

J. F. KELLER.

Horse Hay-Rakes.

No. 137,212.

Patented March 25, 1873.

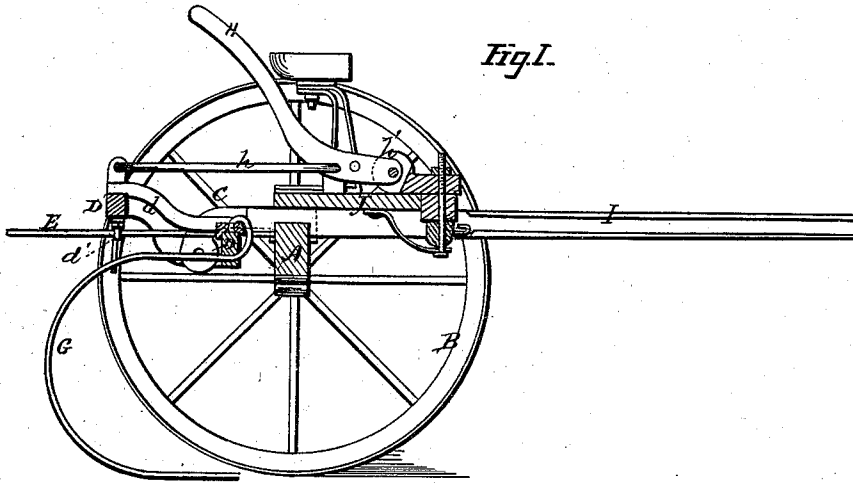
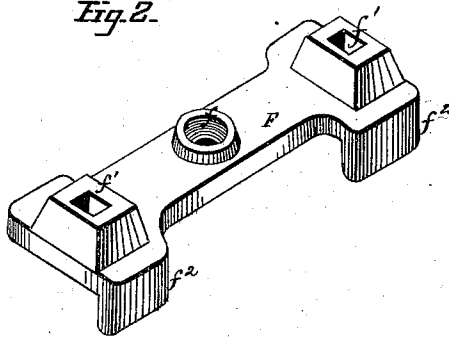


Fig. 2.



Witnesses

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2 Sheets--Sheet 2.

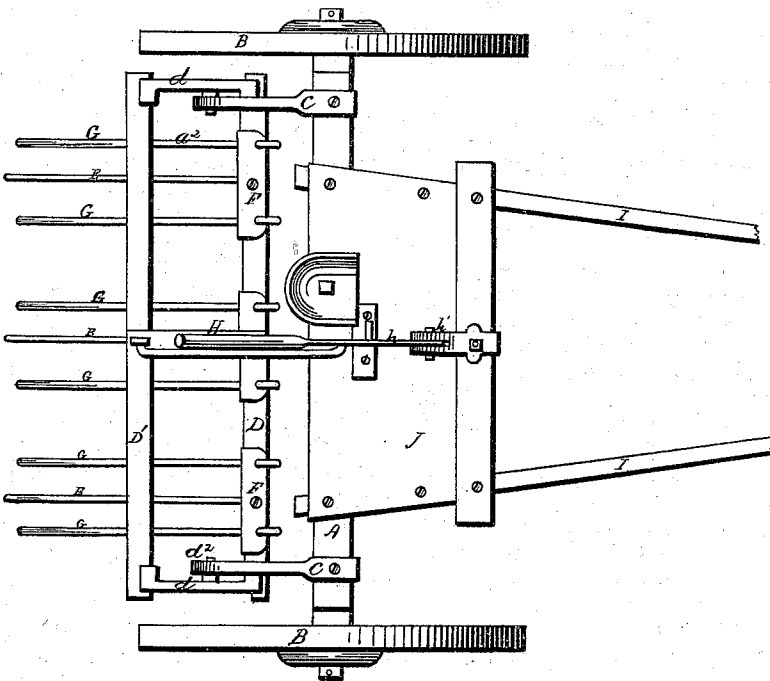
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Fig-3.



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UNITED STATES PATENT OFFICE.

JOHN F. KELLER, OF HAGERSTOWN, MARYLAND.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. 137,212, dated March 25, 1873.

To all whom it may concern:

Be it known that I, JOHN F. KELLER, residing in Hagerstown, in the county of Washington and State of Maryland, have invented a new and useful Improvement in Horse Hay-Rakes, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, in which—

Figure 1 represents a vertical transverse section of my improved rake. Fig. 2 is a perspective view of one of the rake-teeth keepers, and Fig. 3 is a plan or top view of the rake.

In the designation of corresponding parts like letters are used.

The nature of this invention consists in combining with the rake-head arms curved upward and embracing at their upper ends a bar with guides for the rake-teeth, and which arms are supplied with projections or journals having their bearings in the dependent portions of overhanging bars fastened to the rake-axle, to enable the rake-head and guide-bar to have sufficient movement for the rake-teeth to be unloaded; secondly, in the peculiar means for securing the rake-teeth to the head, as hereinafter more fully described and claimed.

To enable others to make and use my invention, I will proceed to describe it.

In the drawing, A refers to the axle, and B B to the wheels, of the machine. C C are two bars fastened to the axle A, and which overhang the rake-head D, with their dependent ends supplied with eyes. D refers to the rake-head, upon the ends of which are fitted arms *d d*, curved upward and embracing at their ends a bar, D', having guides *d'* for the rake-teeth to pass through, and which arms are provided with projections or journals *d'' d''*, which enter the eyes in the dependent ends of the overhanging bars C C, and enable the rake-head and lift-bar D' to be susceptible of movement that will enable the rake-teeth to be unloaded. By thus curving the arms *d* upward, or elevating their rear ends, the fingers or cleaners E E are allowed to pass under the lift-bar D', and also rest above the rake-teeth, in readiness to remove the hay from the teeth when the latter are raised. E E are the clean-

ers, which are fastened above the rake-head and to the axle A. F F refer to the keepers for fastening the teeth to the rake-head, each being adapted to connect a pair of teeth at once by passing a screw or other suitable means through an orifice, *f*, in its center, a cell or socket, *f'* *f'*, at each of its ends being provided for the reception of the front ends of the teeth. Lips or flanges *f'' f''* project from the lower side of the keepers and fit against the rear side of the rake-head, to assist in retaining the said keepers upon the latter. G G refer to the rake-teeth entering the keepers F F, and curved in such a manner as that they will be caused to gripe the keepers in the sockets, to set out from the rake-head, and then abut or press against the under side of the latter or within slots cut in the same. Through this manner of curving or affixing the teeth to the rake-head, springs are supplied to the teeth, and the latter also further secured in place. H is a lever suitably connected by a rod, *h*, to the lift-bar D', and pivoted in a clip or bifurcated plate, *h'*, bolted to a bar adjusted upon the shafts I. This lever is for raising and lowering the rake-teeth. A foot rest or pin, *h''*, is fastened to the lever H for holding the teeth to their work.

I construct the platform J in one piece, as shown in the drawing.

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

1. The rake-head D, in combination with the arms *d d*, lift-bar D', and bars C C, substantially as and for the purpose specified.

2. The combination of the rake-head D with transverse grooves for the teeth and keepers F F and teeth G G curved or affixed thereto, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name this 28th day of February, A. D. 1873, in presence of two subscribing witnesses.

JOHN F. KELLER.

Witnesses:

GEO. W. SMITH, Jr.,
THOS. TAGGART.