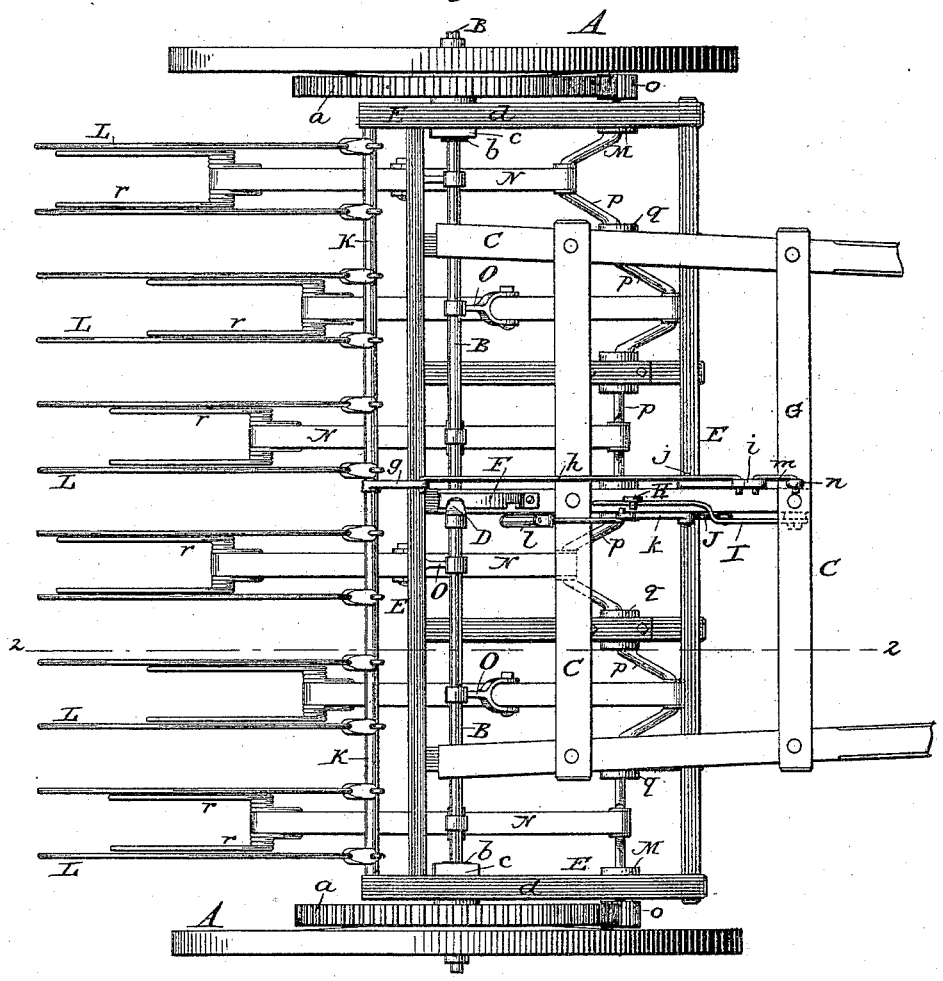
(No Model.) 2 Sheets—Sheet 1.

F. M. QUICK.

HAY RAKE AND TEDDER.

No. 456,845. Patented July 28, 1891.

Fig. 1.



Attest.

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Inventor:

