(No Model.)

2 Sheets—Sheet 1.

E. D. & O. B. REYNOLDS.

HARROW.

No. 246,202. Patented Aug. 23, 1881.

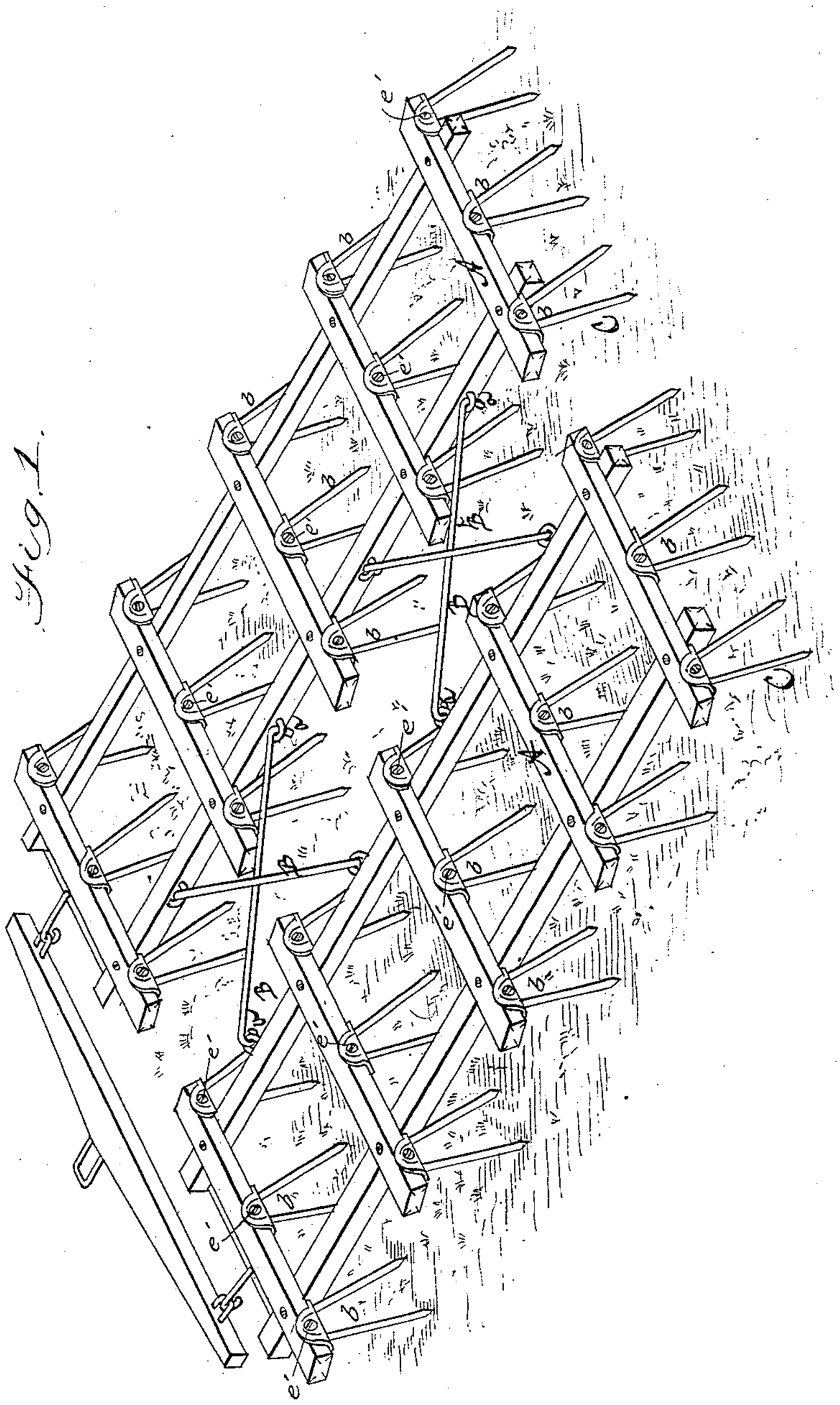

Fig. 1.

Witnesses;

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(No Model.) 2 Sheets—Sheet 2.

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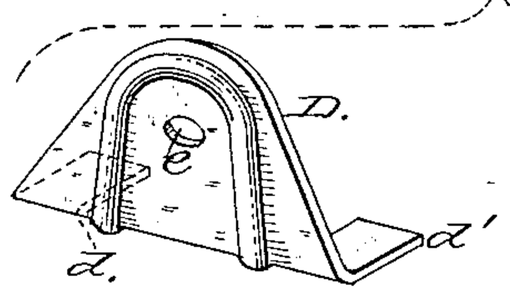
Fig. 2.



