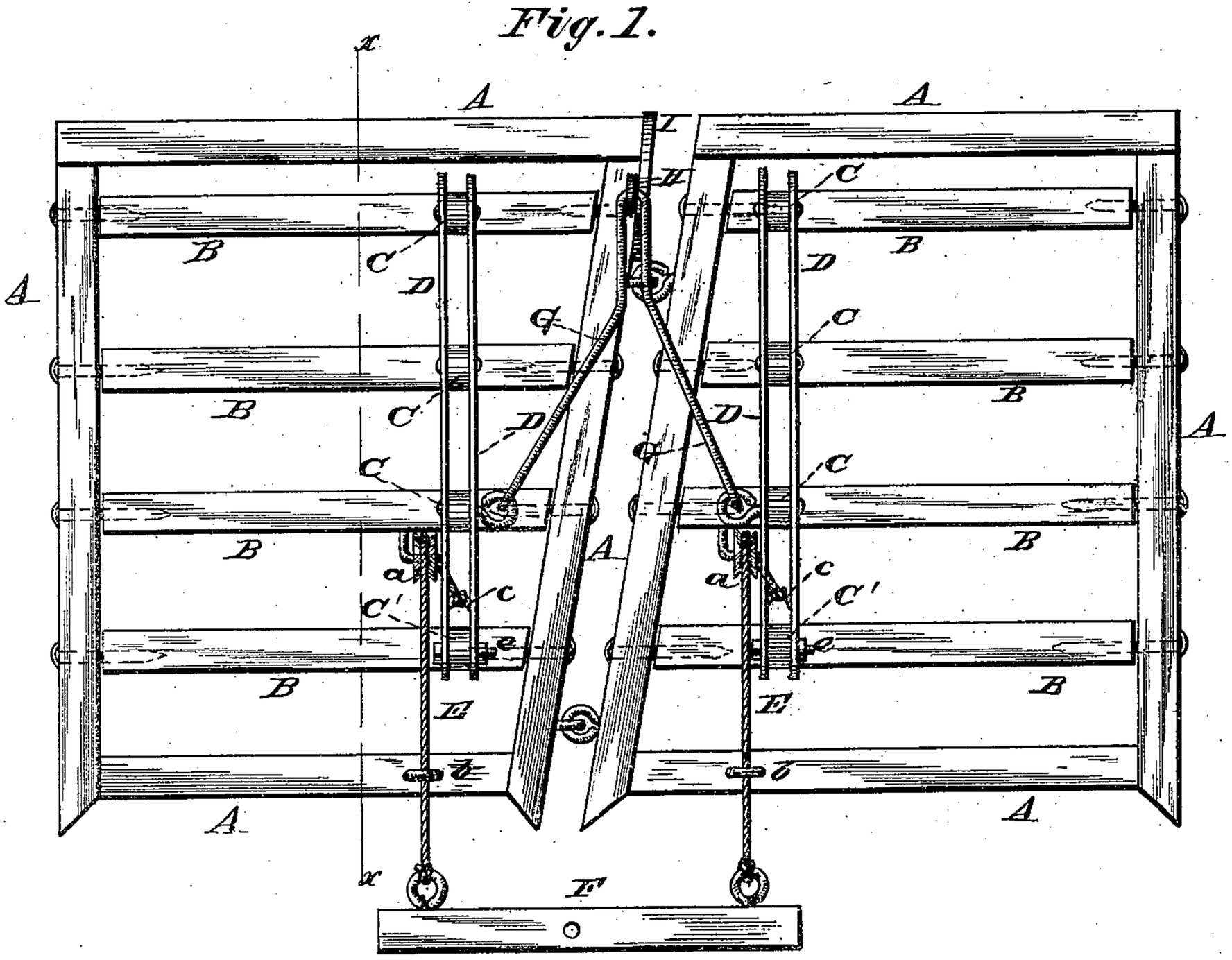
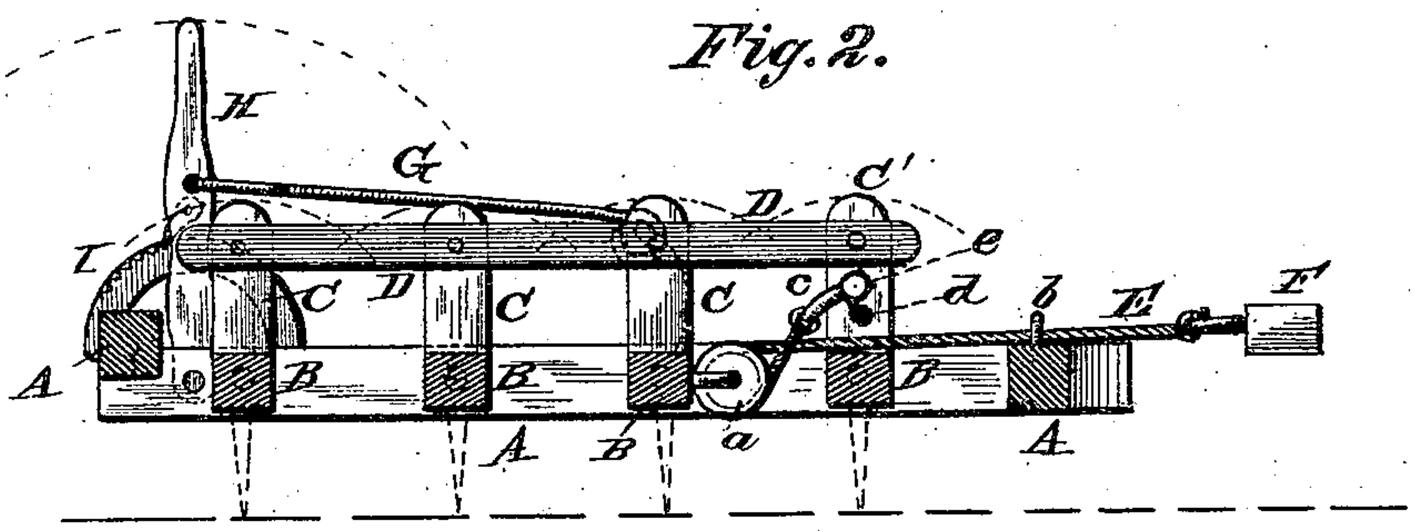


