

(No Model.)

F. DAWSON, Sr.
HARROW.

No. 325,917.

Patented Sept. 8, 1885.

Fig. 1.

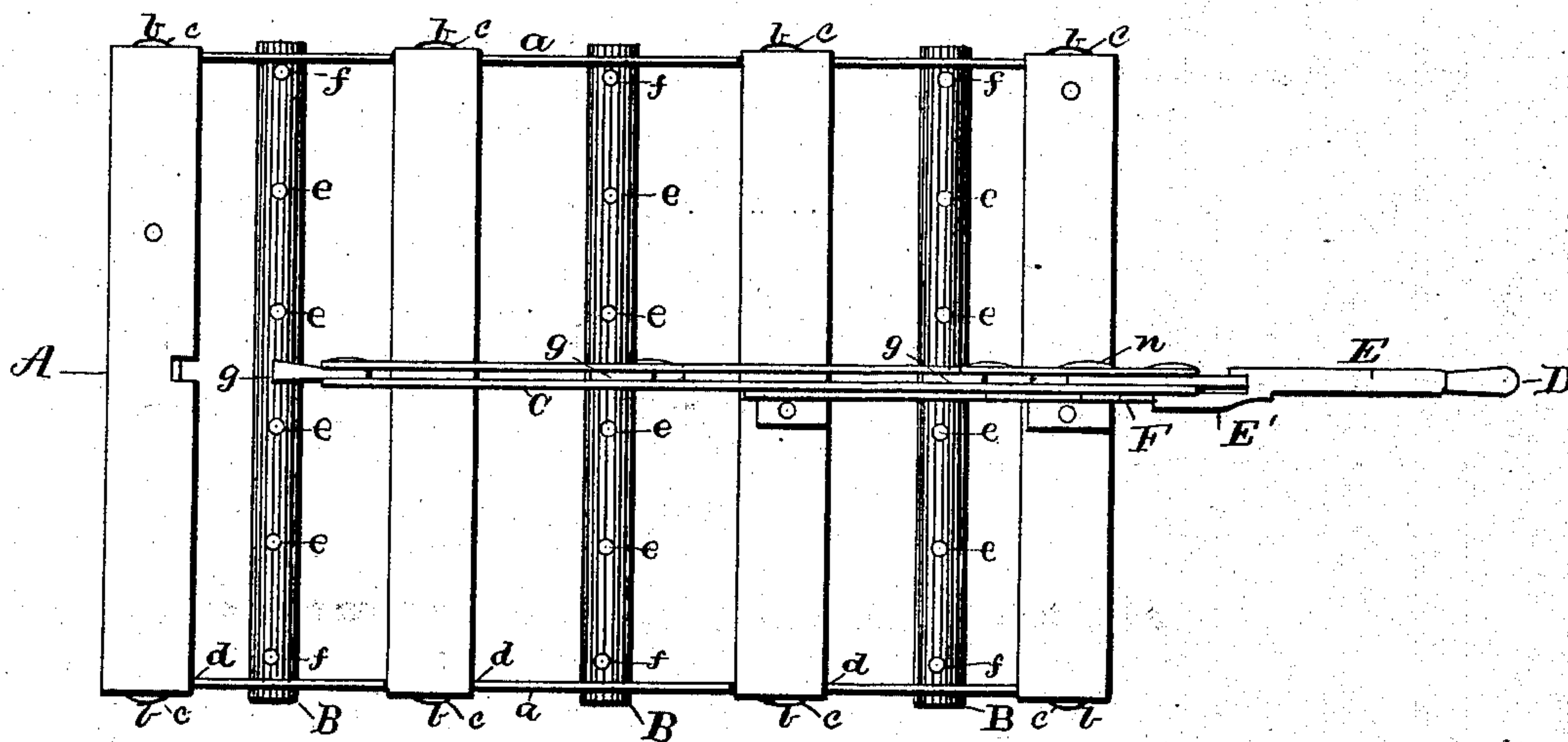
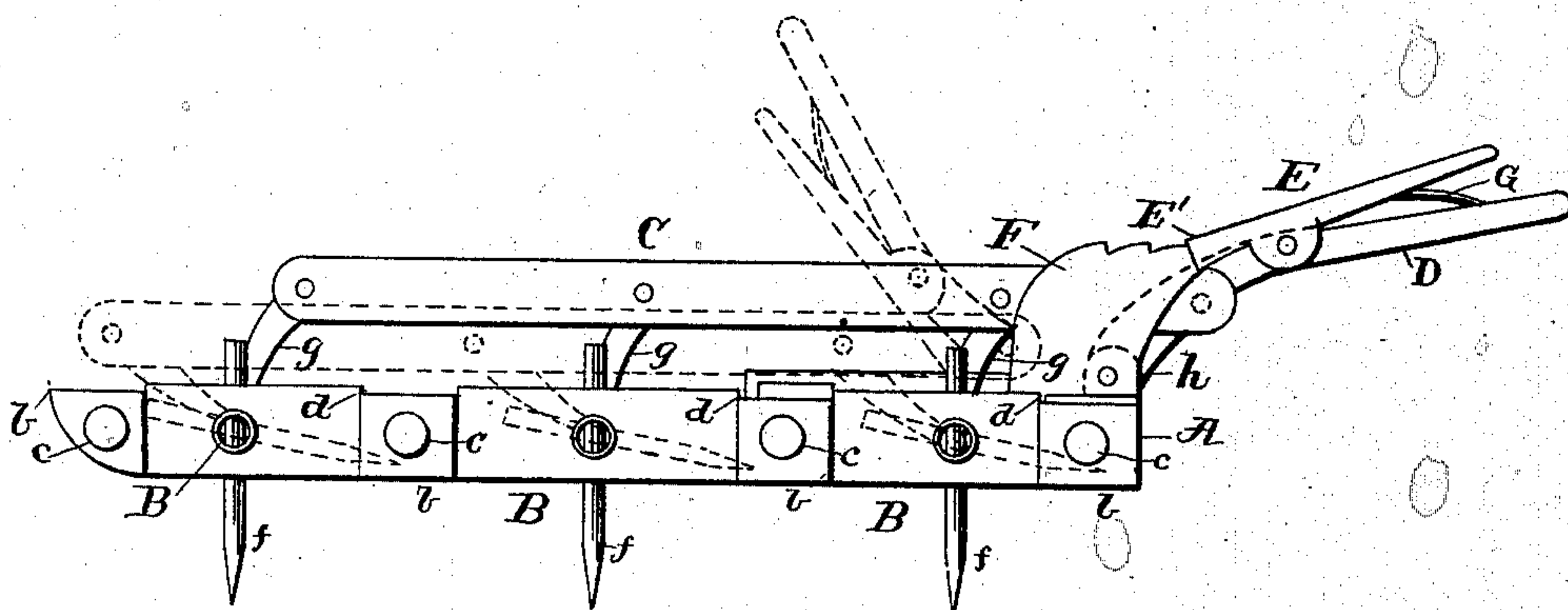


