

*A. B. Sprout,
Horse Rake.*

No. 45942.

Patented Jan. 17. 1865.

Fig I.

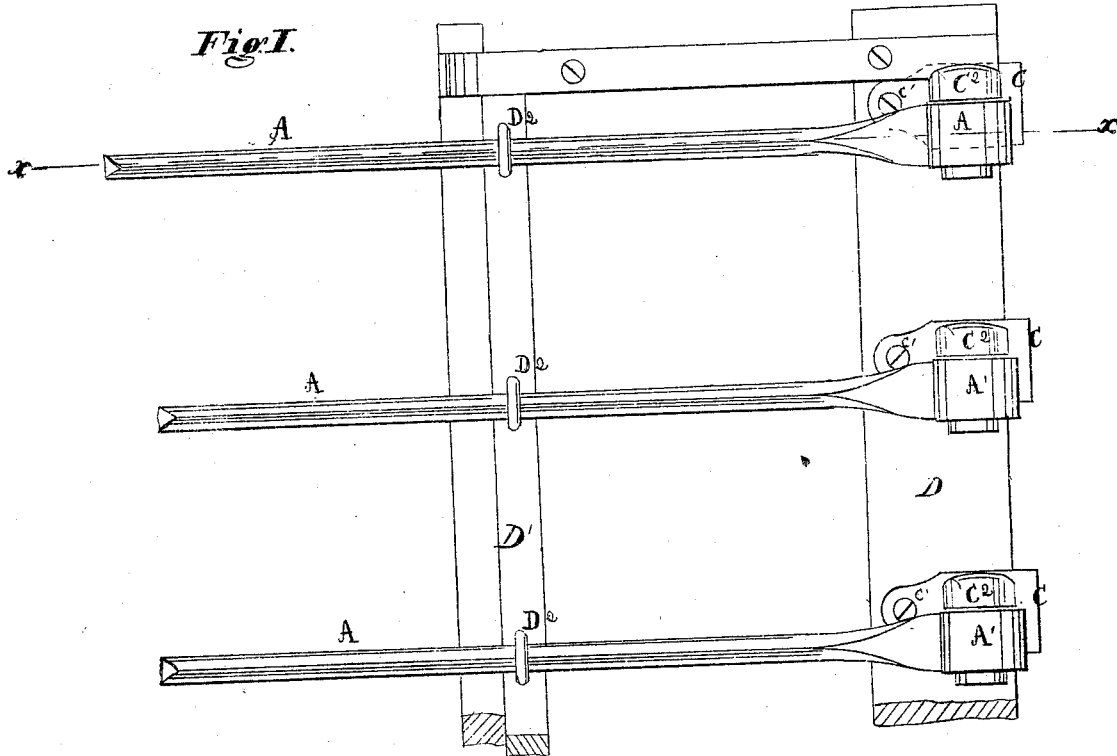


Fig II.

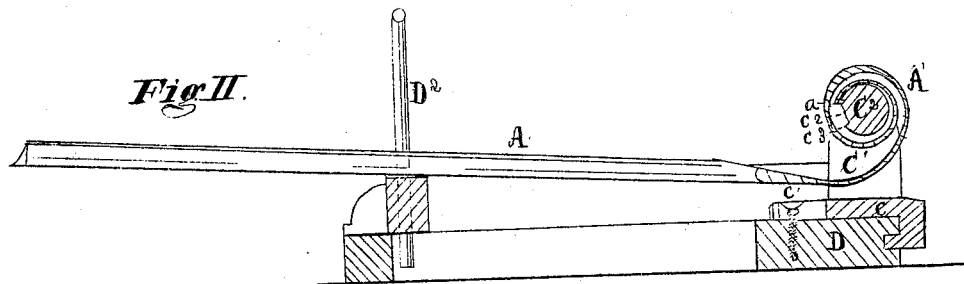
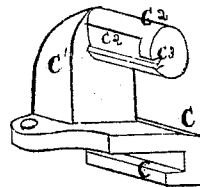


Fig III.



