

B. OWEN.
HORSE HAY RAKE.

No. 175,376.

Patented March 28, 1876.

Fig. 1.

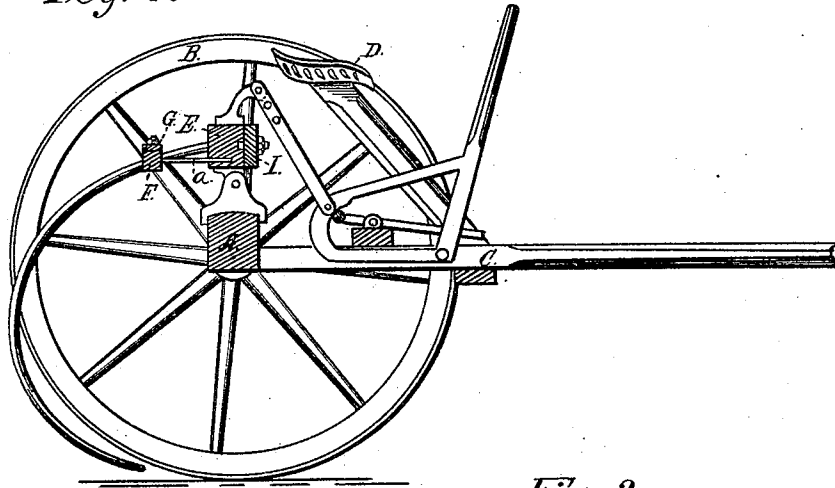


Fig. 2.

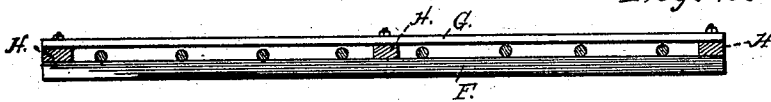


Fig. 3.

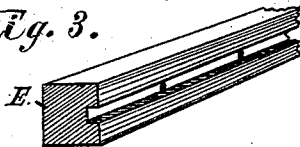


Fig. 4.

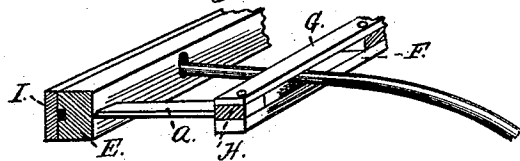
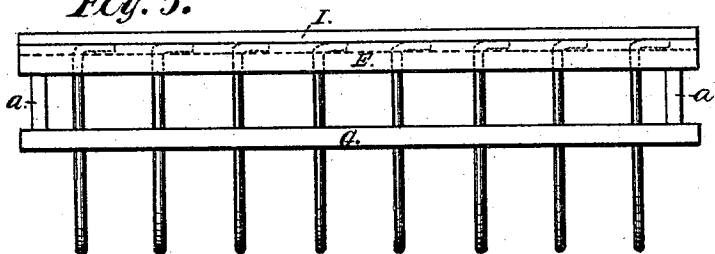


Fig. 5.



Witnesses;
E. R. Ealy.
Albert K. K.

Inventor;
Benjamin Owen
by his Atty.
Peck & Co.

UNITED STATES PATENT OFFICE.

BENJAMIN OWEN, OF DAYTON, OHIO.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **175,376**, dated March 28, 1876; application filed July 10, 1875.

To all whom it may concern :

Be it known that I, BENJAMIN OWEN, 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 of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in the construction of the rake-head, and in the manner of securing the teeth thereto; also, in the arrangement of a peculiarly-formed spring-bar by which the teeth are enabled to yield sufficiently to pass slight obstructions.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I would thus describe it, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of a horse hay-rake illustrating the adaptation of my improved head. Fig. 2 is a front view of the improved spring-bar. Fig. 3 represents, in perspective, a portion of the rake-head, showing the longitudinal slot, in which the ends of the teeth are confined. Fig. 4 is a perspective view of a portion of the head with a tooth attached. Fig. 5 is a plan view of the head, showing the general arrangement of parts.

Like letters of reference indicate corresponding parts.

A represents the axle supported upon wheels B, and having thills C and a driver's seat, D. With the construction and arrangement of these parts my invention has nothing to do; nor with the manner of operating the rake to gather and discharge the collected loads. I have represented it only to show an application of the rake head E, which is pivoted in suitable bearings above the axle, and consists of a beam having a longitudinal mortise or slot extending from end to end of its front surface, and situated half-way between its edges. This slot is just large enough to admit the ends of the rake-teeth, which are bent at right angles and passed serially

through equidistant perforations or orifices extending through the beam horizontally from its rear to its forward face, and opening into the before-mentioned slot. (Seen in Fig. 3.) These orifices are not circular, but are elliptical, the long diameter being vertical and the short one slightly longer than the diameter of the teeth, so that they are allowed a slight vertical, but no lateral, play. Securely fastened to the beam E at each end are two rearwardly-extending flat steel springs, *a a*, supporting upon their ends a bar, F, over which the teeth are laid, and over the teeth is placed another thinner spring bar, G, which is secured to the bar F by means of bolts passing through both bars and the separating blocks H, which are a little thicker than the diameter of the teeth. Three of the blocks are sufficient, situated as shown in Fig. 2, though more may be employed at will.

The teeth, bent at their ends at a right angle to the plane of their curve, are passed through the orifices in the beam E, and between the bars F and G, the bent ends lying in the slot in the beam E. To secure them in position a thin strip or bar, I, is laid upon the front face of the beam E, and secured by wood-screws or bolts. In this manner the fastening is made complete.

In raking, when the head is locked, the strain upon the teeth is supported by the springs *a*, which are sufficiently elastic to prevent injury in carrying a heavy load and working over uneven ground.

I am aware that the teeth of horse hay-rakes have been attached to the head by mortising the top of the head and fitting the teeth therein, and securing them by a bar placed over them and bolted down. This method of fastening is not as secure as mine, for the reason that all the strain consequent upon raking is thrown upon the top bar, while in my case it is sustained by the head itself, which is solid, and the bar I performs no other duty than to keep the ends in the slot.

Having fully described my invention, I claim and desire to secure by Letters Patent—

The rake-head or beam E, when slotted longitudinally upon its forward face, and provided with elliptical openings passing horizontally through it from rear to front, and opening in said slot, in combination with the bars F and G, united as described, and connected to the head by the flat steel springs *a a*, and having the teeth arranged in connection with the other parts, as shown, and held

in position by the bar I, in the manner and for the purpose specified.

Witness my hand this 2d day of July, A. D. 1875.

BENJAMIN OWEN.

Witnesses:

CHAS. M. PECK,
E. R. EALY.