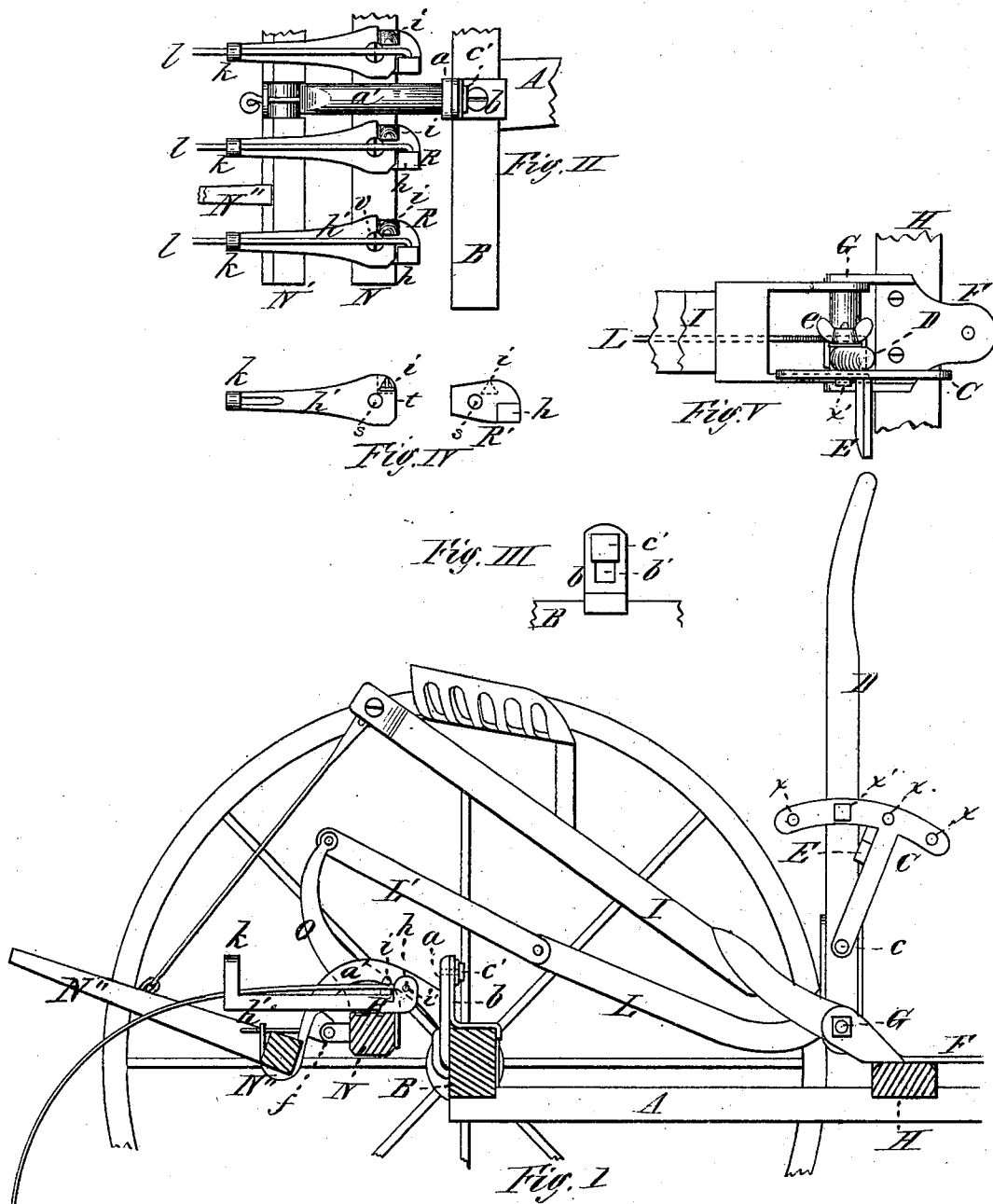


HORSE HAY-RAKE.

No. 177,033.

Patented May 2, 1876.



Witnesses.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **177,033**, dated May 2, 1876; application filed
October 29, 1875.

To all whom it may concern:

Be it known that I, EUCHER TREMBLAY, of Chicopee Falls, in the State of Massachusetts, have invented a new and useful Improvement in Horse-Rakes; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification and description, and to the letters of reference marked thereon.

The object of my invention is to adjust the beams which carry the rake-teeth and the clearers to any desired height with reference to the axle of the machine, and to provide an adjustable foot-rest and lever, for the greater convenience of operating the said beams, and also to so construct the tooth holders or sockets as to remove and replace the tooth more easily and quickly.

