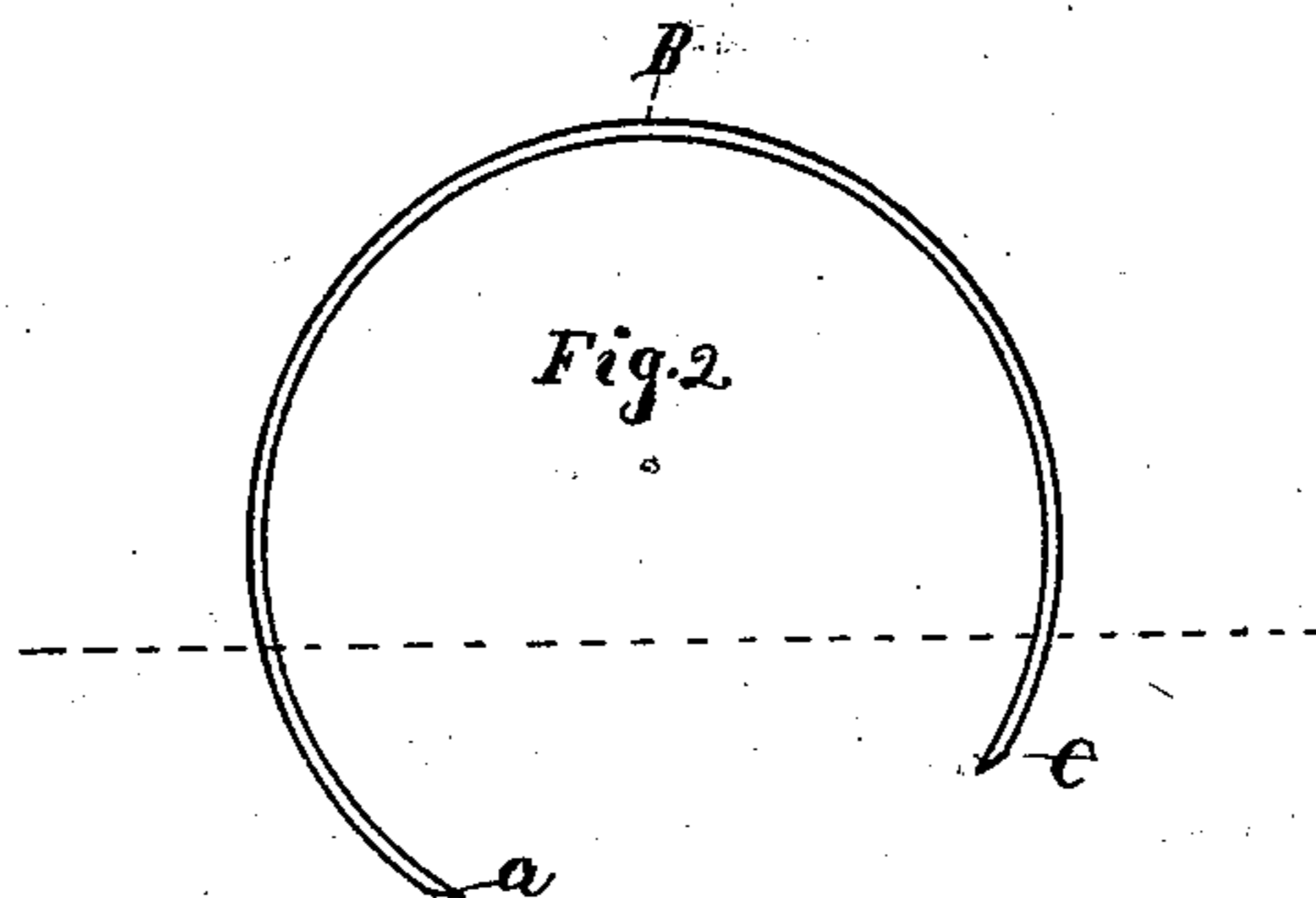
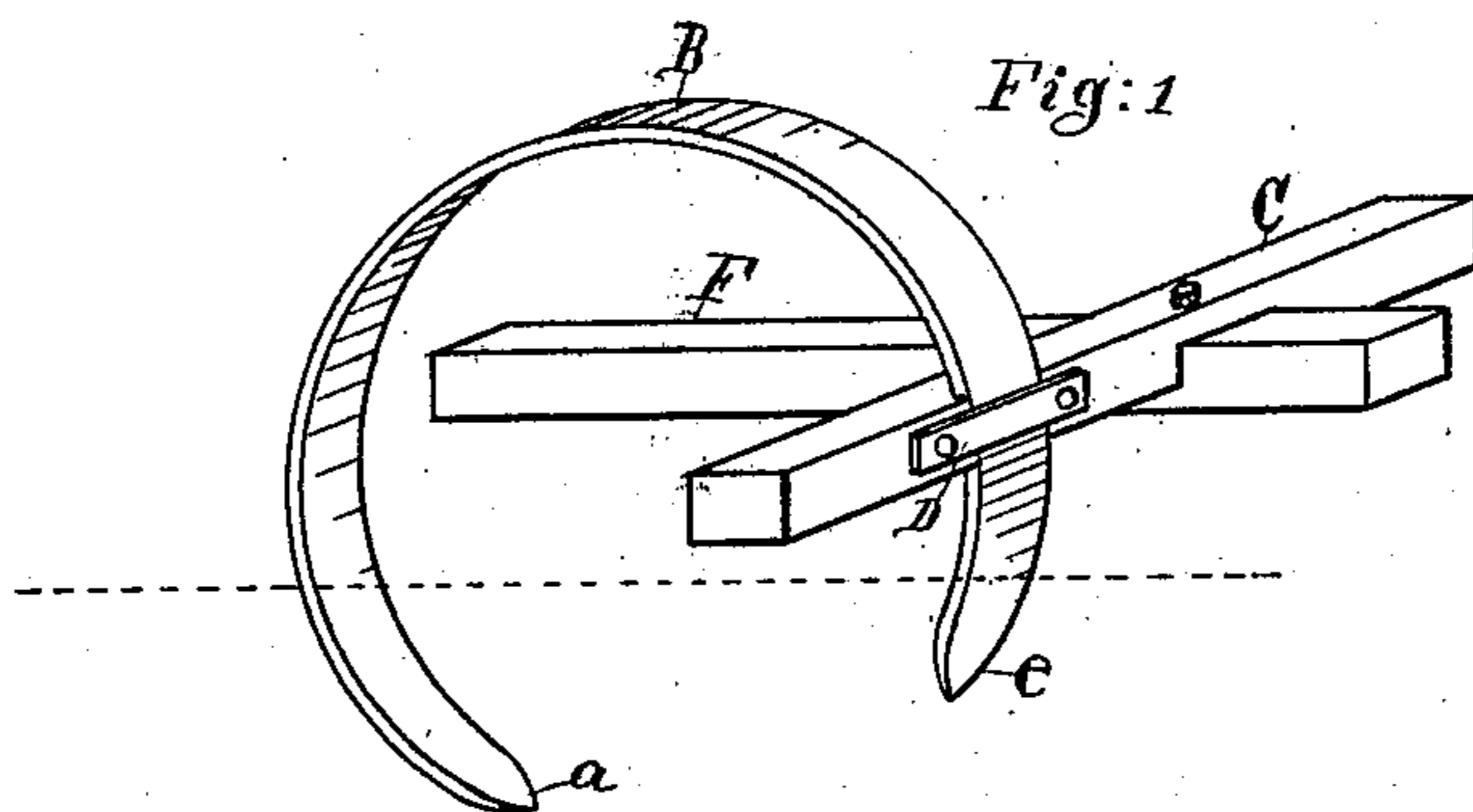


