A. S. BAKER.

Spring-Tooth Harrow.

No. 216,302. Patented June 10, 1879.

Fig: 1

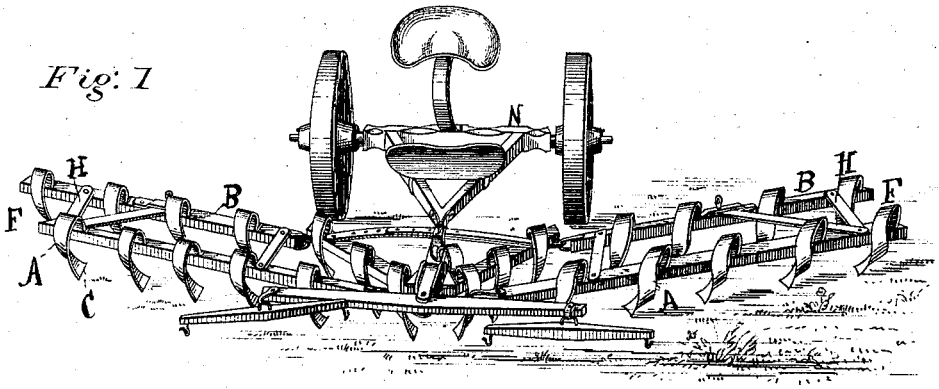
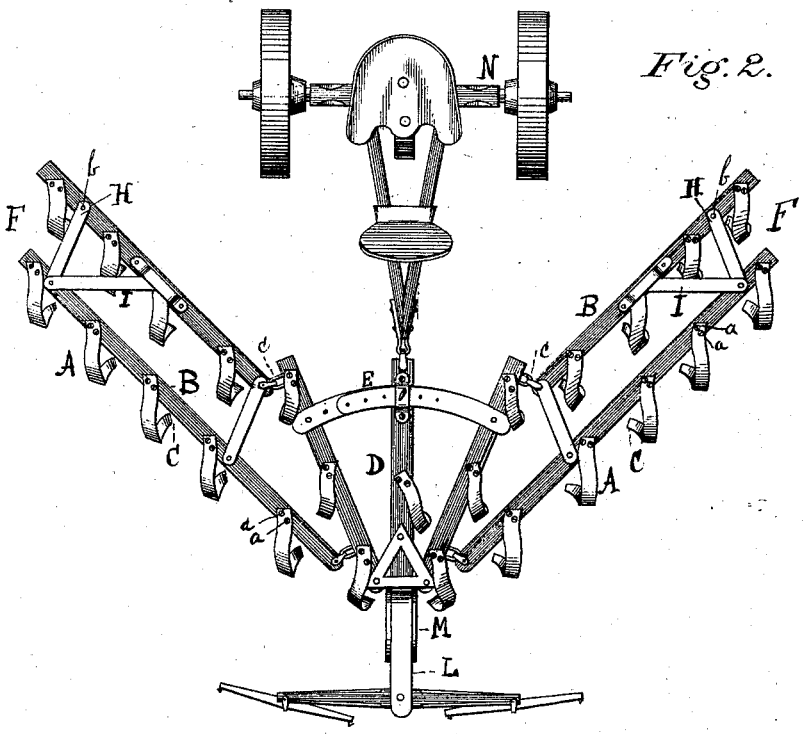


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ABNER S. BAKER, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO HEMAN M. BROWN, OF SAME PLACE.

IMPROVEMENT IN SPRING-TOOTH HARROWS.

Specification forming part of Letters Patent No. **216,302**, dated June 10, 1879; application filed January 4, 1879.

To all whom it may concern:

Be it known that I, ABNER S. BAKER, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented new and useful Improvements in Spring-Tooth Harrows, of which the following is a specification.

The object of my invention is to provide a device which will work with practical utility in all kinds of soil in any tillable field without breaking the teeth or clogging up under them, and with less burden to the team and less expense to the purchaser than other spring-tooth harrows now in use.

This is effected, first, by the construction of spring-teeth bent in nearly half-circular form, with the lower end twisted at right angles with the main part of the teeth, said teeth to be adjusted as hereinafter described; second, by providing a harrow-frame with adjustable girts or beams, whereby the position of the teeth may be changed in relation to their tracking and draft. A V-shaped center frame, to which are hinged two oblique wings, seems well adapted for the use of my teeth, though they may be used to advantage on less complicated frames.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of my invention. Fig. 2 is a top view.

A A are the teeth, attached to the girts B B by means of bolts *a a*, the convex side of which teeth face toward the front of the device, by which means any obstruction, such as roots and large stones, will be passed over with ease instead of being hooked under in the manner with teeth adjusted right the reverse. The twisted end C, which is left square, forms a point and mold-board to the tooth.

Two sets of teeth, right and left, are required for the respective sides of the harrow-frame. Teeth constructed in this manner require less amount of steel than other styles, and the friction of the soil, on account of their adjustment, being brought to bear against the bowed or convex face, they are less liable to break or straighten.

Another important feature in the twisting of the teeth is that they enter the soil edgewise, thus lightening the draft, and for which reason it is believed to be the only spring-tooth that will plow through hard clay soil instead of scratching over the same.

D is the center frame, formed of three girts, separated at their rear ends by extension-bars E, by means of which bars the said frame may be widened or narrowed, thereby changing the position of the wings and the bearing of the teeth A A, secured to the girts B B.

F F are the wings, constructed of two parallel girts, B B, attached together by means of bars H H and bolts *b b*, said wings having bars I I secured to the outer end of the front girt and near the center of the rear girt by means of adjustable bolts for the purpose of changing the positions of the girts B B in wings F F, with their teeth A A, in their relation one with the other, having reference to the bearings of the teeth in the soil. These wings F F are attached to the center frame by means of clevis and ring, or other practical method, at *c c*.

What I claim is—

In combination with the frame of a harrow, the spring-teeth, curved in front of the beams, and having their lower portions twisted, as shown, so as to set their base ends at right angles with their upper portions, whereby the then lowest corners of said base ends form points to the teeth, substantially as shown and described.

ABNER S. BAKER.

Witnesses:
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