

G. M. TITUS.
Horse-Rake.

No. 216,239.

Patented June 3, 1879.

Fig. 1.

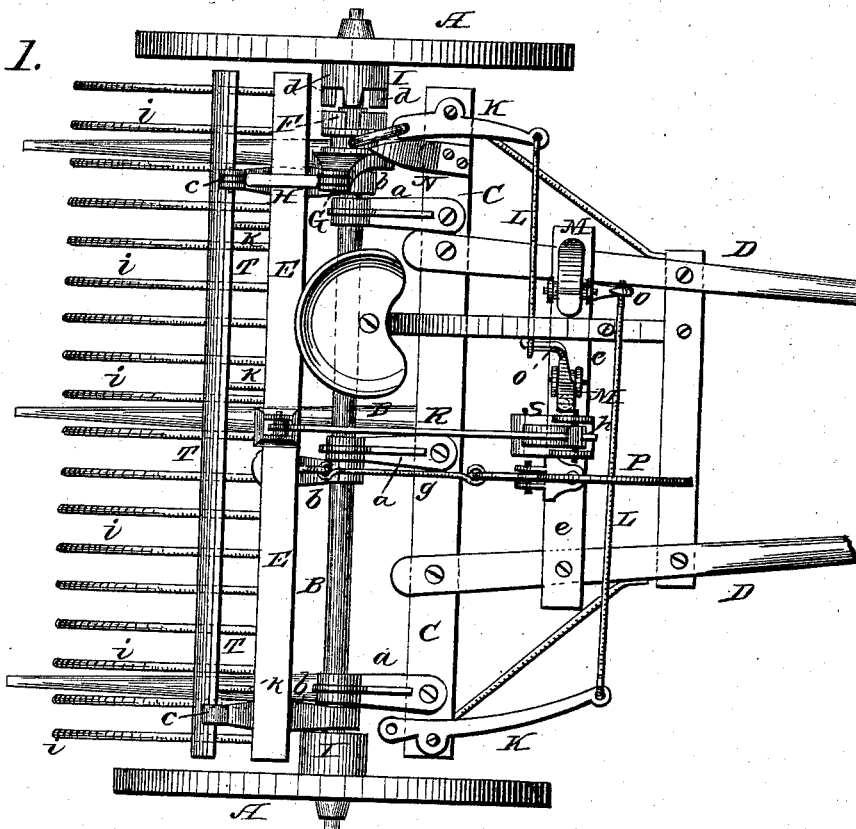


Fig. 2.

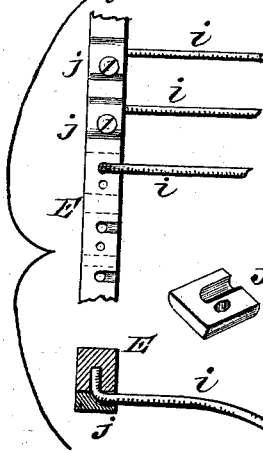


Fig. 5.

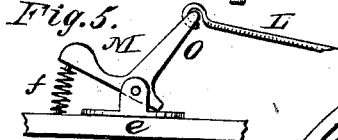


Fig. 4.

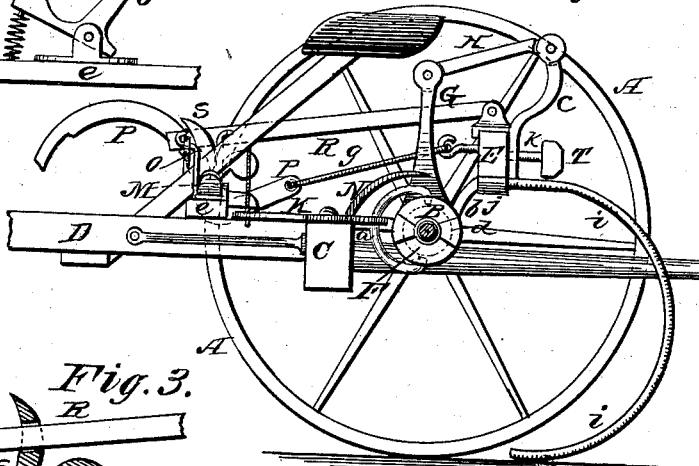
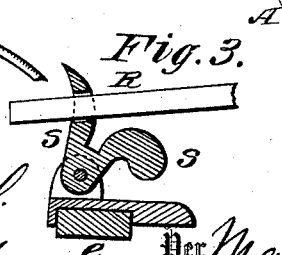


Fig. 3.



Witnesses:

P. H. Dietrich
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UNITED STATES PATENT OFFICE.

GEORGE M. TITUS, OF ROCK FALLS, ILLINOIS, ASSIGNOR OF ONE-HALF HIS
RIGHT TO WILLIAM W. BROWN, OF SAME PLACE.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. **216,239**, dated June 3, 1879; application filed
January 28, 1879.

