J. H. THOMAS.

HORSE HAY-RAKES.

No. 194,014. Patented Aug. 7, 1877.

Fig. 1.

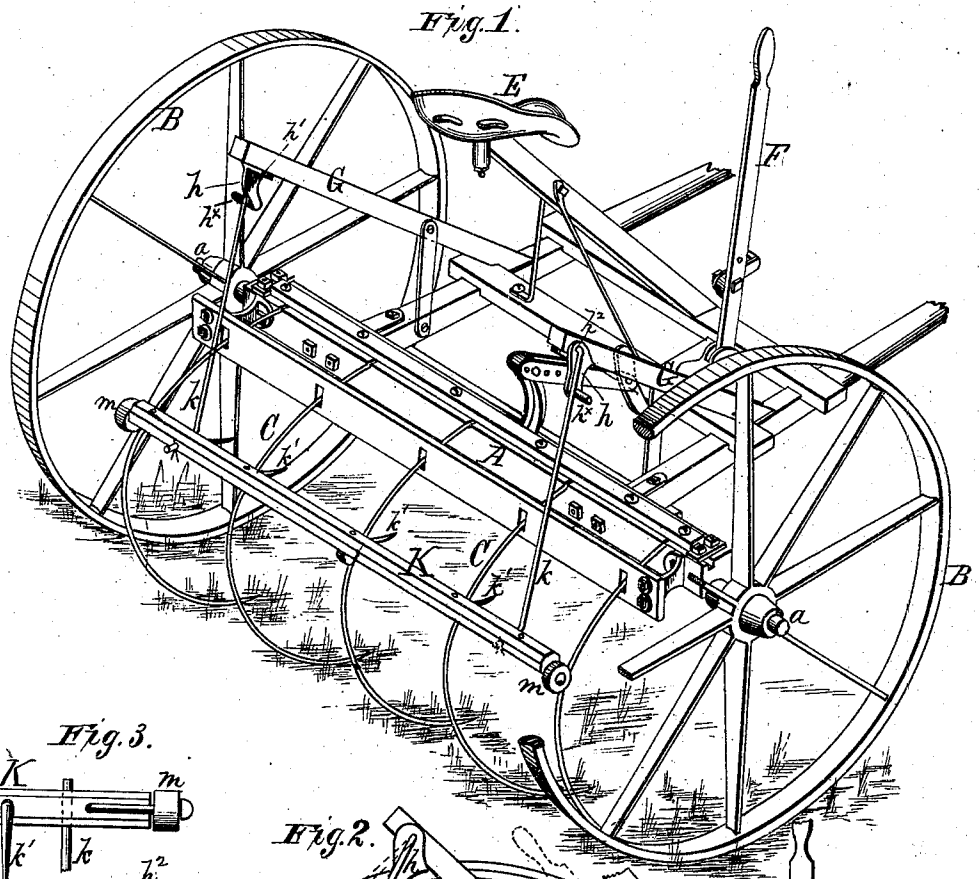
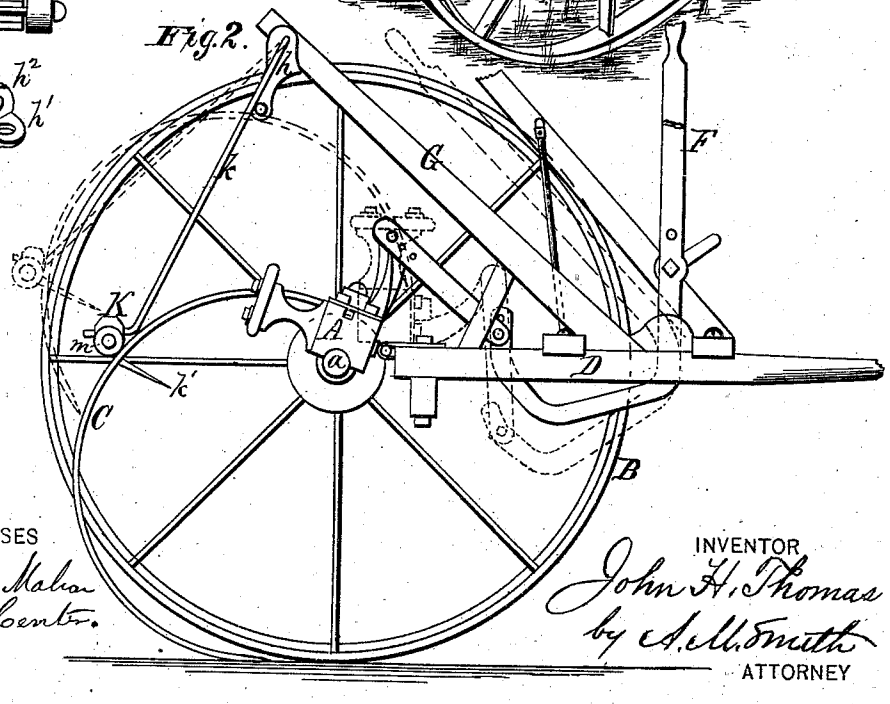


Fig. 3.

