

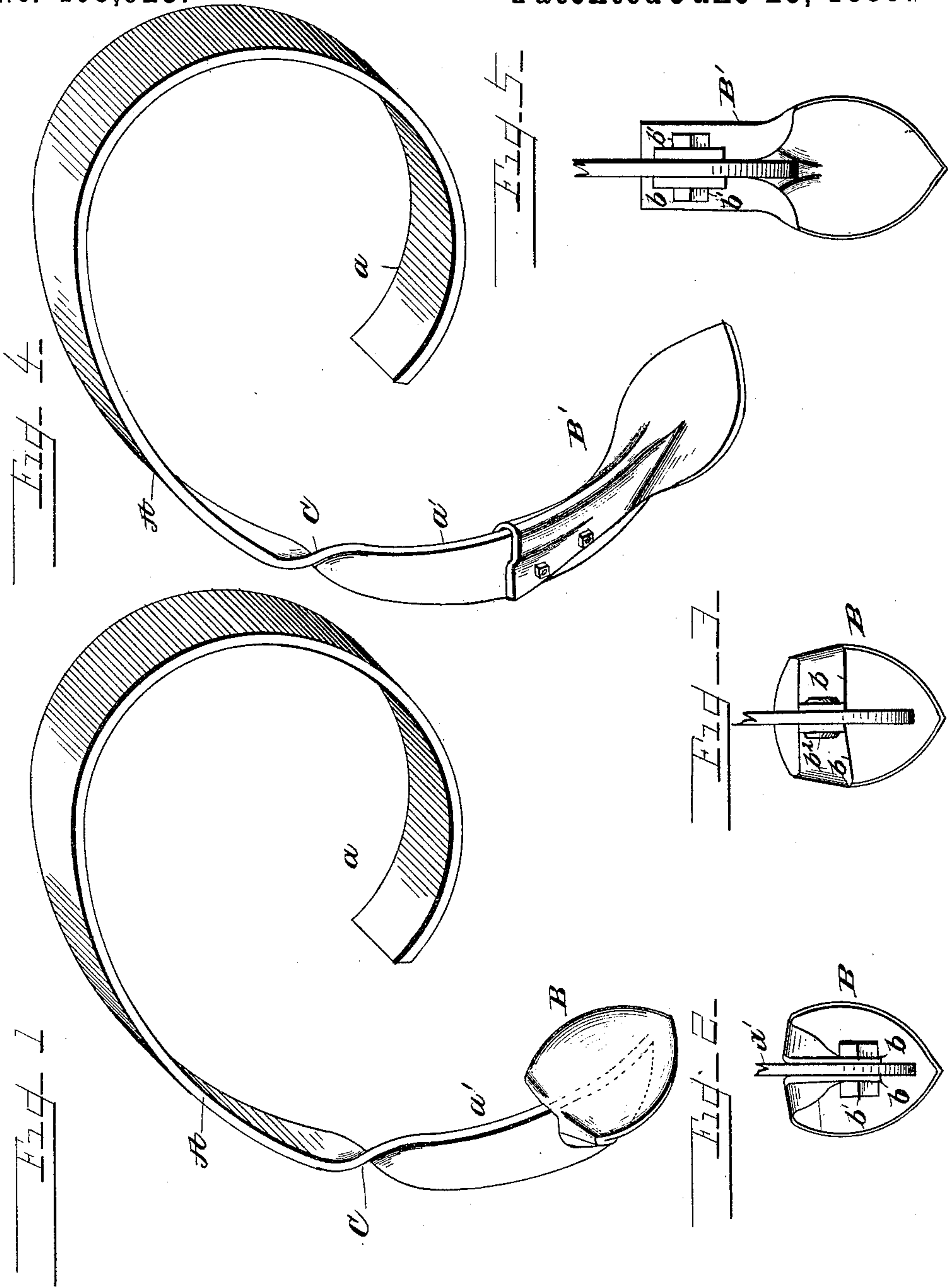
(No Model.)

A. W. & LE ROY W. STEVENS, W. M. BRINKERHOFF &
L. D. SWART.

SPRING HARROW TOOTH.

No. 405,923.

Patented June 25, 1889.



Witnesses

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By their Attys
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UNITED STATES PATENT OFFICE.

ABRAM W. STEVENS, LE ROY W. STEVENS, WARREN M. BRINKERHOFF, AND
LESTER D. SWART, OF AUBURN, NEW YORK, ASSIGNORS TO A. W. STE-
VENS & SON, OF SAME PLACE.