(No Model.)

W. S. FOSTER.
Harrow-Tooth.

No. 227,683.

Patented May 18, 1880.



Attest.

S. C. Perkins.

George S. McDonald

Inventor.

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Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM S. FOSTER, OF KALAMAZOO, MICHIGAN.

HARROW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 227,683, dated May 18, 1880.

Application filed March 13, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. FOSTER, of Kalamazoo, Michigan, have invented new and useful Improvements in Harrow-Teeth, of which the following is a specification.

The object of my invention is the construction of a compound tooth and gage, double-pointed and self-sharpening, which, when in use, controls its own depth in the soil, holds the harrow-frame from dragging on the ground, and is capable of being changed end for end when one end has become dull, the other end having been sharpened ready for use by the action of the soil upon it.

In the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate like parts, Figure 1 is a perspective view of the tooth attached to the girt of a harrow-frame; and Fig. 2 is an edge view of the tooth, showing the form in which it is bent.

B is the tooth, made from a flat bar of metal, bent in a circular form from the end *e* around its surface to end *a*, forming the fractional part, or three-fourths, of a true circle, or nearly so, as illustrated in Fig. 2. The ends *a* and *e* are usually pointed.

F illustrates the beam of a harrow-frame, and C a girt, to which tooth B is attached by being inserted in a mortise in the girt, and held in position by clip D and bolts, or some

equivalent device that may be loosened sufficiently to set the tooth at any given pitch or depth, and also allow the tooth to be changed end for end when one end becomes dull with use.

The end *e*, by its position on the soil, holds the frame from dragging on the ground and controls the depth. The end *a* enters the soil, and by the action of the soil upon its back, face, and edges it becomes sharpened, ready to take the place of end *a* when said end becomes dull, as before specified.

e is the front or forward end of the tooth. Dotted lines in the figures illustrate the surface of the soil.

In view of the many teeth already patented, I make no broad claim to my device as a spring-tooth; but

What I claim is—

In a harrow, a reversible and adjustable spring-tooth constructed on the arc of a circle, as shown, and attached to the girt of a harrow, substantially as described, whereby the front point of the tooth is made self-sharpening, and also serves as a gage to limit the depth of harrowing, as set forth.

WILLIAM S. FOSTER.

Witnesses:

OSCAR F. COLEMAN,
GEORGE S. McDONALD.