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2

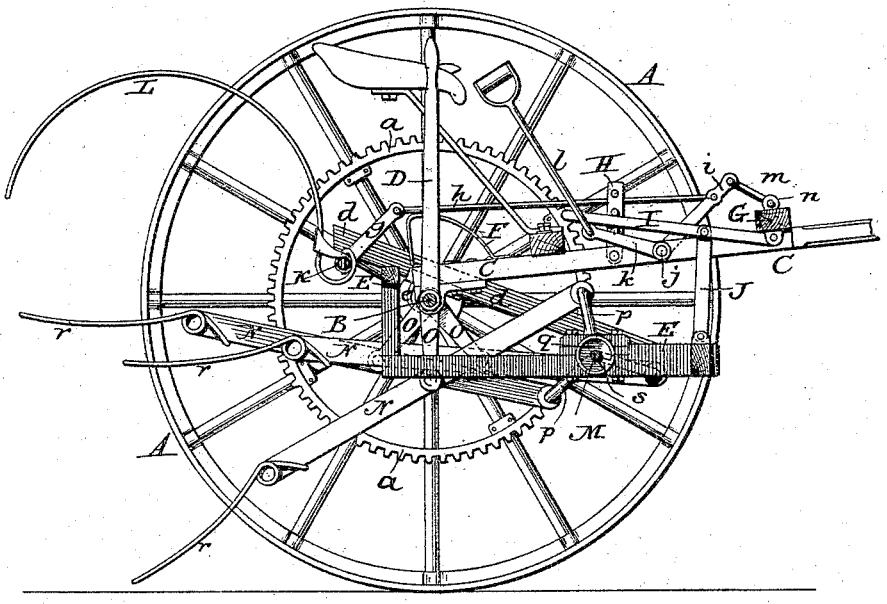

Fig. 3.

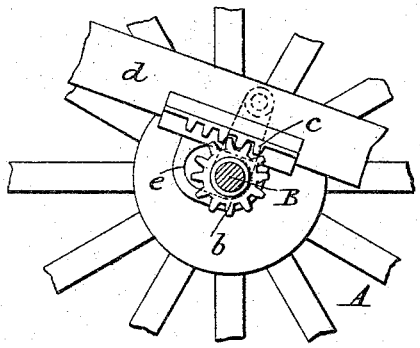

Fig. 4

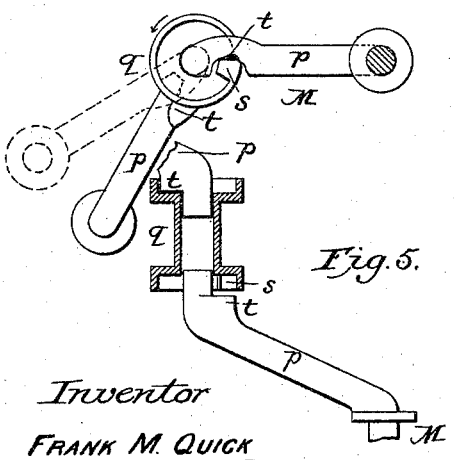

Fig. 5.

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UNITED STATES PATENT OFFICE.

FRANK M. QUICK, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-THIRD TO ELIJAH F. DARBY, OF SAME PLACE.

HAY RAKE AND TEDDER.

SPECIFICATION forming part of Letters Patent No. 456,845, dated July 28, 1891.

Application filed March 24, 1890. Serial No. 345,102. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. QUICK, a citizen of the United States, residing at Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Hay Rakes and Tedders, of which the following is a specification.

My invention relates to combined hay rakes and tedders; and it consists in various features hereinafter set forth and claimed.

In the drawings, Figure 1 is a top plan view of my improved machine; Fig. 2, a sectional view of the same on the line 2 2; and Figs. 3, 4, and 5, views illustrating certain details of construction.

A A indicate the main supporting-wheels, which are mounted loosely upon the axle B, and are each provided with a gear-wheel or ring *a*. The axle B is carried in boxes or bearings secured to the main frame C, and is provided with a hand-lever D and with one or more pinions *b*, which latter are designed to engage racks *c* on the under side of the bars *d* of a second or movable frame E. This frame E, or more properly its two end bars *d d*, are provided with slotted brackets or bearings *e*, as shown in Fig. 3, to receive the shaft and to permit said frame E to be moved back and forth at right angles to and upon the axle.

F indicates a curved notched plate, with which the said hand-lever D is designed to engage, as usual, to hold the lever in its adjusted positions.

G indicates a cross-bar secured to frame C, and H an upright also secured to said frame, the upright and cross-bar being connected by a lever I, from which, by means of a link J, the frame E is suspended at its forward end, as shown in Fig. 2.

Journaled at the upper ends of the bars *d d* on the under side is a rock-shaft K, carrying the rake-teeth L and provided with a radial arm *g*, which latter is connected by means of a rod *h* with an arm *i*, secured to a rock-shaft *j* on the main frame. Another arm *k* is also secured to rock-shaft *j*, and is provided with a hand-rod *l* for rocking the shaft *j* in its bearings. From this construction and arrangement it will be seen that as the shaft is rocked the rake-teeth will be thrown down into or up out of position for use.

