R. BROWN.

Horse-Rake.

No. 164,071. Patented June 8, 1875.

Fig. 2.

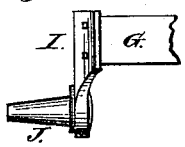


Fig. 3.

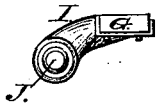


Fig. 1.

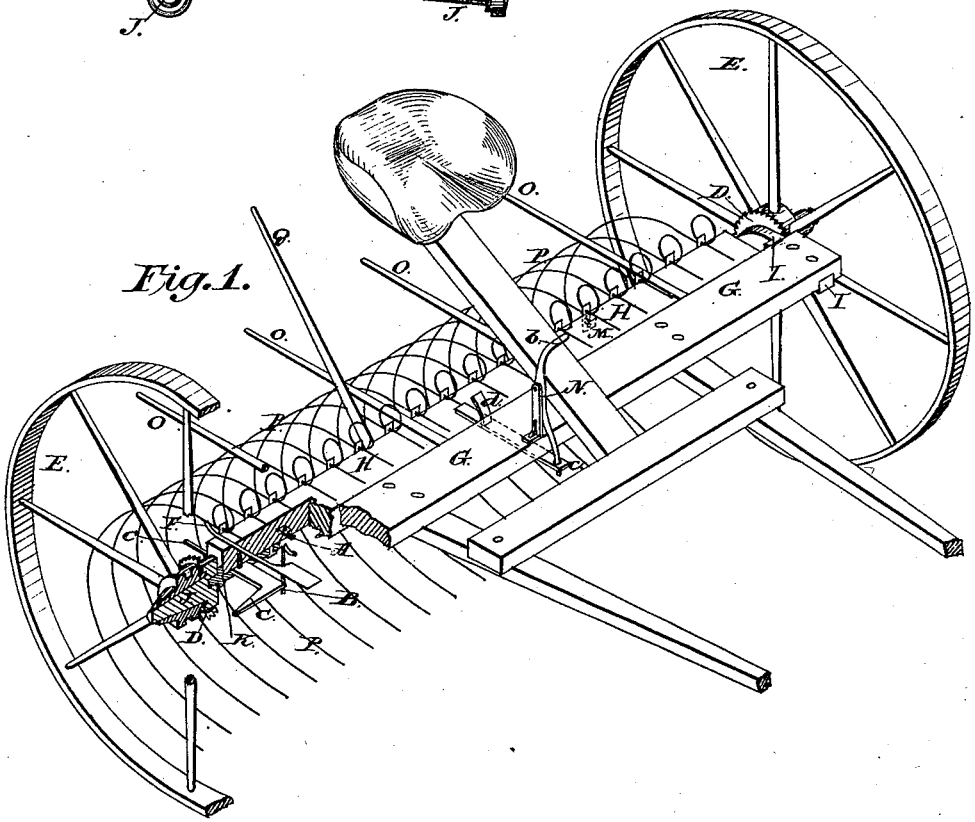


Fig. 4.

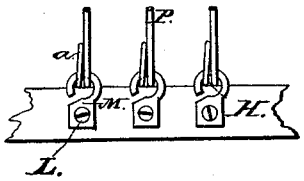
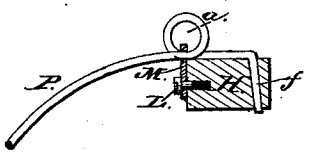


Fig. 5.



Attest:

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UNITED STATES PATENT OFFICE.

ROBERT BROWN, OF DAYTON, OHIO.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. **164,071**, dated June 8, 1875; application filed March 24, 1874.

To all whom it may concern:

Be it known that I, ROBERT BROWN, of Dayton, Montgomery county, Ohio, have invented a new and useful Automatic Lifting and Dropping Horse-Rake; and I do hereby declare the following to be a full, clear, and precise description of the same, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 is a perspective view of my improved rake, showing the automatic lifting and dropping device attached to the side nearest the beholder, (certain portions of the axle G and rake-head H being represented as cut away,) also all the features of the invention. Fig. 2 is a plan of the axle-arm I and spindle J. Fig. 3 is a side view of the same. Fig. 4 is a front view, taken from behind the rake-bar H, of the rake-teeth P and their clutch-fasteners M, the rake-teeth being shown thrown upward. Fig. 5 is a side section of the rake-teeth P, clutch M, clutch-screw L, and rake-head H.

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

My invention relates to that class of horse hay-rakes used for agricultural purposes, which operates automatically for the lifting and dropping of the rakes.

It consists in the combination of the stud A, the pawl-lever B, the pawl C, the ratchet D, wheel E, and ratchet-release piece F, with each other, and with the axle G and rake-head H operating automatically for the lifting and dropping of the teeth and rake-head.

For the better information of the public I will proceed to describe this device more in detail.

We will suppose the rake set in motion and the foot-lock thrown off. Attached to and projecting in front from the top of the rake-head H is a stud or piece of metal, A, lying in a horizontal plane, and situated near the end. Attached to the back part of the axle, and lying in a vertical plane, is what I call a pawl-lever, B, the same being a right-angled piece of metal hung upon a pivot at the angle. Now, when the hay accumulates in front of the teeth it holds them back, and the driver then, the lock being off, elevates them and their head with the lever Q. The bar, moving up behind, of course throws down the stud A in front, which strikes the upper end of the pawl-lever B and deflects its lower end to the outside, or toward the wheel. Now, situated in a horizontal plane, and pivoted to the bottom of the rake-head H, is what I call the pawl C, which is also a right-angled piece of metal pivoted at the angle, and so formed that one side comes in front of the ratchet D, which is attached inside to the hub of the wheel, and the other extends back beyond the rake-head. Now, when the pawl-lever is deflected to the outside, as above described, its lower end strikes this pawl C, and, its plane being horizontal, moves it outward till the end, which ordinarily lies just in front of the ratchet, is forced right into the teeth of the ratchet, by one of which it is caught. Now a new action takes place, for the rake being in motion forward, and the ratchet fastened permanently to the hub, the ratchet of course carries down and around with it the pawl C, which is now caught in it, and the pawl being fastened to the pivoted rake-head H, this head is also rotated downward and to the front, whereby of course its teeth are elevated still farther, the cleaners O O O O, attached to the axle, and projecting horizontally backward between the teeth, pushing the hay from off the teeth. Now, if there were no other mechanism, either the pawl would be torn off or the ratchet broken, or other damage be done to some integral part of the machine; but situated on top of the axle in a horizontal plane, and projecting straight back over the rake-head, is the ratchet-release piece F, as I call it, a straight flat piece of metal curved inward at its rear extremity. Now, as the ratchet carries the pawl, rake-head, and teeth up, the free end of the pawl C comes up and against this release-piece, and, striking its curved end, is deflected outward, and the end caught in the ratchet at the same time inward, and therefore released from the teeth, which being done, the teeth and their head fall again by their own gravity, and the whole action is again repeated as the hay again accumulates. I apply this device to both wheels.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent of the United States, is—

The combination, in a horse-rake, of the stud A, the pawl-lever B, the pawl C, the ratchet D, the wheel E, and the ratchet-release piece F, with each other and with the axle G and rake-head H, operating automatically for the lifting and dropping of the teeth and rake-head, substantially in the manner specified.

ROBERT BROWN.

Witnesses:
J. S. BINKERD,
O. W. BINKERD.