Fig. 4.



Fig. 2.



WITNESSES

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JOHN H. THOMAS, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **194,014**, dated August 7, 1877; application filed August 1, 1877.

To all whom it may concern:

Be it known that I, JOHN H. THOMAS, of Springfield, county of Clarke, State of Ohio, have invented certain new and useful Improvements in Horse-Rakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a horse-rake with my improvements applied. Fig. 2 is a side elevation of the same, with one of the carrying-wheels removed to show the arrangement of the other parts; and Figs. 3 and 4 are detached views of parts hereinafter described.

Similar letters of reference denote corresponding parts wherever used.

My invention relates to that class of horse hay-rakes employing a swinging cleaner for assisting in the operation of discharging the gathered load from the rake-teeth when the latter are raised for that purpose.

It consists in providing a cleaner or cleaner-rake, suspended by hinged or pivoted rods or arms, with friction-rollers arranged eccentrically to or below the cleaner-head, and traveling over one or more of the rake-teeth as the latter are raised and lowered, thereby obviating all scraping action between the rake-teeth and cleaner.

It further consists in the combination, with the swinging cleaner, provided with friction-rollers traveling or rolling on the rake-teeth, as described, of guiding-brackets for preventing lateral play of the cleaner and insuring the proper relation of the rollers to the teeth over which they are intended to move, and in providing said brackets with lugs or stops, which hold the cleaner and its rollers above and free from the rake-teeth when the latter are down in position for gathering their load, all as hereinafter explained.

In the accompanying drawing, A represents the main axle or axle-bar, said bar in the present instance being attached eccentrically to the stub-axles *a a*, on which the carrying-wheels B B are mounted, and constituting the rocking rake head or bar, to which the teeth C are secured.

D is the draft-frame, upon which also the driver's seat E and the lifting-lever F, through which the attendant controls the action of the rake, are mounted, said parts being constructed and arranged in any usual or preferred manner.

Upon the thill or draft frame are secured two backwardly-inclined standards, G G, so arranged that their rear upper ends overhang the rake-head A, and to said upper ends pendent brackets *h h* (see Fig. 4) are secured by bolts passing through horizontal flanges h^1, or in any other convenient manner.

The brackets *h* have perforated ears h^2, in which are secured the angular ends of pendent rods or links *k k*, the lower ends of which pass through and are secured to the cleaner rake-head K, the arrangement being such as to permit the cleaner to swing freely with the rods *k k* in following or conforming to the movement of the rake-teeth C.

The pendent brackets *h* are expanded in width, and the rods *k* are secured to, and vibrate back and forth by the side of, and in close proximity with, the vertical faces of said brackets, and being placed on opposite sides thereof lateral movement of the swinging rods and of the cleaner-rake is prevented. The brackets *h* are provided at their lower ends with horizontal spurs h^x, which project under the rods *k*, serving as stops for limiting the downward movement of said rods and for holding the cleaner-head K above and clear from the rake-teeth C when the latter are down at work.

The cleaner-head is provided with cleaner-teeth *k'* having any usual or preferred form and arrangement for stripping or cleaning the rake-teeth C when the latter are raised to discharge their load, and is further provided with rollers *m m*, arranged eccentrically to the axial center of said head, or in such relation thereto as to project below the head and arranged in vertical planes coincident with those of the rake-teeth C C over which they are to move when the rake-teeth are raised or lowered. These rollers may be two or more in number, and may be secured directly to the bar or head K, one at each end, upon eccentrically-arranged pivots, as shown in the bottom view, Fig. 3, or they may be mounted in short pendent brackets, and at

points intermediate between the ends of the cleaner-head. By preference they will be arranged in pairs for balancing the head, and in such manner that both ends of the head will be acted upon simultaneously when the rake-teeth are raised or lowered. These rollers, as stated, are arranged in the same vertical planes with the rake-teeth, and rest upon and move in contact therewith, holding the cleaner-head raised above and free from the rake-teeth, and obviating the scraping action and friction consequent upon allowing the cleaner-head to rest directly in contact with the rake-teeth, thereby greatly facilitating the operation of the rake.

The construction and arrangement of the brackets *h h* and of the swinging links prevent lateral displacement of the rollers, and insure their proper working relation to the rake-teeth over which they move. This relation may be further insured, if desired, by the employment of grooved rollers.

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

1. A vibrating or swinging cleaner or cleaner-rake, in combination with rollers, applied and operating substantially as and for the purpose described.

2. The swinging or vibrating cleaner-rake, provided with rollers *m*, as described, in combination with the brackets *h h*, or their equivalent, for preventing lateral play of the cleaner and keeping the rollers in the vertical plane of the rake-teeth over which they move, as described.

3. The vibrating cleaner K, provided with the rollers *m*, as described, in combination with the brackets *h h*, having the stops $h^{\times}$ for holding the cleaner K and rollers *m* above and free from the rake-teeth when the latter are down at work, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. THOMAS.

Witnesses:
A. P. LINN COCHRAN,
A. T. BYERS.