In order to hold the rake-teeth in their elevated position, I provide the arm *i* with a hook *m* to engage or enter an eye *n* on the bar G or other part of the main frame, as shown in Figs. 1 and 2.

Journaled in suitable boxes or bearings on the forward end of frame E is a crank-shaft M, provided with gear-wheels *o o* to engage the gear wheels or rings upon the drive-wheels. Shaft M is made up of a number of sections *p p*, connected in pairs by sleeves *q*, and the shaft is connected to the forward ends of the tedding-arms N, as shown in Figs. 1 and 2. These arms N carry at their rear ends the tedding-fingers *r* and are suspended from the axle by means of links O. The sleeves *q* above referred to are made in the form of spools and are provided at each end with a shoulder or lug *s*, with which a shoulder or lug *t* near the end of the adjacent crank-section *p* is adapted to engage. Upon reference to Fig. 4 it will be seen that the lugs *s s* on the sleeves or spools *q* are arranged out of line with each other so as to permit the cranks or sections of the shaft to be placed at an angle of sixty degrees (more or less) with one another. This construction, which permits an independent adjustment or movement of the sections of the shaft, enables me to bring all of the tedding-arms into substantially the same plane when the rake is being used—in other words, to bring the cranked portions of the shaft all to one side of the axis, as shown in Fig. 4. When it is desired to throw the tedding mechanism out of action, it is only necessary to throw the hand-lever forward and move the frame E forward, carrying the pinions or gear-wheels *o* out of engagement with the gear-wheels *a* on the drive-wheels.

Instead of using a rack and pinion *b c*, the shaft may be provided with an arm. (Shown by dotted lines in Fig. 3.)

Having thus described my invention, what I claim is—

1. In combination with the main wheeled frame carrying the axle, the supplemental frame E, carrying the tedding apparatus, an upright H, secured to the main frame, and lever I and link J, connecting the forward ends of the two frames, all substantially as shown.

2. In combination with the main frame C,

having axle B, wheels A, and gear-rings *a*, supplemental frame E, supported at its rear end upon the axle and at its forward end by links connected with the frame C, tedding-arms carried by frame E and actuated by the shaft M thereon, links sustaining the rear ends of the tedding-arms, and means for shifting the frame E.

3. In combination with the main wheeled frame, the supplemental frame E, suspended at its forward end from said main frame and movable relatively thereto and supported at its rear end upon the axle, the shaft M, journaled at the forward end of the frame E, tedding-arms connected at their forward ends to the shaft and extending rearwardly, links supporting the arms at a point between their ends, and means for moving the frame E relatively to frame C to throw the shaft M into and out of gear with the driving-gear.

4. In a hay-tedder, the crank-shaft made up of sections *p*, each having a lug or shoulder *t*, in combination with the sleeve *q*, having lugs or shoulders *s*, the crank-sections being adapted to turn or rotate a limited distance relatively to the sleeves.

5. In a hay-tedder, the crank-shaft made up of sections *p*, each having a lug or shoulder *t*, in combination with the sleeve *q*, having lugs or shoulders *s*, and a tedder-arm journaled at its forward end to the sleeve, said sections *p* being adapted to turn or rotate a limited distance relatively to the sleeves.

6. In a hay-tedder, the crank-shaft made up of sections *p*, each having a lug or shoulder *t*, in combination with sleeve *q*, having lugs *s*, set at an angle of sixty degrees (more or less) to each other, and a tedder-arm carried by the sleeve, said sections *p* being adapted to turn or rotate relatively to the sleeve.

7. In a hay-rake, the combination, with a rock-shaft provided with teeth and with an arm *g*, a second rock-shaft *j*, provided with arms *i* and *k*, a rod *h*, connecting the arms *g i*, an eye or loop *n*, and a hook or latch *m*, carried by the arm *i* to engage the eye.

In witness whereof I hereunto set my hand in the presence of two witnesses.

FRANK M. QUICK.

Witnesses:
W. H. HOLLIS,
T. A. GROSS.