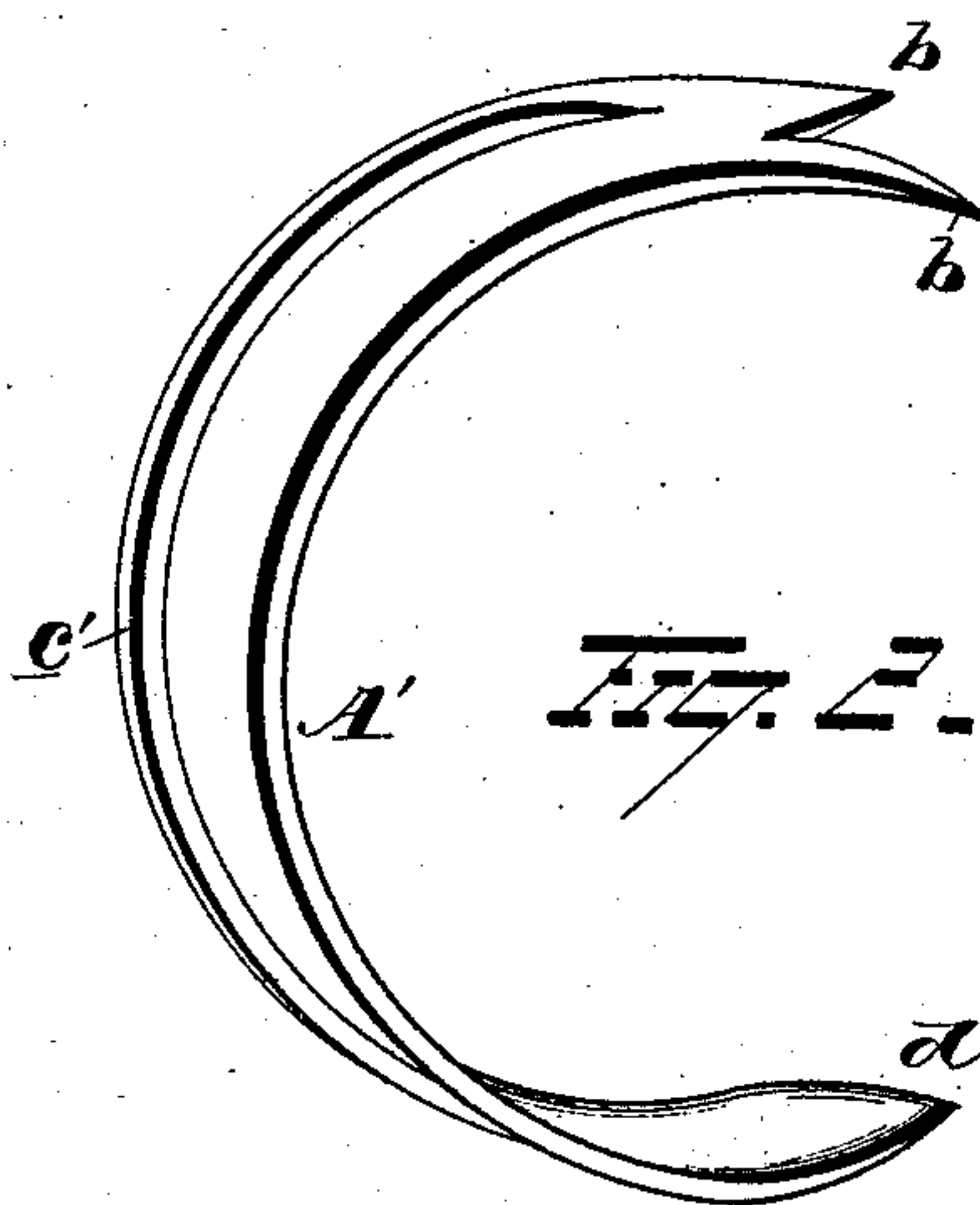
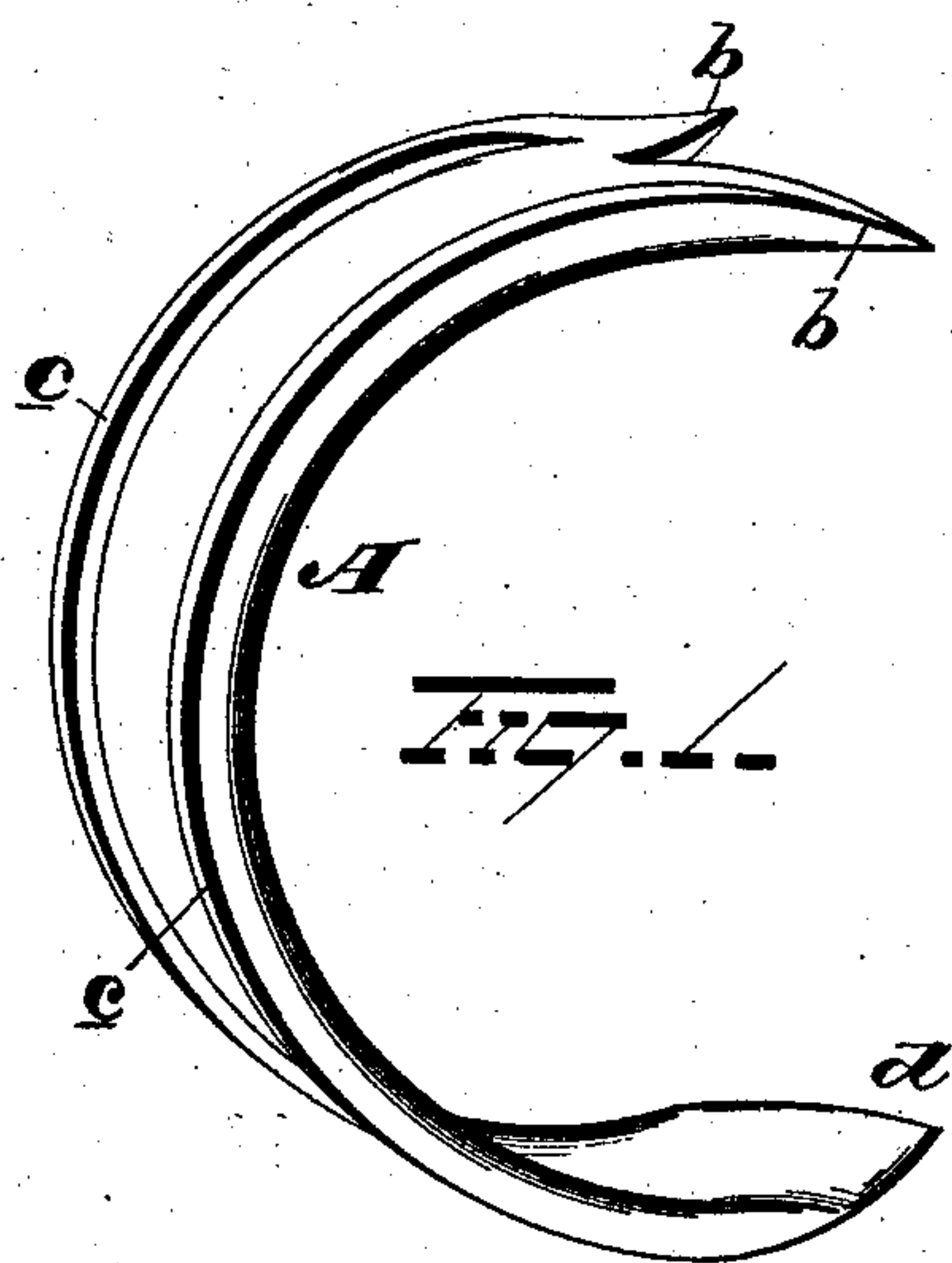