To all whom it may concern:

Be it known that I, GEORGE M. TITUS, of Rock Falls, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Horse-Rakes; and I do hereby declare that the following is a full, clear, and exact description of the invention, 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 letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of horse-rakes in which the material raked is discharged by automatically raising the rake by means of one or both of the carrying-wheels; and my invention consists, first, in a device having the twofold operation of holding the teeth firmly to the ground or stationary at any altitude; and, second, in a novel method of connecting one or both of the carrying-wheels to the rake-head, for the purpose of raising the latter to discharge the hay.

Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a view of a section of under part of rake-head, end of tooth *i*, and cap *j*. Fig. 3 is an enlarged side view of the bar *R* and clamp *S*. Fig. 4 is an end view of lifting mechanism with the wheel removed. Fig. 5 is a front view of the treadle *M*.

A A are carrying-wheels turning upon the axle *B*. *C* is a beam parallel with the axle *B*, and connected to the latter by the braces *a a*. To the beam *C* are attached the shafts *D D*, as shown.

The rake-head *E* is affixed to the axle *B* by means of the braces *b b b*, the lower ends of which receive and rotate upon the axle *B*. The end braces, *b b*, extend above the rake-head *E* and form posts *c c*, to which is attached the lifting apparatus. As the lifting mechanism at each end is intended to be the counterpart of the other, that at but one end is shown or described.

On the inner face of the hub *I* of the wheel *A* are formed the recesses *d d d*, fitted to receive the clutch *F*. Integral with the clutch *F* is the vertical post *G*, the upper end of which is connected to the upper end of the post *c* by the short arm *H*.

The clutch *F* is made to engage the recesses of the hub *I* by means of the short lever *K*, pivoted on the beam *C*, the rear end of such lever being formed to grasp the clutch *F*, and the front end of the lever *K* being connected by the rod *L* to the short arm *O* of the treadle *M*, fulcrumed on the cross-bar *e* of the shafts *D D*.

The operation of this part of my rake is as follows: By the driver placing his foot on the treadle *M* the latter is partially revolved, and by means of the rod *L*, connected to the arm *O*, draws the front end of the lever *K* inward, which throws the rear end of such lever outward and the clutch *F* into the recesses of the hub *I*. The forward movement of the wheel *A* gives the clutch *F* a forward motion, including therein the post *G*, and the latter, by means of its connections to the post *c*, raises the rake-head and teeth. A guide, *N*, having rearward converging sides, is fastened to the beam *C* in such position as that its inner edge engages the outer base of the post *G*, and, acting on the latter as it moves forward, forces such post, and thereby the clutch *F*, inward on the axle *B*, so that when the rake-teeth are at a height sufficient to release the hay the clutch *F* has been moved sufficiently inward to be disengaged from the hub *I*, and to permit the rake to fall back into its original position of its own gravity. The clutch *F* is held from the hub *I* by the coiled spring *f* under the treadle *M*, so that the clutch engages the hub only at the will of the driver.

P is a hand-lever fulcrumed on the cross-bar *e*, and connected to the rake-head by the rod *g* as an additional means of raising the rake-teeth. *R* is a bar hinged at its rear end to the rake-head *E*, and having its front end passed through a vertical slot, *h*, in the clamp *S*. The latter is provided with two wings, in one of which is the slot *h*, while the other engages the lower edge of the bar *R*.

The last-named wing of the clamp *S* is made sufficiently heavy to fall away from the bar *R* when the driver's foot is removed, and thus automatically release the bar.

As the rake-head is oscillated the bar *R* necessarily traverses the slot *h*, and the driver by placing his foot on the clamp *S*, and press-

ing forward thereon, can lock the rake-head at any desired altitude, and can in the same manner hold the teeth firmly to the ground. The teeth *i* are bent upward at their front ends and inserted, respectively, in holes formed therefor in the lower side of the rake-head E. The metallic cap *j*, having a groove in its upper surface to conform to the tooth *i*, is placed over the latter and screwed tightly to the lower side of the rake-head, thus affording a simple and efficient mode of affixing and removing the rake-teeth.

T is a bar in the rear of and parallel with the rake-head E, and attached to the latter by short posts *k k k*. The bar T rests upon the teeth *i* a short distance behind their point of attachment to the rake-head, and is intended to relieve such attachment of the strain consequent upon the lower end of the teeth striking an obstacle. The posts *k* afford a slight elasticity to the bar T. The latter also holds

the rake-teeth to the ground with a uniform pressure.

I claim as my invention and desire to secure by Letters Patent—

1. In a horse-rake, the clutch F, provided with the post G, the arm H, post *c*, levers K, rod L, and treadle M, all constructed and operating substantially as and for the purpose described.

2. The clamp S, having the two wings, as shown, one of which is weighted to automatically release the bar R, in combination with the bar R and rake-head E, in the manner and for the purpose specified.

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

GEORGE M. TITUS.

Witnesses:

W. W. BROWN,

H. HINKSON.