SPRING HARROW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 405,923, dated June 25, 1889.

Application filed March 27, 1889. Serial No. 304,963. (No model.)

To all whom it may concern:

Be it known that we, ABRAM W. STEVENS,
LE ROY W. STEVENS, WARREN M. BRINKER-
HOFF, and LESTER D. SWART, citizens of the
5 United States, residing at Auburn, in the
county of Cayuga and State of New York,
have invented certain new and useful Im-
provements in Spring Harrow-Teeth; and we
do hereby declare the following to be a full,
10 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 same.

Our invention is an improvement in spring-
teeth for harrows; and it consists in an im-
15 proved steel point for attachment to spring-
teeth, and in the means whereby such points
are secured to the main body of the tooth.

Referring to the drawings, Figure 1 is a
perspective view of a harrow-tooth with one
20 of our points attached. Figs. 2 and 3 are rear
views of the lower part of a tooth, showing
two different modes of attaching the point.
Fig. 4 is a modified form of blade or point,
and Fig. 5 is a rear view showing the mode
25 of attaching the same.

A is the main body of the tooth, which is of
the usual arched or curved form, showing one
of its broad faces presented to the front. We
prefer to give this main body a quarter-turn
30 a short distance above the point, as shown in
the drawing; but we do not claim this feature
alone as of our present invention. The point
at which the main body is given the quarter
turn or twist should in most cases be at or
35 just above the surface of the ground.

In Figs. 2 and 3 *b b* are the two parts of
our improved attaching-clip for the point,
which are, as shown, formed by bending the
portion extending from an edge of the blade
40 backward in the rear of the main body of the
point, and forming ears, which are perforated
to receive a securing bolt or rivet *b'*, which
passes through them and the part *a'* of the
tooth. In Fig. 2 we show the point secured
45 by a bolt, and in Fig. 3 by a rivet. By using
a rivet a non-adjustable fastening is secured,
which is not liable to become loosened by
use, the constant jar and motion tending to
loosen fastenings—such as bolts and the

like—which provide for adjustment. In both 50
modes of attachment the ears are made inte-
gral with the main body of the point. In Fig. 2
they extend downwardly from the top of the
point, and in Fig. 3 inwardly from the sides
of the same.

In each instance in operation the earth 55
passes over the blade or point without com-
ing into contact with the ears and the at-
taching bolt or rivet. This means of fasten-
ing leaves the front surface of the point or 60
blade unbroken, and the teeth are rendered
less liable to clog.

In Fig. 4 a form of blade or point is shown
varying somewhat from the form shown in
the other figures. This blade has a portion 65
having an angular or V shaped front edge,
the apex of which projects forwardly and ex-
tends downwardly along the part *a'* of the
tooth and vanishes in the upper part of the
broad portion of the blade. The whole of 70
the point or blade is given a high polish.
This point or blade may be attached in any
preferred way to the main body of the tooth.
When employed in connection with a tooth
having a portion *a'* with a narrow front edge, 75
the top of the same should be a little below
the turn or twist of the tooth.

One method of attachment resembling that
already described is shown in Fig. 5, the side
walls of the blade being provided with ears 80
b b, and a securing-bolt passing through them
and the end of the tooth.

What we claim, and desire to secure by Let-
ters Patent, is—

1. The combination, with a spring harrow 85
or cultivator tooth, having at its lower end a
portion with a narrower face to the line of
draft than the main body of the same, of
an earth-engaging point or blade, having at
its rear portions extending inwardly from an 90
edge of the blade and secured to the nar-
rower portion of the tooth, substantially as
described.

2. The combination, with a spring harrow 95
or cultivator tooth, having at its lower end a
portion edgewise to the line of draft, of an
earth-engaging point or blade having at the
rear bent portions extending inwardly from

an edge of the blade and secured to the edgewise portion of the tooth, substantially as described.

3. The combination, with the main portion
5 of a spring harrow or cultivator tooth, having at its lower end a portion edgewise to the line of draft, of an earth-engaging blade or point having at its rear portions extending inwardly from an edge of the blade, and secured to the edgewise portion of the tooth by
10 a non-adjustable connection, substantially as described.

4. An earth-engaging point or blade for a harrow-tooth, having a broad flat lower ex-

tremity, and having a V-shaped portion the
15 forwardly-projecting apex of which extends downwardly and vanishes in the upper part of the broader portion, substantially as described.

In testimony whereof we affix our signatures 20
in presence of two witnesses.

ABRAM W. STEVENS.

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Witnesses:

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