H. MYERS.

HORSE HAY RAKE.

No. 255,321 Patented Mar. 21, 1882.

Fig. 1.

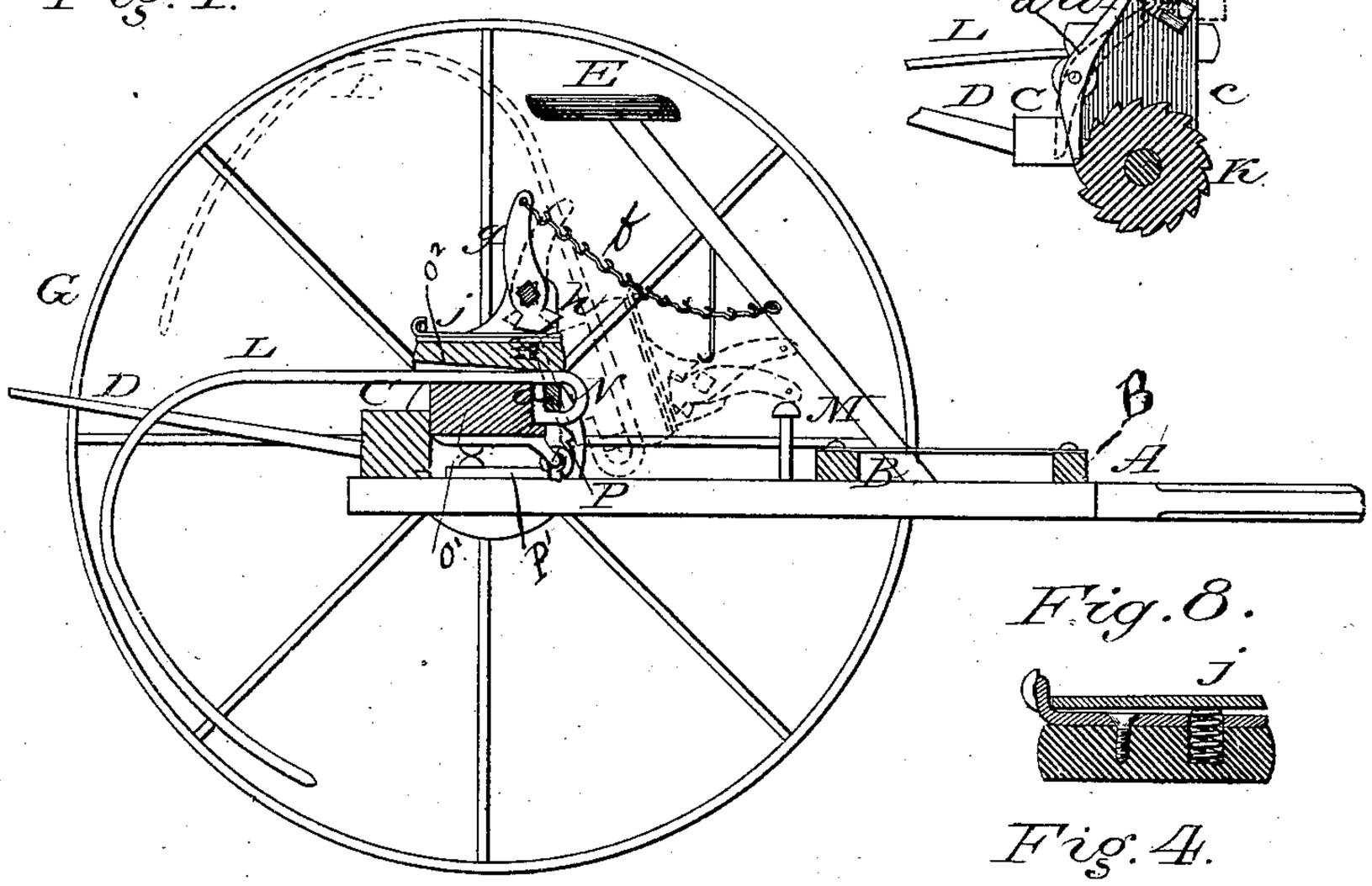


Fig. 5.

Fig. 8.

Fig. 4.

Fig. 2.

