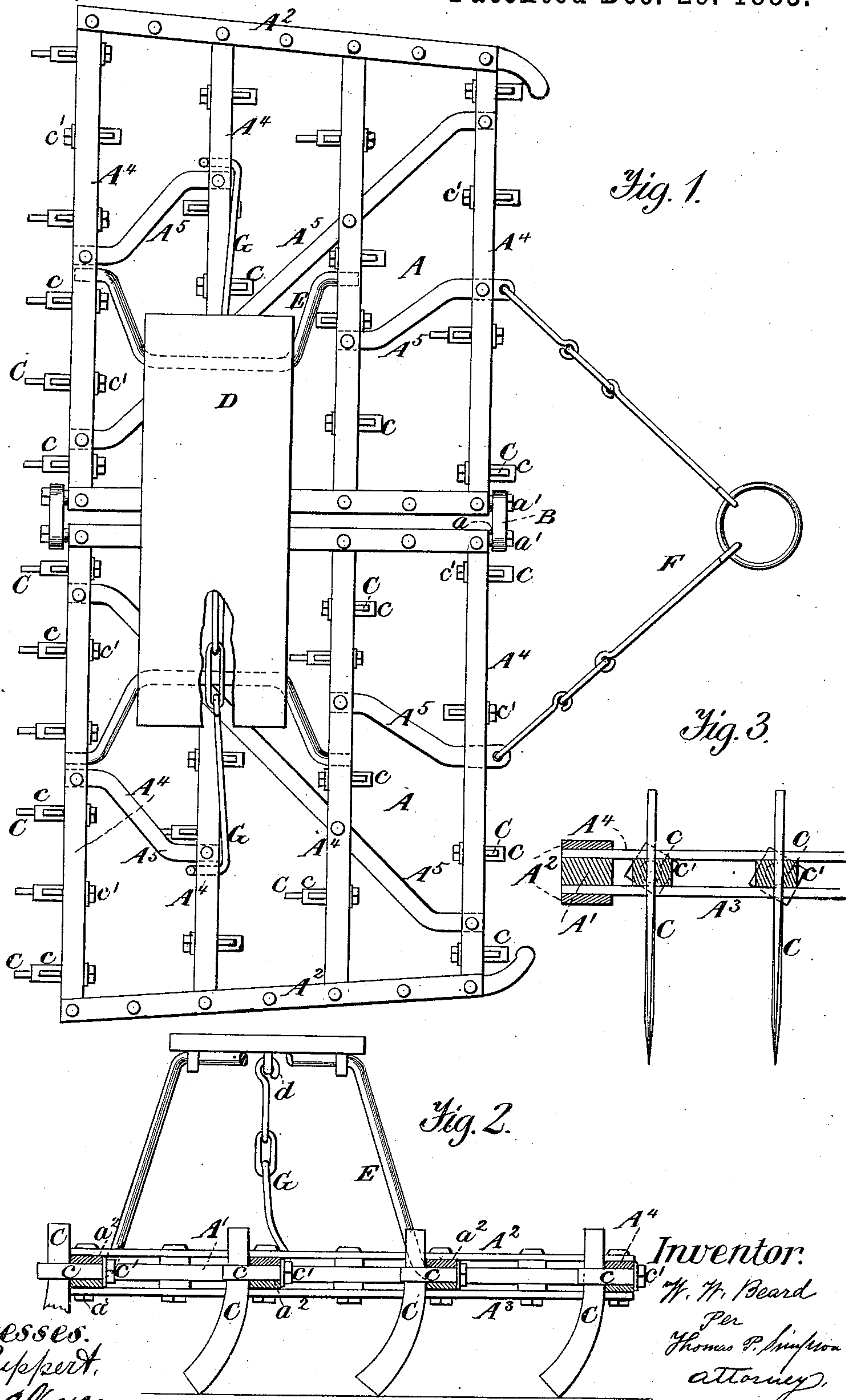


W. W. BEARD.
HARROW.

No. 333,193.

Patented Dec. 29. 1885.



Witnesses.
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HARROW.

SPECIFICATION forming part of Letters Patent No. 333,193, dated December 29, 1885.

Application filed June 4, 1885. Serial No. 167,669. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. BEARD, of Sterling, in the county of Wayne and State of Ohio, have invented an Improvement in Harrows, of which the following is a specification.

The invention will first be described in connection with the drawings, and then pointed out in the claim.

Figure 1 of the drawings is a plan view; Fig. 2, a transverse vertical section, and Fig. 3 a detail view in vertical section.

In the drawings, A A represent the two corresponding sections of my harrow connected by the two-eyed links B B, which are pivoted on the end-threaded studs *a a*, which project from the bars A' A' and receive the nuts *a' a'*. The sides of each section are formed of three bars, A' A² A³, all parallel, having spaces *a²* between them, and provided with bolts or rivets passing through the bars and spaces. The bolts may have heads on one end, and be upset at the other to form rivets, or they may be end-threaded and carry nuts.

A⁴ represents the cross-bars, and A⁵ the diagonal braces which tie the parts of the harrow-frame together.

C are the teeth, which are backwardly curved and made sharp-edged in front. They are secured in the slots of holders *c*, which are end-threaded and receive nuts *c'*. The holders *c* pass horizontally between the bars A³ A⁴, and are firmly held thereto. The median side bars, A², are turned up at their front ends to form runners, so that they may approach each other as they are folded into V form, and the harrow be thus dragged to and from the fields.

D represents the seat, which extends over both sections A A, and is supported upon the pivoted bails E E, whose laterally-bent ends slide between the tooth-holders *c c*, so as to allow the sections to fold toward each other on the back or top, but not on the bottom; also, to allow each to be lifted laterally and independently of the other. The two sections when folded into a nearly V shape, with the sled-runners at the bottom, may be held in this position by a cross chain or rope, or in any preferred way.

G G are longitudinal brace-chains, whose bent ends slide between the holders *c c*, as do those of the bails. They both connect with an eye, *d*, on the bottom, and about at the middle of the seat.

F is the draft-chain.

The longitudinal and cross bars are preferably made of flat iron bars, the parts being all securely bolted or riveted together, as clearly shown in Fig. 1 of the drawings.

Having thus described all that is necessary to a full understanding of my invention, what I claim as new, and desire to protect by Letters Patent, is—

The combination, with two pivoted harrow-sections connected by two-eyed links B at their front and rear adjacent corners, and by nutted bolts projecting outwardly from said corners, of a seat supported partly on both sections, the pivoted sliding bails E, and the chains G, substantially as described.

WILLIAM W. BEARD.

Witnesses:

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