(No Model.)

F. E. KOHLER.

HAY RAKE.

No. 368,215. Patented Aug. 16, 1887.

Fig. 5.

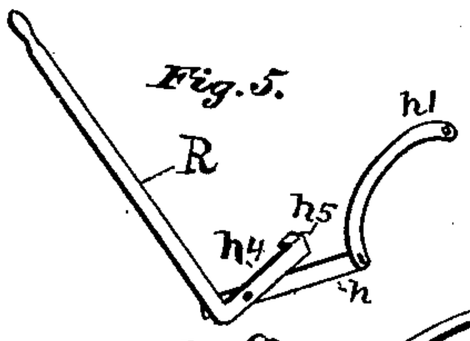

Fig. 4.

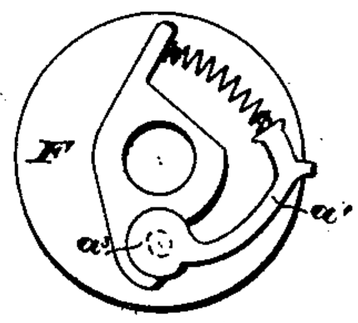

Fig. 3.

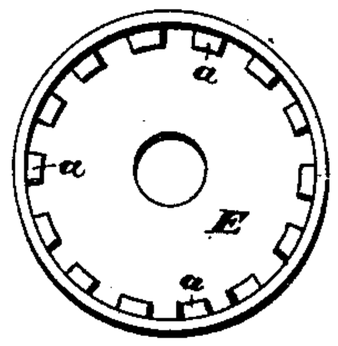

Fig. 1.

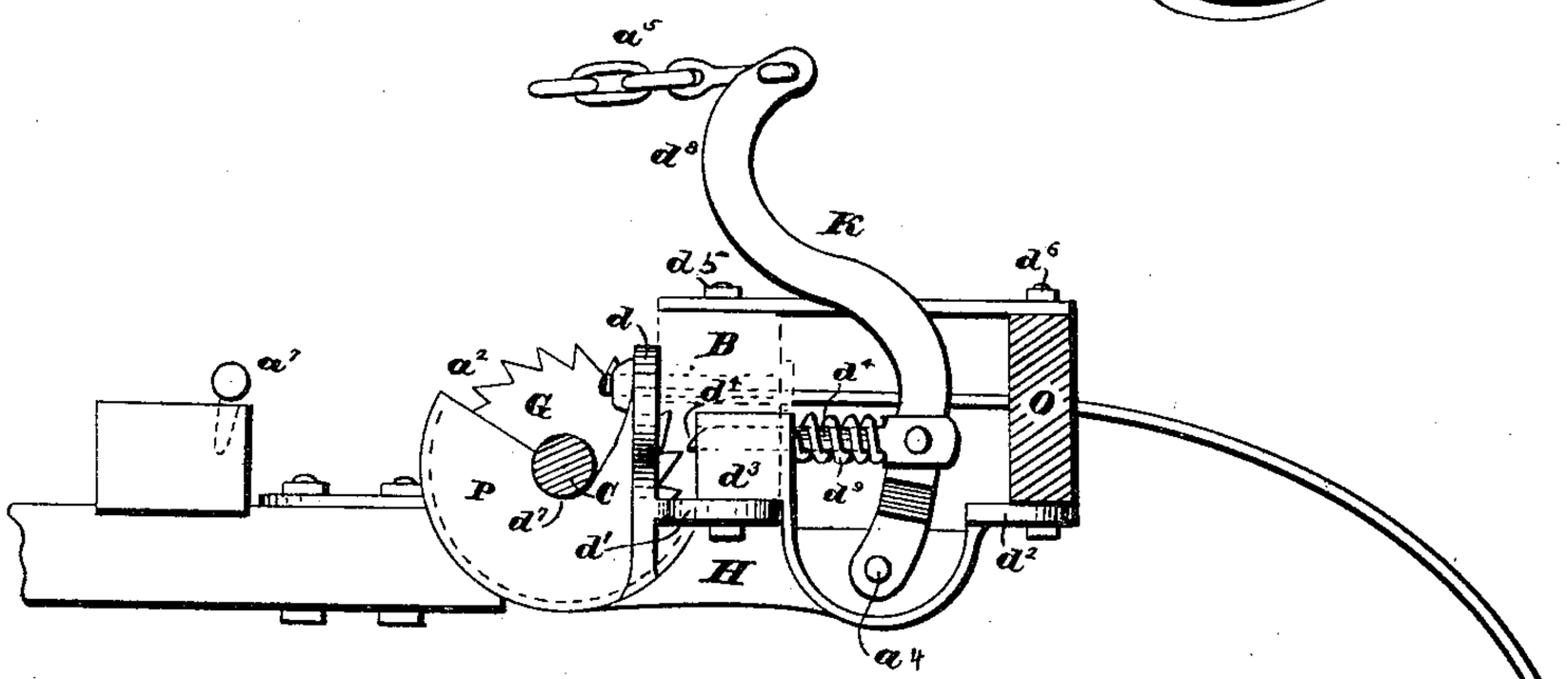

Fig. 2.

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UNITED STATES PATENT OFFICE.

FREDERICK E. KOHLER, OF CANTON, OHIO.

HAY-RAKE.

SPECIFICATION forming part of Letters Patent No. 368,215, dated August 16, 1887.

Application filed October 22, 1886. Serial No. 216,957. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. KOHLER, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Hay-Rakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in hay-rakes and in providing means for raising the rake-teeth from the ground for the purpose of dumping or discharging the hay.