Fig. 2.



WITNESSES:

St. A. Clark.

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INVENTOR

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UNITED STATES PATENT OFFICE.

FRANK DAWSON, SR., OF WILLIAMSPORT, PENNSYLVANIA.

HARROW.

SPECIFICATION forming part of Letters Patent No. 325,917, dated September 8, 1885.

Application filed August 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANK DAWSON, Sr., of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Harrows; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked hereon.

The principal object of my improvements is to produce a harrow which will be exceedingly light and convenient to handle and at the same time very cheap, strong, and durable.

The novelty of these improvements consists principally in the harrow composed almost entirely of strap-iron and sections of tubing or gas-pipe, &c., combined in such a way that the tooth-bars are confined in their bearings in the frame and have free lateral play, and are adapted to be easily rotated without the employment of collars or washers placed upon their ends, all as more fully hereinafter described and set forth in the claim.

For the better understanding of the improvement, attention is invited to the accompanying drawings, in which—

Figure 1 is a plan view, and Fig. 2 a side elevation, representing in dotted lines the position of its parts when thrown to a position to pass over an obstruction in the soil.

Like letters denote corresponding parts in both figures.

A denotes the frame, composed of strap-iron, and of a form preferably rectangular.

This frame consists of two side bars, *a a*, and a suitable number of transverse cross-bars, *b b*, bent downward at their ends parallel with the side bars and secured thereto by bolts or rivets *c*. These cross-bars are further secured and restrained from lateral movement by means of recesses *d* cut in the upper edge of each side bar, the shoulders of which recesses embrace the side edges of the cross-bars at the points of intersection.

B B denote the tooth-bars, each made from a section of tubing or gas-pipe and arranged one between each pair of cross-bars

b b, with loose end bearings in the side bars, *a a*. Each tooth-bar has a row of harrow-teeth, *e f*, set vertically and so arranged that the tooth *f* at each end of the row confines the tooth bar in its bearings, but at the same time permits it to have sufficient play in a lateral direction, thus dispensing with the usual collar or washer upon the ends of the bars. Each tooth-bar is provided at its center with a short upright, *g*, which uprights are pivoted at their upper ends between two lengths of strap-iron, constituting a lever-arm, C, which is arranged parallel with the side bars of the frame. Between the rear ends of this lever-arm C is pivoted a hand-lever, D, which is again pivoted at its lower end between two ears, *h h*, secured to the rear cross-bar of the frame A. To this hand-lever D is pivoted a handle, E, having at one end a pawl or detent, E', which engages with the teeth on the periphery of a segment-plate, F, which is also secured to the rear cross-bar of the frame.

A leaf-spring, G, is placed between the lever D and handle E and serves to hold the pawl in engagement with the toothed segment F.

When it is desired to throw the harrow-teeth out of action, the driver or follower, by means of the handle E, releases its pawl from engagement with the toothed segment F, and elevates the lever D and pushes it back to the position shown by dotted lines in Fig. 2, which operation lowers the frame to the ground and places the teeth of the harrow in a position almost horizontal.

The advantages of my improved construction need no particular mention, as it will be apparent to all acquainted with the characteristics essential in this class of implements that it is exceedingly light and convenient to handle and at the same time is very strong and durable, and can be placed upon the market at very small cost.

What I claim, and desire to secure by Letters Patent, is—

The harrow-frame described, consisting of the side-bars, *a a*, provided with recesses *d*,

the cross-bars *b b*, set in said recesses and bent down at their ends at right angles and bolted or riveted to the side bars, the tooth-bars *B B*, mounted in said side bars without
5 the use of collars or washers, and the harrow-teeth *e* and *f*, all combined and arranged substantially as described, shown, and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK DAWSON, SR.

Witnesses:

J. C. MARTIN,
H. B. AMERLING.