H. C. HERCHELRODE.

HORSE HAY-RAKE.

No. 182,276. Patented Sept. 19, 1876.

Fig. 1.

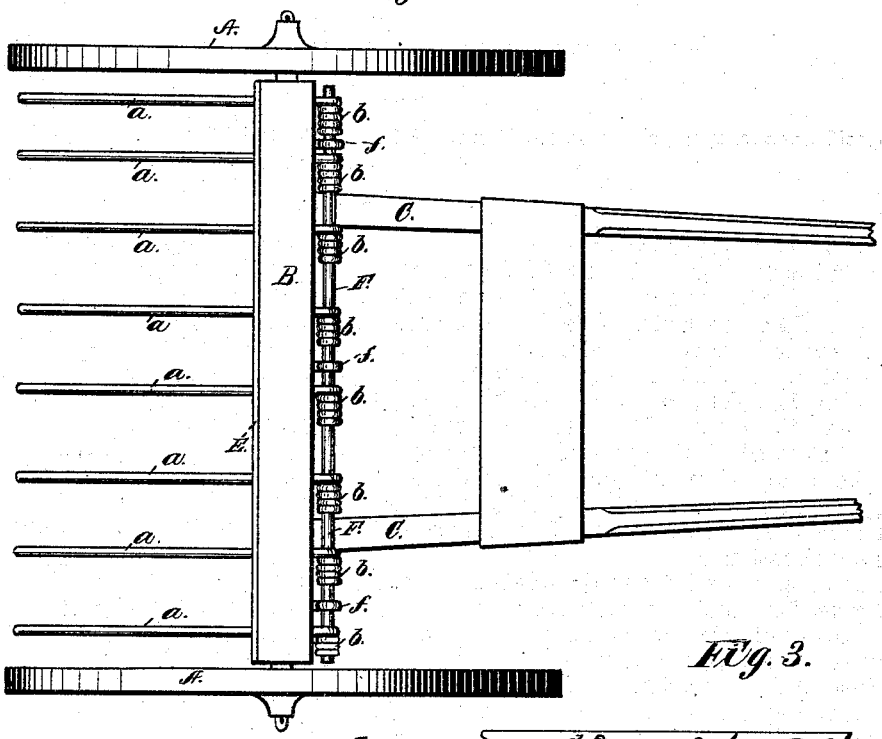


Fig. 3.

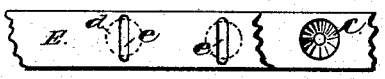
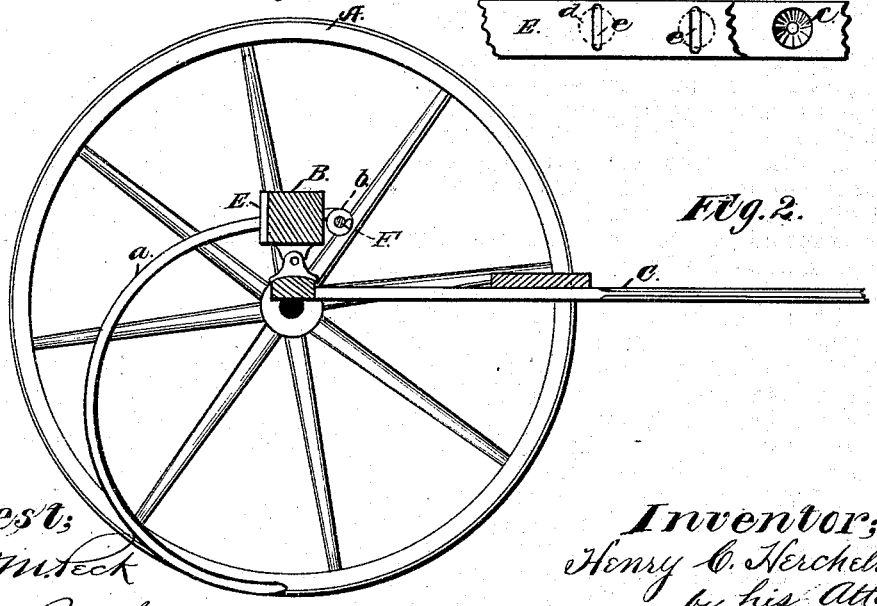


Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY C. HERCHELRODE, OF DAYTON, OHIO.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **182,276**, dated September 19, 1876; application filed November 15, 1875.

To all whom it may concern:

Be it known that I, HENRY C. HERCHELRODE, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Horse Hay-Rakes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of horse hay-rakes in which the teeth are attached to the axle—which is the rake-head—in such a manner as to be raised or lowered by turning the head either backward or forward by any suitable mechanism; and my improvement consists entirely in the manner of coiling the ends of the teeth and securing them to the rake-head, as will be herewith set forth.

Figure 1 is a plan view of a horse hay-rake, illustrating my improved method of securing the teeth. Fig. 2 is a side elevation of Fig. 1, with a wheel removed. Fig. 3 is a broken view of the rear face of the rake-head, and will be explained hereafter.

Corresponding letters of reference indicate like parts in all the figures.

A A are the wheels supporting the axle B, hinged in any convenient manner to the thills C. This axle or rake-head B has, bored through it from rear to front, a series of equidistant tapering holes, *c*, Fig. 3, through which the teeth are inserted from front to rear, *seriatim*. The holes are shaped like the frustum of a cone, and the smaller apertures on the front face of the head are just sufficiently large to allow the introduction of the teeth. Each tooth *a* has its rear end bent into coil at right angles to its plane, as seen at *b*. These coils are conveniently small, with their convolutions parallel and lying close together. Upon the rear face of the head B is secured, in any convenient manner, a metallic plate, E, having a series of vertical slots just wide enough to allow the passage of the teeth through them *seriatim*, and so arranged that the slots bisect the larger openings of the tapering apertures, as seen in *c*, Fig. 3, *e* representing the slots, and the dotted circles the apertures. Into the front face of the rake-head, at intervals and in a line with the apertures, are driven or fastened eyebolts *f*, or equivalent devices for holding a rod, F, passed through the eyes securely in position.

The manner of securing the teeth is as follows: They are passed *seriatim* from the front to the rear through the apertures in the head and through the vertical slots in the plate E. Being now in position, the rod F is passed from one end through the eyes *f* and through the coils *b* upon the ends of the teeth, stringing them, as it were, upon the rod, and holding them securely in place.

The advantages of this method include simplicity and durability. The plate E with its vertical slots prevents the teeth from having any lateral motion, and at the same time compensates for the weakening of the axle by boring, and the coils upon the ends of the teeth prevent them from being turned out of their vertical planes.

The shape of the apertures is immaterial, except that they should be small in front and large enough in the rear to allow the teeth some vertical, but no lateral, motion.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The rake-teeth *a*, having their ends coiled at right angles to their planes, and adapted to pass and turn freely upon the cylindrical rod F, substantially as and for the purpose specified.

2. The rake-head or axle B, having equidistant tapering apertures, and secured upon its rear face, the slotted plate E, with the slots arranged with reference to the apertures, as described, in combination with the rake-teeth *a*, having their ends coiled, as represented, and secured to the head by means of the rod F and eyebolts *f*, or their equivalents, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

HENRY C. HERCHELRODE.

Witnesses:

CHAS. M. PECK,

WM. RITCHIE.