J. T. TROWBRIDGE.

Improvement in Seeders and Cultivators Combined.

No. 114,232. Patented April 25, 1871.

Fig. 1.

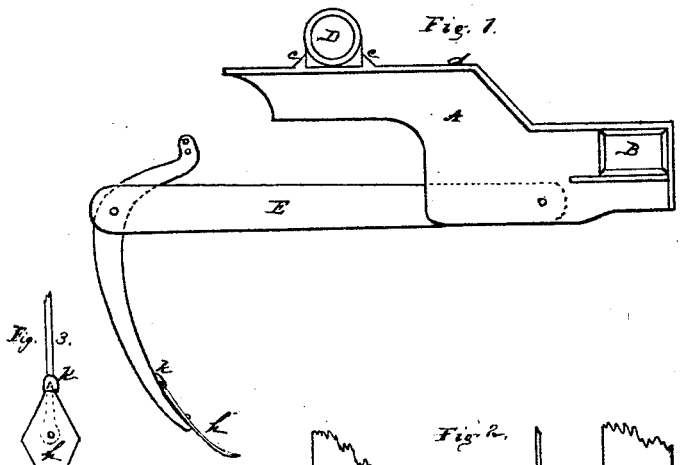
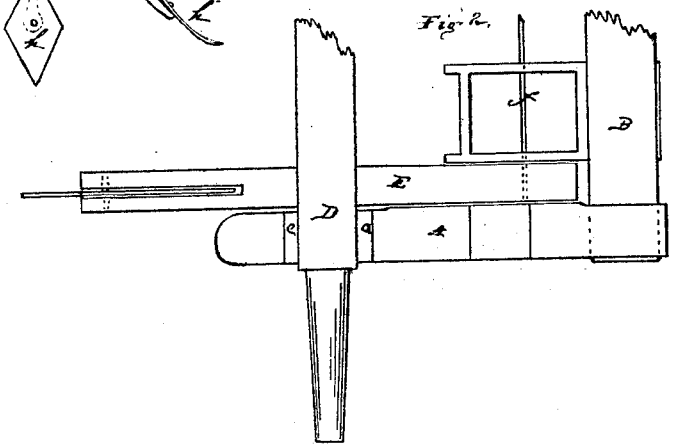


Fig. 3.

Fig. 2.



Witnesses.

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JAMES T. TROWBRIDGE, OF AKRON, OHIO.

IMPROVEMENT IN SEEDERS AND CULTIVATORS COMBINED.

Specification forming part of Letters Patent No. **114,232**, dated April 25, 1871.

To all whom it may concern:

Be it known that I, JAMES T. TROWBRIDGE, of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Seeders and Cultivators, of which the following is a specification.

The first part of my invention relates to the construction of the end piece of the frame to which the axle and front cross-bar are attached, and at the side of which one of the cultivator-arms plays, the object being to allow the axle and front cross-bar to be more firmly and durably secured than heretofore, and to give freedom to the arm to play.

The second part of the invention relates to the attachment of the cultivator-teeth to the arms.

The invention consists in the construction and arrangement of parts, as hereinafter described and claimed.

Figure 1 is a side view of my improved end piece for the frame of a seeder and cultivator, showing the manner of securing the axle and cross-bar, and with one cultivator-arm attached. Fig. 2 is a top or plan view of the same. Fig. 3 is a detached view of a cultivator-tooth, showing the mode of attachment.

A, Figs. 1 and 2, represents an end piece of a frame, to which is attached the various parts of a seeder and cultivator, which I make of iron cast with a flange, *a*, along the upper side and across the front end to give it sufficient strength. In the front end is a square socket to receive the cross-bar B of the frame, the end of which is fitted and secured firmly in the socket, making a strong and durable corner. On the upper side of the piece A are cast two projections, *c c*, to form a groove across the face of the piece, into which the axle D is placed, and when bolted together make a firm joint, the lugs or projections *c c* preventing any twisting of the axle on the frame, thus making a very firm and substantial connection of the axle to the frame of the machine.

E is one of a series of arms, to which cultivator-teeth are attached. These arms are suspended on a rod, *f*, which passes through the frame. Upon the rear end of the arm E is suspended a swinging arm, *g*, to which the cultivator-tooth *h* is attached, being secured as follows: Near the end of the arm is cast or made a socket, *k*, and the end of the arm has a rivet cast upon it or has a hole through it. The tooth is made diamond-shaped, the lower point being bent forward, and is pierced near the center for the rivet, the upper end of the tooth fitting into the socket *k*. This socket, together with the rivet, secures the tooth firmly to the arm, and being very simple requires but one rivet. This renders it very easily attached or removed for replacement in case of repairs.

Having thus described my improvements, what I desire to secure by Letters Patent is—

1. The metallic end piece, A, when cast with a flange, *a*, and lugs *c c* on the top to receive the axle D, and with a socket for the end of the front cross-bar, B, all constructed and arranged substantially as and for the purpose set forth.

2. The socket *k* on the arm *g*, for securing the tooth *h*, as described.

JAMES T. TROWBRIDGE.

Witnesses:
J. J. HALL,
J. M. POULSON.