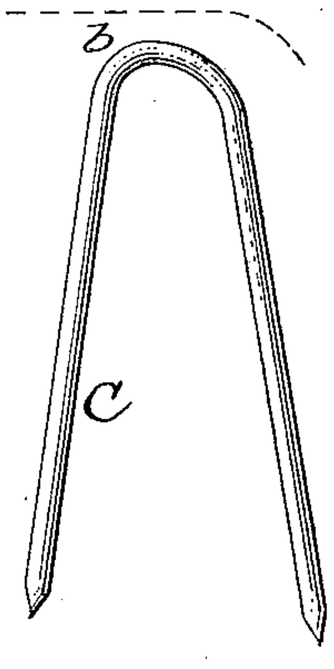
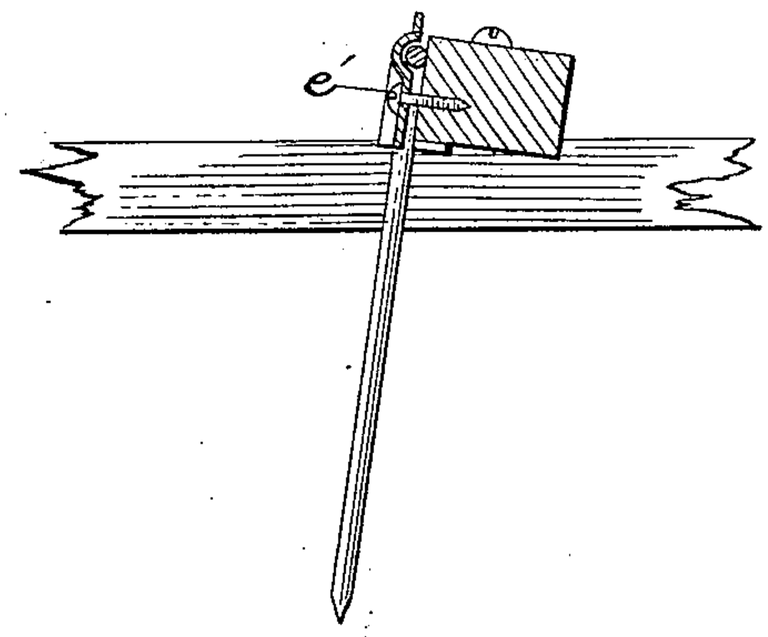


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDMUND D. REYNOLDS AND OLIVER B. REYNOLDS, OF BROCKTON, MASS.

HARROW.

SPECIFICATION forming part of Letters Patent No. 246,202, dated August 23, 1881.

Application filed May 21, 1881. (No model.)

To all whom it may concern:

Be it known that we, EDMUND D. REYNOLDS and OLIVER B. REYNOLDS, of Brockton, Plymouth county, and State of Massachusetts, have invented certain Improvements in Harrows; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of our improved harrow. Fig. 2 is an enlarged view of the tooth and tooth-fastening device; Fig. 3, a detail to be referred to.

Our invention relates to harrows to be dragged over the ground to pulverize it, and has for its purpose to provide a harrow with a simple adjusting-hinge, a cheaply-constructed straight tooth, and an arrangement of the teeth which will more thoroughly pulverize the ground, as is hereinafter more fully described and claimed.

In order that those skilled in the art may make and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings, A A represent the timbers of the frame of a harrow, the two sections being coupled together by a peculiar hinge, formed of two pairs of bars, B B, which cross each other in diagonal lines, and are swiveled to one frame and hooked into eyebolts *a a* on the other frame. This connection gives free vertical and lateral play individually to the frame. The double harrow-tooth C (see Fig. 2) we construct by bending a metal rod into a short bight, *b*, and sharpening the ends, leaving a straddling double tooth the working portions of which converge as they approach the fastening point. We secure this double tooth to the timbers by means of a clip, D, provided with a struck-up groove, *d*, into which fits the bight of the double tooth, and provided with projections *d'*, which lie beneath the timbers, while the clip proper is perforated at *e* to receive a screw, *e'*, to clamp the clip and tooth to the timber. The manner in which the ends of the double tooth rake in relation to each other gives a peculiarly efficient action in pulverizing the earth, while the form of the clip prevents any twisting or distortion in the reation between the tooth and the timber.

We are aware that heretofore harrow-teeth have been made by bending a single bar so as to form two working-teeth, and hence we make no claim, broadly, to the formation of the teeth proper.

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

1. In a harrow, the swiveled bars B B, crossing each other as shown, and secured to and connecting the harrow-sections by eyes *a a*, for the purpose set forth.

2. The duplex harrow-tooth C, made of a single piece of metal bent as shown, in combination with a clip, D, provided with a groove conforming to the bight of the tooth, and the transverse harrow-timber A, to which the teeth are thereby rigidly secured, substantially as described, for the purpose set forth.

3. In a harrow, the arrangement of the teeth in pairs in a plane transverse the line of draft, each tooth of a pair diverging from the other downwardly from the fastening-point, and adapted to operate on the earth simultaneously, as and for the purpose described.

EDMUND D. REYNOLDS.
OLIVER B. REYNOLDS.

Witnesses to signature of E. D. Reynolds:
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EDWARD E. HOBART.
Witnesses to signature of O. B. Reynolds:
R. K. EVANS,
JNO. L. CONDRON.