

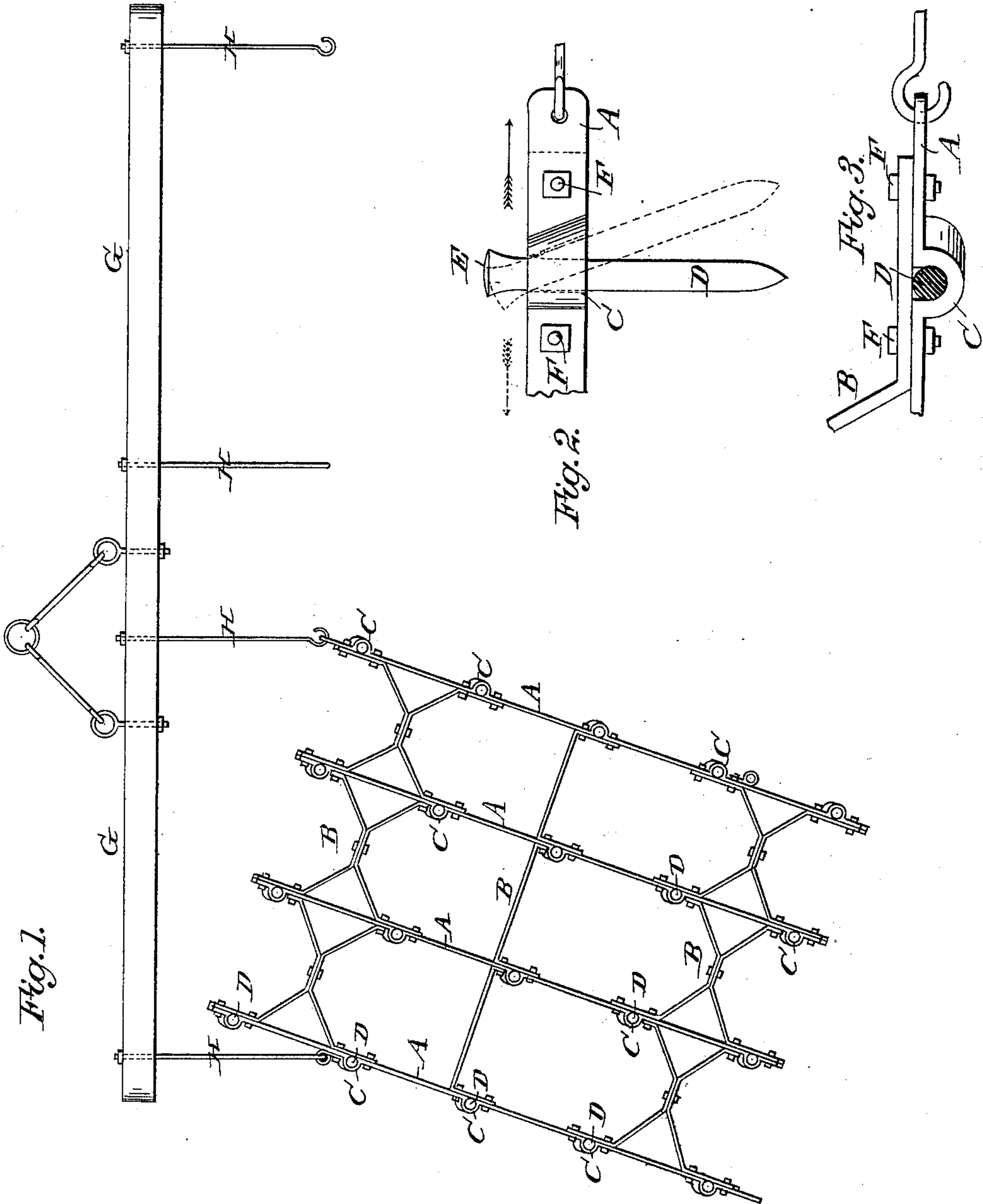
(No Model.)

C. FISCHER & L. GROTHER.

HARROW.

No. 325,065.

Patented Aug. 25, 1885.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CONRAD FISCHER AND LOUIS GROTH, OF BROWNSVILLE, MISSOURI.

HARROW.

SPECIFICATION forming part of Letters Patent No. 325,065, dated August 25, 1885.

Application filed March 17, 1885. (No model.)

To all whom it may concern:

Be it known that we, CONRAD FISCHER and LOUIS GROTH, of Brownsville, Saline county, Missouri, have invented a new and Improved Harrow, of which the following is a full, clear, and exact description.

The invention consists of the combinations of parts, including their construction, substantially as hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of our improved harrow. Fig. 2 is an enlarged detail side view of one tooth and socket, and Fig. 3 is a plan view of the same.

Each harrow section is formed of a series of parallel iron or other metal bars A, united by brace-bars or cross-bars B. Each bar A is bent or pressed out laterally to form a series of sockets or recesses, C, for receiving the teeth D, which have heads E on their upper ends to prevent them from dropping through the sockets. The open sides of the sockets C are closed by the ends of the cross bars or braces B, which are bent to rest against the sides of the bars, and are held to the same by two screw bolts, F, one on each side of each socket. The ends of the bars or braces thus clamp the teeth D in place in their sockets and prevent them from dropping, but permit them to swing.

All the sockets C of one harrow-frame increase in width toward the bottom edges of the bars and toward one corner of the frame.

When the harrow-frame is pulled in one direction, the teeth D stand vertically, as shown in Fig. 2, in full lines, and when the harrow is reversed the teeth are inclined, as shown in dotted lines in Fig. 2.

The bevel of the sockets permits of a certain inclination of the teeth.

One, two, or more of the said harrow-frames are held on a draft-bar, G, by rods H, one at each side, the harrow-frames being inclined to the draft-bar.

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

1. A harrow-frame constructed of a series of bars formed with open-sided sockets to receive the teeth, in combination with the braces, with their ends bent at right angles and closing the open sides of said sockets, said sockets increasing in width from the top to the bottom, substantially as shown and described, and for the purpose set forth.

2. In a harrow, the combination, with the bars A, pressed or bent to form sockets C, of the brace-bars B, having their ends bent and bolted to the sides of the bars A by bolts F, to close the sockets C, and the teeth D, held in the sockets C, substantially as herein shown and described.

CONRAD FISCHER.
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Witnesses:

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