Fig. 2.



Witnesses:
P. C. Dieterich
Frank G. Bates.

Inventor
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Per C. H. Watson & Co Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES W. PAGE, OF ARENA, WIS., ASSIGNOR TO JOHN P. WILLIAMS AND PHILLIP GRIESINGER, OF SAME PLACE, ONE-FOURTH TO EACH.

HARROW.

SPECIFICATION forming part of Letters Patent No. 228,382, dated June 1, 1880.

Application filed March 11, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. PAGE, of Arena, in the county of Iowa and State of Wisconsin, 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, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in harrows; and it consists in the construction and arrangement of parts, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a plan view, and Fig. 2 a central vertical section.

In the drawings, A represents the frame, composed of two sections pivoted together; B, pivoted cross-bars, to which the teeth are secured; C C′, standards secured to top of cross-bars B; D, pivoted connecting-bars; E, cords; F, whiffletree attached to cords; G, operating-rod secured to the connecting-bars D; H, lever having an opening in or near its center, through which the rod G passes; I, segment having ratchets to engage with a projection on the lever and lock the same; *a*, pulleys attached to the bars B, and over which the cords E pass; *b*, loops on frame, through which the cords pass; *c*, open links, to which the cords are attached and provided with eyes; *d*, openings in the forward standards, C′, to adjust the link up or down; *e*, pin passing through the eyes of the link and the openings in the standard to secure them to each other.

The cords are attached to the whiffletree at one end, the other ends passing back over the pulleys *a*, and secured to the standards C′, which are rigidly attached to the pivoted cross-bars B by means of the links *c*. The standards C C′ being connected by means of the pivoted connecting-bars D, the draft of the harrow draws on the cords and causes the teeth to assume the desired angle to harrow the ground, and, should the teeth strike an obstruction, will allow them to give sufficiently to prevent damage to the machine. The angle of the teeth can be regulated by raising or lowering the point of attachment of the link upon the forward standards, C′, and the angle maintained by means of the lever and the ratchet. Also, by raising or lowering the point of attachment the resistance of the tooth is regulated, it being increased by raising the point of attachment, which gives a greater leverage, and decreased by lowering said attachment and bringing it closer to the fulcrum. The lever is used to adjust the angle of the teeth, to limit their movement, and at the same time so arranged as to have sufficient play upon the ratchet to allow the tooth to operate.

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

The frame A, lever H, and cross-bars B, having secured thereto the standards C′, provided with the openings *d*, in combination with cords E, links *c*, and pins *e*, for adjusting the angle of the teeth and regulating the resistance of the same, as set forth.

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

CHARLES W. PAGE.

Witnesses:

W. H. JONES,

STEPHEN R. BENTLEY.