*Witnesses
C. E. De Rosa
Octavio Knight*

*A. B. Sprout
per [Signature]
[Signature]*

UNITED STATES PATENT OFFICE.

A. B. SPROUT, OF HUGHESVILLE, PENNSYLVANIA.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. 45,942, dated January 17, 1865.

To all whom it may concern:

Be it known that I, ARIEL B. SPROUT, of Hughesville, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Horse-Rakes and in the Manner of Attaching the Same; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of a portion of a rake illustrating my invention. Fig. 2 is a sectional elevation of the same, the section being taken in the line *x x*. Fig. 3 is a perspective view of my improved fastening device by which the tooth is attached to the frame.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists, first, in so forming the body of the tooth as to adapt it to withstand a much greater tensional strain; second, in an improved manner of imparting the necessary elasticity to the spring and at the same time providing for its more ready attachment; third, in a device which admits of the attachment of the tooth without the employment of screws, nails, or other appliances.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A A A may represent a series of teeth, which, of course, are designed to be curved in customary manner. These teeth are constructed in angular form, as represented, the volume of metal of which they are composed gradually increasing toward the inside or in the direction of the part to which the tensional force is applied. By constructing the body of the tooth in this manner it is manifest that it is made capable of withstanding a much greater strain as compared with teeth containing the same amount of metal made round, or in any other form hitherto given the teeth of horse-rakes, for the reason that bodies begin to break at the weaker points, it being evident that the periphery of a round tooth affords a good starting-point for a break in the event of a forcible strain, whereas in my improved tooth the strain meets with the greatest resistance directly at the point at which the same would be most liable to com-

mence to break—that is, where the strain is first applied.

Each tooth A is drawn out so as to form in one piece therewith a flat spring, A', which adapts the tooth to conform to the undulations of the ground and to rise and pass over any obstacles with which it may come in contact. Besides imparting the requisite elasticity to the tooth, the spring A' constitutes means for attaching the same, as will be presently explained.

C C C represent metallic plates formed each with a flange, *c*, which is let into the frame D of the rake in the manner shown, thus rendering the respective plates C capable of being firmly secured in position by means of a single screw, *c'*.

If desired, a single mortise may be made in the frame D for the reception of each flange *c*; or, if desired, a single continuous groove may be made in the frame, in which the flanges of all the plates may be inserted, if preferred.

Formed or cast in one piece with the respective plates C is a standard, C', from and at right angles to which projects what may be termed a "cylindrical spool," C², the form of which is more clearly illustrated in Fig. 3. In each spool C² is formed a recess, *c*², and a slot or groove, *c*³. The spring A', being coiled in the manner represented in Fig. 2, is slipped over the spool C², so as to cause its end to occupy the recess *c*², which operation is greatly facilitated by the provision of the slot *c*³, through which is passed the flanged or deflected end *a* of the spring A'. The end *a* of the spring A', having entered the recess *c*², is moved upward therein by the elasticity of the spring as far as the limits of the recess will permit, when said spring A' and the tooth A are securely fastened in position, the tooth resting on the transverse bar D' of the frame and confined by the ordinary staple, D².

Should it be necessary at any time to detach any one of the rake-teeth, this can be done by merely withdrawing the screws *c'*.

Rake-teeth of the above construction are simple as well as durable, may be employed with great advantage, and manufactured at little cost.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. Making a curved rake-tooth of a trian-

gular sectional shape, (or its equivalent, semi-elliptical or semicircular,) and so applied that the flat side shall be on the inner side of the curve to endure the tensional strain while the rear salient edge shall act as a stiffener to the tooth.

2. The combination of a tooth of a triangular sectional shape, (or its equivalent, semi-elliptical or semicircular,) and with a flat side on the inside of the curve of the tooth, with a coiled spring by which it is attached to the head, and by means of which its elasticity is increased.

3. The plates C c, adapted to be secured in position by the screw c', substantially as and for the purpose specified.

4. The spools C² c² c', constructed and arranged substantially as described, and adapted for the attachment of the spring A, in the manner set forth.

A. B. SPROUT.

Witnesses:

CHARLES D. SMITH,
OCTAVIUS KNIGHT.