B. OWEN.

HORSE HAY-RAKE.

No. 186,689. Patented Jan. 30, 1877.

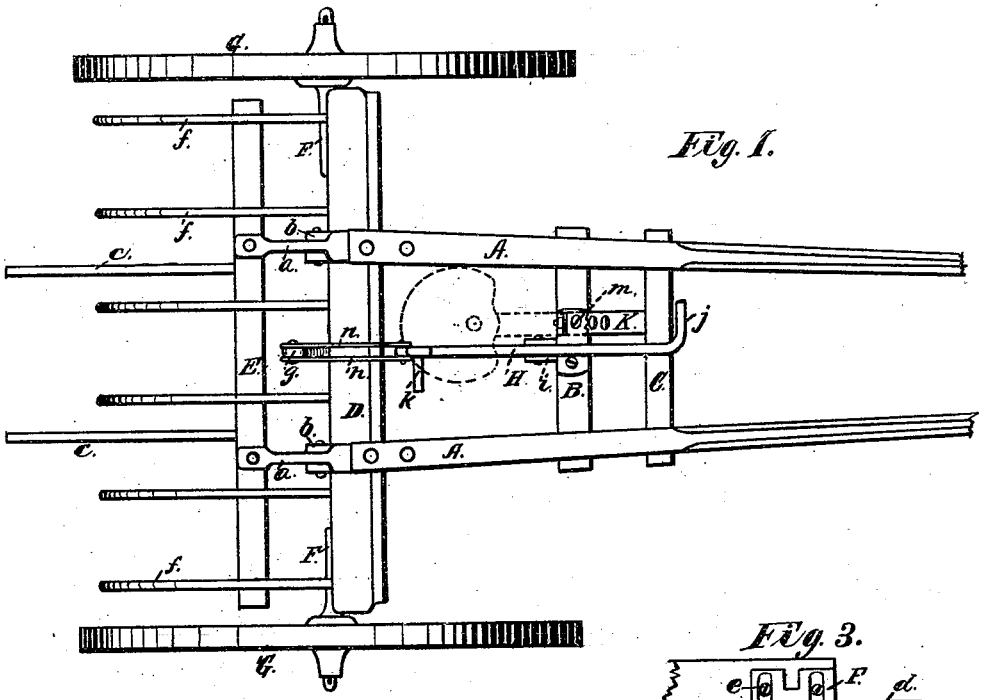

Fig. 1.

Fig. 3.

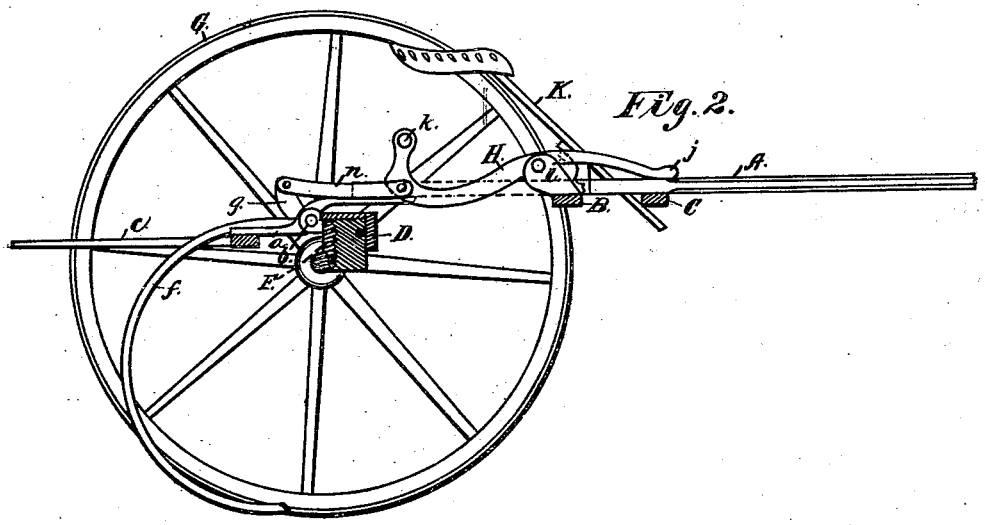

Fig. 2.

Witnesses;
Chas. M. Peck
Les Greulich

Inventor;
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by his Attys
Peck & Co.

UNITED STATES PATENT OFFICE.

BENJAMIN OWEN, OF DAYTON, OHIO.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **186,689**, dated January 30, 1877; application filed April 4, 1876.

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 the following to be a full, clear and exact description of the same.

This invention relates to that class of horse hay-rakes in which the driver both holds the teeth down to raking position and elevates them to discharge the collected hay by means of his foot, and in which the arrangement of parts is such that his weight facilitates the dumping of the rake.

The nature of my improvement consists in the construction and arrangement of a spindle-plate for adjusting the height and pitch of the teeth, as will be herewith set forth and specifically claimed.

To enable others skilled in the art to make and use my invention, I would thus proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a plan view of a horse hay-rake provided with my improvements. Fig. 2 is a side elevation of the same with a wheel removed and a portion of the shaft broken away to show the operating devices. Fig. 3 is a rear view of a portion of the rake-head, showing the application of the spindle-plate.

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

The thills A are braced by the usual cross-beams B and C, and have bolted to each of their rear ends, on the under side, a metal plate or arm, *a*, of the shape represented. These plates are pivoted in bearings *b* bolted to the upper rear edge of the rake-head D, and from which they extend rearwardly, and have bolted to their under sides the supporting-bar E parallel to the rake-head, and from which extend rearwardly the cleaner-sticks *c*. F, Fig. 3, is a metal plate, from the lower side of which extends laterally the spindle *d* of a piece with the plate. The inner side of this plate is grooved or fluted longitudinally to fit in correspondingly-shaped grooves in the rear side of the rake-head at each end. Two transverse slots are formed through the plate for the passage of bolts *e* that secure it to the rake-head. The supporting-wheels G revolve upon the spindles *d*, and the rake-teeth *f*, passing over the bar E, are secured to the head D in any convenient manner.

The essential feature of my invention is the spindle-plate F, which, by means of its grooves fitting in the grooves of the rake-head and its slots with the bolts passing through them into the head, is adapted to be simply yet securely adjusted upon the rake-head, to elevate it or regulate the pitch of the teeth.

I am aware that this has been done before by devices more complicated than mine, and consequently make no claim to the principle; but I am not aware that a fluted plate has been used with a correspondingly-grooved rake-head to aid the fastening-bolts in bearing the downward strain.

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

The combination, with the rake-head grooved at each end, of the spindle-plates F with their inner faces fluted to fit the grooves in the head, and slotted transversely for the passage of the fastening-bolts *e*, substantially as and for the purpose specified.

Witness my hand this 21st day of March, A. D. 1876.

BENJ. OWEN.

Witnesses:
CHAS. M. PECK,
LEO GREULICH.