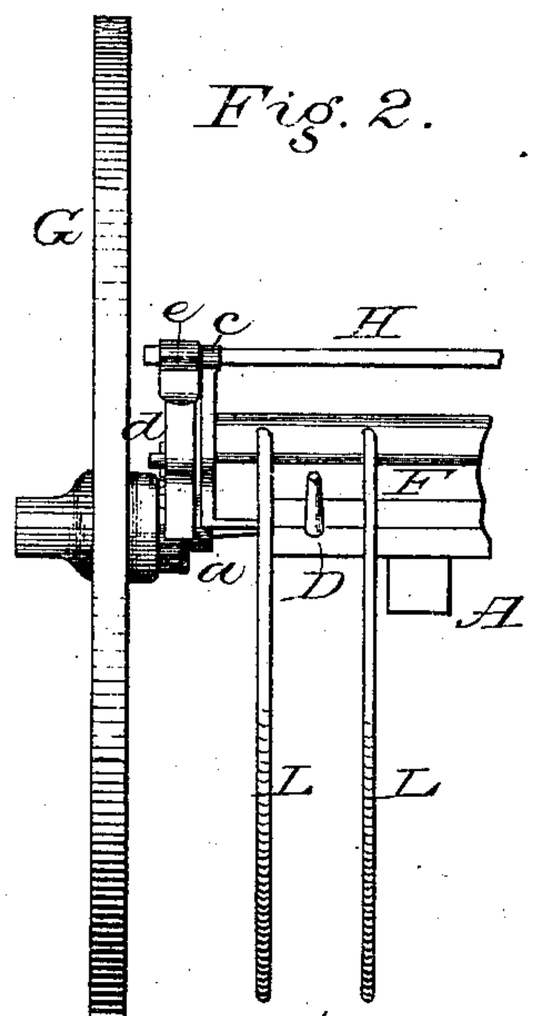
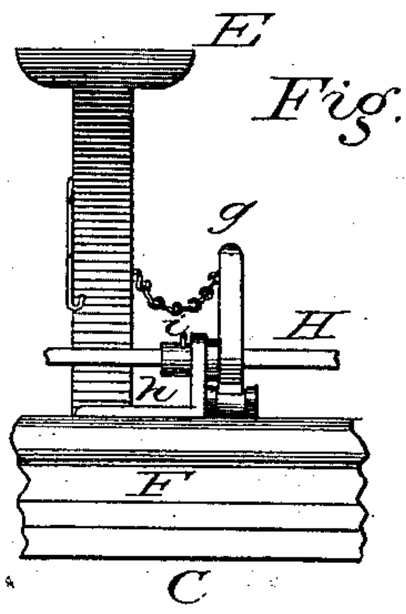


Fig. 3.



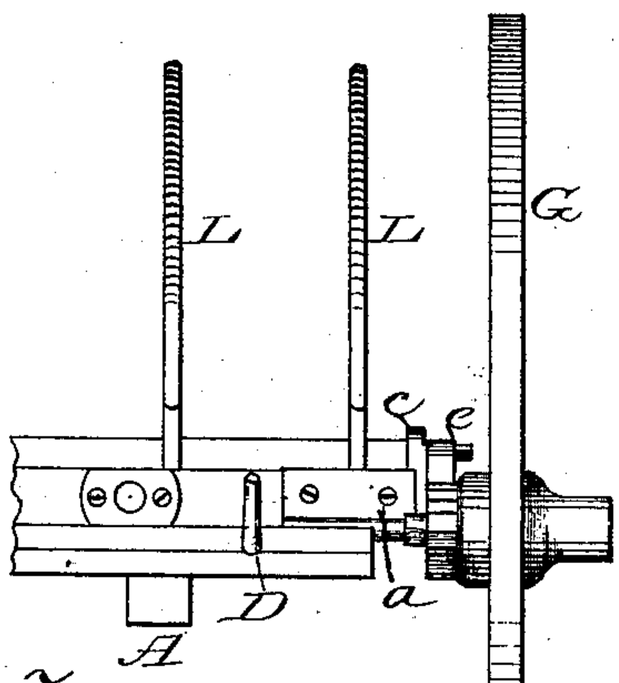


Fig. 6

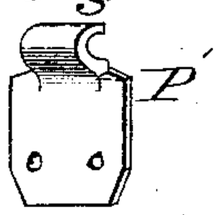
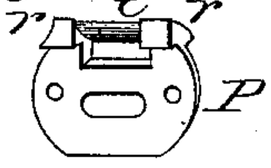


Fig. 7



Witnesses:
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Hiram Myers.

UNITED STATES PATENT OFFICE.

HIRAM MYERS, OF SPRINGFIELD, OHIO.

HORSE HAY-RAKE.

SPECIFICATION forming part of Letters Patent No. 255,321, dated March 21, 1882.

Application filed March 21, 1879.

To all whom it may concern:

Be it known that I, HIRAM MYERS, of Springfield, in the county of Clarke and State of Ohio, have invented a new and useful Improvement in Horse Hay-Rakes, of which the following is a specification.

The invention relates to horse hay-rakes; and it consists in the construction and arrangement of the teeth in connection with the head and axle. It also consists of the construction of the dumping device, as will be more fully described hereinafter.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a cross-section of my hay-rake. Figs. 2, 3, and 4 are rear views of the same. Fig. 4 shows the under side of head or axle with the teeth raised. Figs. 5, 6, 7, and 8 are detail parts thereof.

A A represent the shafts, they being connected in front by two cross-bars, B B, upon which the driver's seat E is supported. Upon the rear end of said shafts is secured a cross-bar, C, from which the cleaners D D extend toward the rear.

