

(No Model.)

2 Sheets—Sheet 1.

C. M. GATES.
HAY LOADER.

No. 513,996.

Patented Feb. 6, 1894.

Fig. 3.

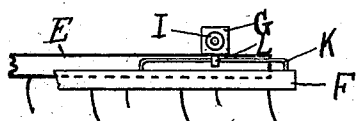
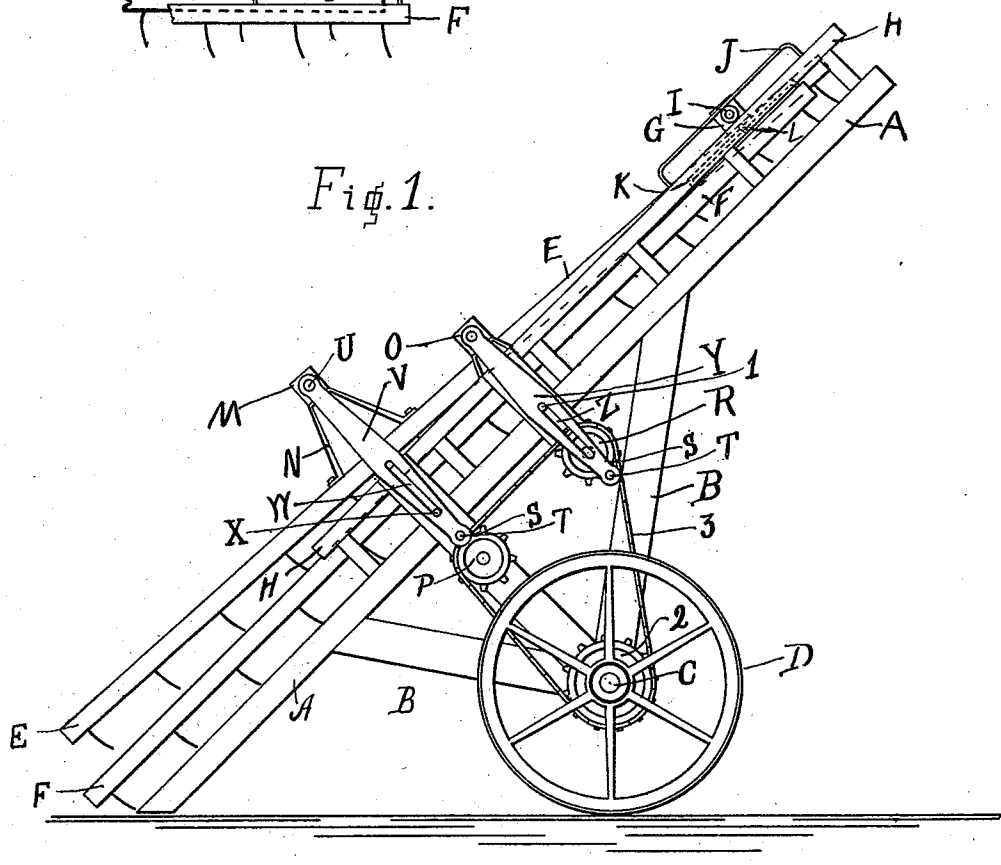


Fig. 1.



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(No Model.)

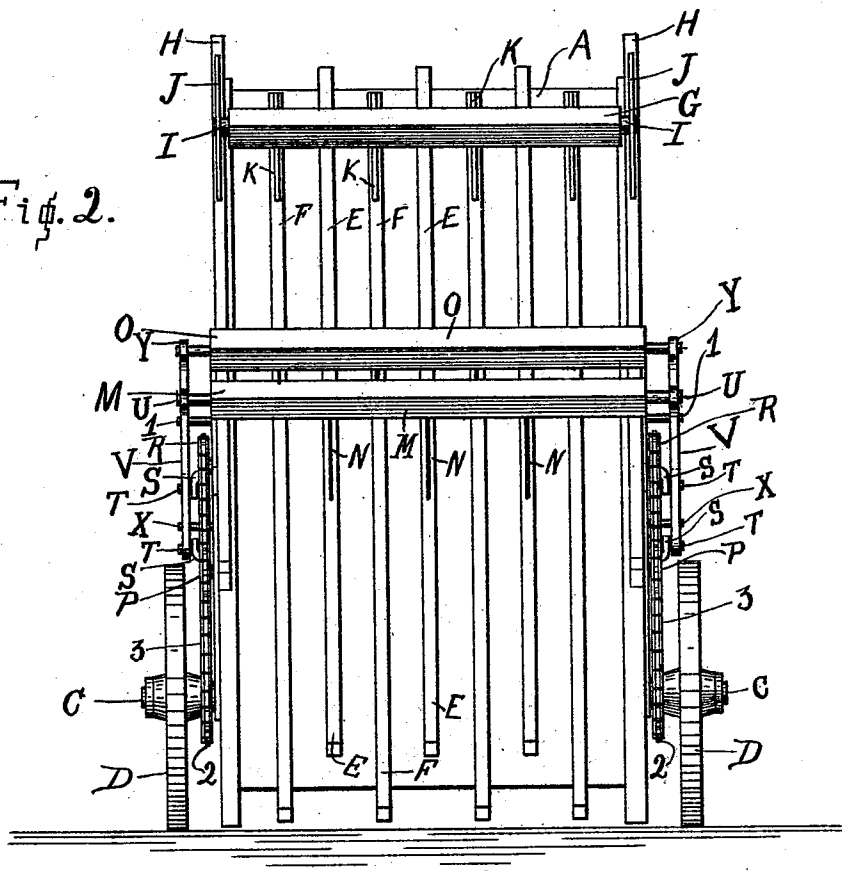
2 Sheets—Sheet 2.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES M. GATES, OF LA SALLE, ILLINOIS, ASSIGNOR OF ONE-HALF TO
JOSIAH C. SMALLEY, OF LAFAYETTE, INDIANA.