(No Model.)

B. F. EATON.
SPRING HARROW TOOTH.

No. 291,038.

Patented Jan. 1, 1884.



WITNESSES:

J. P. Downing.
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UNITED STATES PATENT OFFICE.

BENJAMIN F. EATON, OF COXSACKIE, NEW YORK.

SPRING HARROW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 291,038, dated January 1, 1884.

Application filed March 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. EATON, of Coxsackie, in the county of Greene and State of New York, have invented certain new and
5 useful Improvements in Spring Harrow-Teeth; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the
10 same.

This invention relates to a spring harrow-tooth, which is adapted to be clamped immediately of its length to a harrow-beam and adjusted to any desired pitch, the object of
15 the invention being to combine great strength with lightness of weight in a tooth of this class.

This invention consists of a curved spring harrow-tooth having one or both of its edges bent rearwardly to form longitudinal flanges,
20 as will be hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of a harrow-tooth constructed according to my invention, and having both
25 edges flanged. Fig. 2 is a similar view of a tooth having only one edge flanged.

The tooth A, Fig. 1, is made of forged steel and approximately semicircular in shape, its inner face being flat and one end having a single point, *d*, formed thereon, while the other end is provided with two points, *b b*, though it may have three or more points, if desired. Both edges of the tooth are turned outward to form flanges *c c*, extending the whole length
30 of the edges between the points, and so thoroughly bracing the tooth, as a whole, that the portion between the flanges may be made much thinner than would otherwise be possible in the body of a tooth having sufficient
40 strength for general use and a proper resilience for efficient action. By giving the tooth a single point at one end and two short points at the other, I adapt it for use as a breaking-up harrow-tooth and a cultivator-tooth. With
45 a harrow having the single points turned downward and the teeth clamped at about the middle, newly-plowed ground may be reduced to

condition for planting; and by turning the double-pointed ends downward and preferably extending the teeth two-thirds or three-fourths
50 of the length below the beams, broadcast-sown grain may be efficiently covered or the ground properly loosened to permit the free sprouting of sown grain. The double points, being short, leave very shallow ridges, so that no excess of
55 water will accumulate and freeze, to the injury of the roots of young plants.

In Fig. 2 the tooth A has a flange, *c'*, formed at only one edge, and the tooth is thereby very materially strengthened, while an economy of metal is effected as compared with a
60 tooth having two flanges.

I am aware that a harrow-tooth has been provided with a longitudinal rib on its rear face and between its edges, the tooth being
65 made of increased thickness at its longitudinal central portion to form the strengthening-rib. This construction of the tooth is expensive to manufacture, as the steel must be forged or rolled especially for this form of tooth.
70

I am also aware that a harrow-tooth has been made triangular or curved in cross-section; but such form fails to present the same efficient working-surfaces of the blade as a flat-faced tooth.
75

I am also further aware that it is not broadly new to provide a harrow-tooth with strengthening beads or ribs on its edges, and I would not therefore have it understood that I am intending to broadly claim such as my invention; but
80

What I do claim is—

A curved flat-faced spring harrow-tooth having one or both edges bent rearward to form longitudinal edge flanges on the rear side of
85 the tooth, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BENJAMIN F. EATON.

Witnesses:

S. A. DWIGHT,
G. H. RICHTMYER.