F represents the axle or rake-head, which is made of three separate pieces, *o o' o²*, running lengthwise the whole length of the head. Two of said pieces, *o'* and *o²*, are firmly bolted together and need not be separated to attach or detach the teeth to or from the head, or for any other purpose. The narrow strip *o* is removable, and must be removed to attach or detach the teeth to or from the head. The upper piece, *o²*, of the head extends out over the lower piece, *o'*, both in front and behind, to give the teeth a long bearing. Said piece *o²* is gained out on the under side transversely, inclining upward toward the rear, and forms part of the tooth-holder, and also forms a guide for the teeth, and serves as both lateral and vertical supports for the teeth. The front edge of the lower piece, *o'*, of the head is gained out transversely, and also forms a guide for the teeth, and serves as both lateral and vertical support, and also forms a part of the tooth-holder. The narrow strip *o*, and third piece of the head, passes through the loops N of the teeth L L, and is firmly secured to the head with several screw-bolts or any other suitable device to secure the teeth to the head. The head F, with its several pieces firmly bolted together, make the head, axle, tooth-holder, and guide-post for the teeth all in one compact body. I dispense with all other extra fixtures on some kinds of rakes in the rear to guide the teeth and to give them both lateral and vertical support. The form of the teeth is plainly shown in Fig. 1. The rear part of the loop N is bent off at right angles at the point of fastening, and where they emerge from head they curve upward and rearward, the upper portion of the loop thus formed passing through the gains or slots formed in the head, from which point they extend rearward and downward, as shown in Fig. 1.

The rake-head F is provided on the under side, at suitable points, with two plates, P P. Each plate P is provided with a wrist between two projecting lips or ears, *r r*, forming a closed link, *t*, the corresponding plates, P' P', secured on the top of the shafts A A, having their leaves provided with open links S S, thus hinging the shafts A A to the axle or rake-head F. The rake-head F is also provided at each end with cast or malleable iron bearings or plates *a a*, to which wrought-iron spindles are secured for the reception of the driving-wheels G G. The plates *a a* are provided on the under side and outer edge with a loop, the inner ends of the said wrought-iron spindles passing through said loops and being secured to the under side of the bearings *a a*. Both parts are secured to the axle or head with screw-bolts or their equivalents. Plates *c c* are connected with the plates *a a*, and are provided at their upper ends with a loop or eye, through which passes the oscillating rod H.

Secured on the rod H are levers *e e*, which are fork-shaped, one prong having a chamber for the reception of the spiral spring *n* at the point where the pawls *d d* and these levers connect, as shown in Fig. 5. Said spiral springs *n* are for the purpose of keeping the pawls *d d* in position when dumping the rake, and also to allow the pawls to yield at the point where they take the teeth on the hubs G G of the drive-wheels, in case the pawls strike the tooth near the point. This construction also permits one wheel to run backward while the other is standing still, or permits the rake to be backed while the pawls are in position for dumping

the rake. The plates or flanges *c c* are provided on the rear part, at suitable points, with stationary studs, upon which the pawls *d d* are pivoted, as shown in Fig. 5.

Upon the top of the head F, near the center, the casting or bearing *h* is secured by two screw-bolts or otherwise. Said casting *h* is provided with an arm projecting upward, with a loop in the upper end for the reception of the lever *g* and center of oscillating rod H. The lever *g* is also provided, near the lower end, with a hollow wrist or journal, through which the oscillating rod H passes, and both last-named parts pass through the loop in the projecting arm on the bearing *h*, and the rod H and lever *g* are secured and held in position with the small pin *i* or set-screw, as desired. The bearing *h* is also provided on the side of the arm and under the lever *g* with a recess for the reception of the plate *j*. On each side of said recess, in the rear, are cast semicircular lips or ears, to which the rear end of the plate *j* is hinged. The plate *j* is a thin piece of metal with a small journal on each edge, at the rear end, to correspond with the semicircular lips on the bearing *h*, thus hinging the plate *j* to the bearing *h*, as shown in Fig. 1. Under the plate *j* is placed a spiral spring. Said spring is for the purpose of pushing the plate *j* up against lower end of lever *g* to keep it in position when dumping said rake by the advancement of the horse. The lower end of said lever *g* can be cut in an obtuse angle or other desired shape to correspond with the plate *j* to control the dumping device.

The above-named levers and pawls are operated by means of the chain *f*, attached to the upper end of the lever *g* and to the post upon which the driver's seat E is secured. By the driver pressing his foot upon the chain *f* the upper end of the lever *g* is brought forward, and at the same time the pawls *d d*, by means of the before-described connection with rod H, take the teeth K K, attached to the hubs of the driving-wheels G G, so that as the rake advances the rake-head attached thereto will rotate on its axle and empty its load. The lever *g*, striking the stop M, disengages the pawls *d d* from the teeth K K, and said rake will fall down into position of its own weight.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the rake-head or axle F, of the teeth L, formed with loops N, and the strip *o*, passing through said loops and bolted to the rake-head, substantially as shown and described.

2. The combination of the rake-head or axle F with the pawls *d*, pivoted on the flanges *c*, the spiral springs *n n*, the oscillating rod H, having on its ends the pawls or levers *e e*, the lever *g*, and the spring pressing-plate *j*, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of February, 1880.

HIRAM MYERS.

Witnesses:
CHARLES SHOWERS,
H. S. SHOWERS.