HAY-LOADER.

SPECIFICATION forming part of Letters Patent No. 513,996, dated February 6, 1894.

Application filed June 28, 1893. Serial No. 479,009. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. GATES, a citizen of the United States, residing at La Salle, in the county of La Salle and State of Illinois, have invented a new and useful Improvement in Hay-Loaders, of which the following is a specification.

My invention relates to an improvement in hay-loaders.

The object of my invention is, to provide improved means for operating the rake-bars.

The accompanying drawings illustrate my invention.

Figure 1 represents a side elevation. Fig. 2 represents a rear elevation. Fig. 3 represents a section at *a—* Fig. 1.

In the drawings, A, indicates an inclined platform which is mounted by means of a suitable frame-work, B, on an axle, C, which is provided with a pair of carrying-wheels, D, D, which are secured to the axle so as to revolve therewith.

Two sets of rake-bars, E, and F, arranged alternately, are mounted upon the platform A so as to have a longitudinal reciprocating and vertically vibrating movement thereon.

The upper ends of rake-bars E, are rigidly secured to the under side of a cross-bar, G, the ends of which rest and slide upon ways, H, H, erected at the opposite edges of the platform, the ends of the cross-bar being provided with pivots, I, I, which project beneath raised guide-bars, J, J, secured to the ways, H, H.

The rake-bars F are suspended at their upper ends from the cross-bar G, so as to have a longitudinal sliding motion thereon, by means of rods, K, which slide in eyes, L, secured to the under side of the cross-bar and are bent downward at the ends and secured to the upper edges of the rake-bars, as shown in Fig. 3.

The lower ends of the rake-bars E are rigidly connected together by means of a cross-bar, M, which is secured to the upper edge of each of said rake-bars by means of a bracket, N. The intermediate parts of the rake-bars

F, are secured together in a similar manner by means of a cross-bar, O.

A pair of sprocket-wheels, P, and R, are mounted upon each side of the main-frame upon studs projecting therefrom, each of said sprocket-wheels being provided with a crank-arm, S, and a wrist-pin T. The wrist-pins of sprocket-wheels P, are connected with journals, U, U, projecting from the opposite ends of cross-bar M, by means of connecting-rods V, V, each of which is provided with a longitudinal slot, W, into which a pin, X, projects from the side of the main-frame. The wrist-pins of sprocket-wheels R, are connected in like manner with the ends of cross-bar O, by means of connecting-rods, Y, Y, each having a longitudinal slot, Z, which engages a pin, 1, projecting from the side of the main-frame.

The sprocket-wheels P, and R, are rotated during the movement of the carrying-wheels D, by means of sprocket-wheels, 2, 2, secured to the axle C, and chain-belts 3, 3, passing over said sprocket-wheel.

In operation, the connecting-rods Y, V, operate as levers having shifting fulcrums, to convert the rotary movement of the sprocket-wheels P, and R into a vertically vibrating and longitudinally reciprocating movement of the rake-bars E, and F, whereby the material is raked from the ground upon and is elevated along the platform, A; the two sets of rake-bars moving simultaneously in opposite directions.

I claim as my invention—

1. In a hay-loader, the main-frame, the series of rake-bars loosely attached at one end to said frame so as to slide thereon, the cross-bar connecting the lower ends of said rake-bars, the pair of sprocket-wheels each provided with a wrist-pin and revolvably mounted on opposite sides of the main-frame, the longitudinally slotted connecting-rods, the pins projecting from the main-frame and engaging the slots in the connecting-rods, carrying-wheels arranged to support the main-frame, and intermediate connecting mechanism con-

necting the carrying-wheels and the sprocket-wheels whereby the sprocket-wheels are rotated by the rotation of the carrying-wheels, all combined and arranged to co-operate in
5 the manner and for the purpose set forth.

2. In a hay-loader, the combination of the main-frame, the cross-bar G mounted so as to slide thereon, the series of rake-bars rigidly secured to said cross-bar, the rake-bars sus-
10 pended from said cross-bar so as to slide lon-

gitudinally thereon substantially as set forth, and means for imparting a reciprocating movement in opposite directions to the two sets of rake-bars, substantially as set forth.

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Witnesses:

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