My invention also relates to the detail and combination of parts as described, and set forth in the claims.

As my invention relates especially to providing the means for self dumping or discharging, and is appliable to many of the well-known forms of hay-rakes, I will proceed to describe my improvements, referring only to the rake parts as conjunctional thereto.

In the accompanying drawings, Figure 1 is a view in perspective of a rake embodying my invention. Fig. 2 is a view in elevation of ratchet-wheel bolt and bolt-actuating mechanism employed for elevating the rake-head. Figs. 3 and 4 are views of the devices for locking the axle to the wheels, and Fig. 5 is a view of the hand-lever employed for tilting the head.

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

Letter A represents the carrying-wheels; B, the rake-head; C, the axle-shaft; D, the thills loosely connected at their rear ends to the axle by thill-couplings A′. The wheels A are mounted loosely on the axle C, the hubs E having inwardly-projected cogs *a*, (see Fig. 3,) adapted for engagement with the spring-pawl *a′*, (see Fig. 4,) said pawl having a pivotal connection, a^3, with hub-plate F, which is rigidly connected to the axle-shaft C. By means of these cogs and pawls a continuous rotary movement may be given to the shaft while passing over uneven ground and when curving to the right or to the left.

Frame H has a vertical flange, *d*, a horizontal flange, *d′*, and a rearwardly-projected section having a flange, d^2, the said frame forming a support for the rake-head B and tooth-support O, and may be applied without severing the head or cutting it so as to materially weaken it. A small kerf is provided on the under side of the head B about one inch in width and depth to receive the standard d^3, which forms a support for and through which the locking-bolt d^4 passes. The flanges hereinbefore referred to extend out on each side of the kerf referred to and are secured to the head by the through-bolts d^5 and to the tooth-support by bolt d^6, thus forming a grasping-frame by which the rake may be raised as occasion may require.

On the front end of frame H there is provided a shield, P, for the protection of rack-wheel G and a support for the axle-shaft C. The axle, resting in the semicircular journal-bearings d^7, is prevented from springing out so as to disengage the rack a^2 from the locking-bolt d^4, hereinafter explained.

Rack-wheel G is rigidly connected to the axle-shaft C, and is provided on its peripheral edge with rack-teeth a^2. A locking-bolt, d^4, rests in and is supported by the metal frame H, one end of said bolt being adapted for engagement with the rack-teeth a^2 on wheel G, the other end having a pivotal connection with the trip-lever K, the lower end of said lever having a pivotal connection, a^4, with the supporting-frame H, and extends from said point of connection upwardly and forward and upwardly and back, as shown in Fig. 2. To the upper end of the lever K is connected a chain, a^5, which connects the lever K to a foot-treadle, L, the one end of which has a pivotal connection with a standard, a^6, which is bolted to the thill-bar M. On the rear thill-bar, N, there is provided a trip-block, a^7, which will be hereinafter explained.

The operation is as follows: To dump or discharge the hay from the rake the operator will press the foot-lever L down, which movement will draw the lever K forward. The locking-bolt engaging with the rack, the rotation of the axle will raise the rake over the axle, carrying the free end of lever K forward and downward. The breast d^8 of the lever coming in contact with the trip a^7, the movement of the lever is then arrested, the locking-bolt disengaged, and the lever returned to the position

shown by the exertion of the coil-spring d^9 as the rake drops back to the position shown in Fig. 1.

The rake-head B is connected to the front thill-bar, M, by links h and h', the front end of link h having a pivotal connection with a supporting-standard, h^3. The hand-lever R is provided with a horizontal foot-section, h^4, on the rear end of which there is provided a lug, h^5, projected out from the side, as shown. The lever R is supported by the standard h^3, and is pivoted thereto by the same bolt that forms the pivot for the front end of link h. The foot-section h^4 of the lever and link h are supported side by side, with the lug h^5 resting on the top of the link. From the front of standard h^3 there is projected a flange, h^6, in which there is a threaded aperture into which is inserted a set-serew, h^7, upon the head of which the lower end of the lever R may rest, and said screw may be turned in or out of said flange h^6 to regulate the throw of the hand-lever R, which may be used to raise the rake-teeth, or for the purpose of dumping or discharging the hay, which may be performed by drawing the lever R back, thus depressing the link h, which raises the rake-head M; or, when the power-dump is applied, the lever may rest on the set-screw h^7, the link h fall or rise under the lug h^5 without interfering with or requiring any movement of the hand-lever.

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

1. In a hay-rake, the combination, with the casting H for the locking mechanism, having flanges for its attachment to the rake-head and flanges for carrying the tooth-supporting bar, as described, of the ratchet-wheel G, carried by the axle, the upright standard d^3 on the casting, the sliding spring-actuated locking-bolt d^4, mounted in said standard, the lever K, and rake-head B, the lever K being pivoted to the rake-frame and also to the bolt d^4, substantially as described, and for the purpose set forth.

2. In a hay-rake, the combination, with the casting H for the locking mechanism, having flanges d, d', and d^2, and an open shield provided with semicircular journal-bearings d^7 for the axle, the ratchet-wheel G upon the axle, and the standard d^3, having an opening therein for the passage of a spring-bolt, of the horizontally-sliding spring-actuated locking-bolt and the operating-lever pivoted to the supporting-frame and also to the rear end of the locking-bolt d^4, substantially as set forth.

In testimony whereof I have hereunto set my hand this 19th day of October, A. D. 1886.

FREDERICK E. KOHLER.

Witnesses:
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