To this end my invention consists, first, of a slotted piece attached to the axle, to which is secured, by a bolt, the arm to which are hinged the rake and clearer beams, so that the said arm may be adjusted to the desired height by sliding the bolt up or down in the slot and securing it; and it also consists of a tooth-socket made in two parts, the one part provided with a vertical loop, through which the tooth extends, and the other part provided with an eye or socket, into which the end of the tooth is hooked, with a vertical stud projecting upward from either part by the side of the tooth, to keep the latter in place. It also consists of a lever pivoted either to the lower end of the seat-bar or to the cross-bar, to which lever is pivoted a foot-rest, which may be adjusted upon the lever by a bolt inserted through the lever and foot-piece, either farther from or nearer to the seat, to accommodate the driver in operating the beams which carry the rake-teeth and clearers, as will be more fully hereinafter described.

Figure I is a side view of so much of a horse-rake as is necessary to show my invention as applied thereto. Fig. II is a plan view, showing the adjustable arm to which I hinge the rake and clearer beams, and also showing the tooth-socket. Fig. III is a front view of the slotted piece to which the arm is attached, showing the manner of its adjustment. Fig.

IV is a plan view, showing the two parts of the tooth-socket; and Fig. V is a plan view of the pivoted lever and adjustable foot-rest.

In the drawings, B represents the axle, to which is attached the piece *b*, having a vertical slot, *b'*, made therein, through which is inserted the bolt *c'*, which is turned into the upright piece *a*, made upon the arm *a'*, to secure the latter at any desired height on the piece *b*, to hold the rake-beam N and clearer-beam N' at the desired height from the ground. The clearer-beam N' rests in sockets in the arms *a'*, and the rake-head N is hinged to lugs projecting from the under surfaces of said arms. Each tooth-socket R is made in two parts, one part, R', having the eye or projection *h* thereon, in which is a hole, *h'*, to hook the end of the rake-tooth *l* into, and also having a hole, *s*, and the lug *i* projecting upward. The other part *h'* has the upright projection or loop *k*, through which extends the rake-tooth *l*, and is also provided with a hole, *s*, so that after the tooth has been passed through the loop *k* and hooked into the eye *h*, the large end of the part *h'* being placed over or upon the small end of the part R, with the holes *s*, one over the other; both parts *h'* and R' are secured to the axle by a screw or bolt inserted through the holes *s*, and turned into the axle. To the lower end of the seat-bar I, or upon the cross-bar H, is secured the piece F, in which is pivoted, at G, the lever D. To this lever is pivoted, at *e*, the part C, having a projecting foot-rest, E, and also provided with holes *x*, by which to adjust it upon the lever, by a bolt, *x'*, inserted through the holes and lever, by which adjustment the foot-rest is brought nearer to the seat, or farther from it, as may be desired.

The tooth-socket R being made in two parts, as thus described, it is, of course, immaterial whether the lug *i* is made upon the part *h'* or upon the part R'; but to facilitate the removal from and attachment to the socket of the tooth, I prefer to make the lug *i* upon the part *h'*, as then the tooth may be removed or unhooked from the eye *h* as soon as the screw *v* is removed from the holes *s* in the two parts of the socket, whereas if made on the part R' the screw *v* must first be removed, and the

tooth be elevated above the lug to unhook it, and afterward drawn through the loop *k*, if entirely removed. The object of the said loop is to allow each tooth to have a little free play in a vertical direction, to clear itself more completely from obstacles on the ground, and yet to hold the tooth down to its work properly.

It should be stated that the arm *L* is secured firmly to the lower end of the lever *D*, and the link *L'* is pivoted at one end to said arm, and at the other end to the piece *O*, made fast to the beam *N*, to which the rake-teeth and their sockets *R* are secured, so that the teeth may be raised and lowered either by the foot of the driver or by the hand, or both.

Having thus described my invention, what I claim as new is—

1. In an improved horse-rake, provided with teeth-clearers, the combination of the following elements: the axle *B*, the slotted

piece *b*, the piece *a*, having thereon the arm *a'*, with its lug, the rake-head *N*, hinged to the latter, and the clearer-beam *N'*, all combined substantially as described.

2. In an improved horse-rake, the combination of the tooth *l* and the tooth-socket *R*, made in two parts, *h'* and *R'*, both parts secured together and to the beam *N* by a screw, *v*, and provided with the lug *i* and the eye *h*, to secure the tooth properly in position, substantially as described.

3. In an improved horse-rake, the combination of the lever *D*, the adjustable piece *C*, having the foot-rest *E* thereon, the arm *L*, the link *L'*, and the piece *O*, secured to the beam *N*, all substantially as herein set forth.

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Witnesses:

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