A. J. Preston.

Hay Rake and Loader.

117204

PATENTED JUL 18 1871

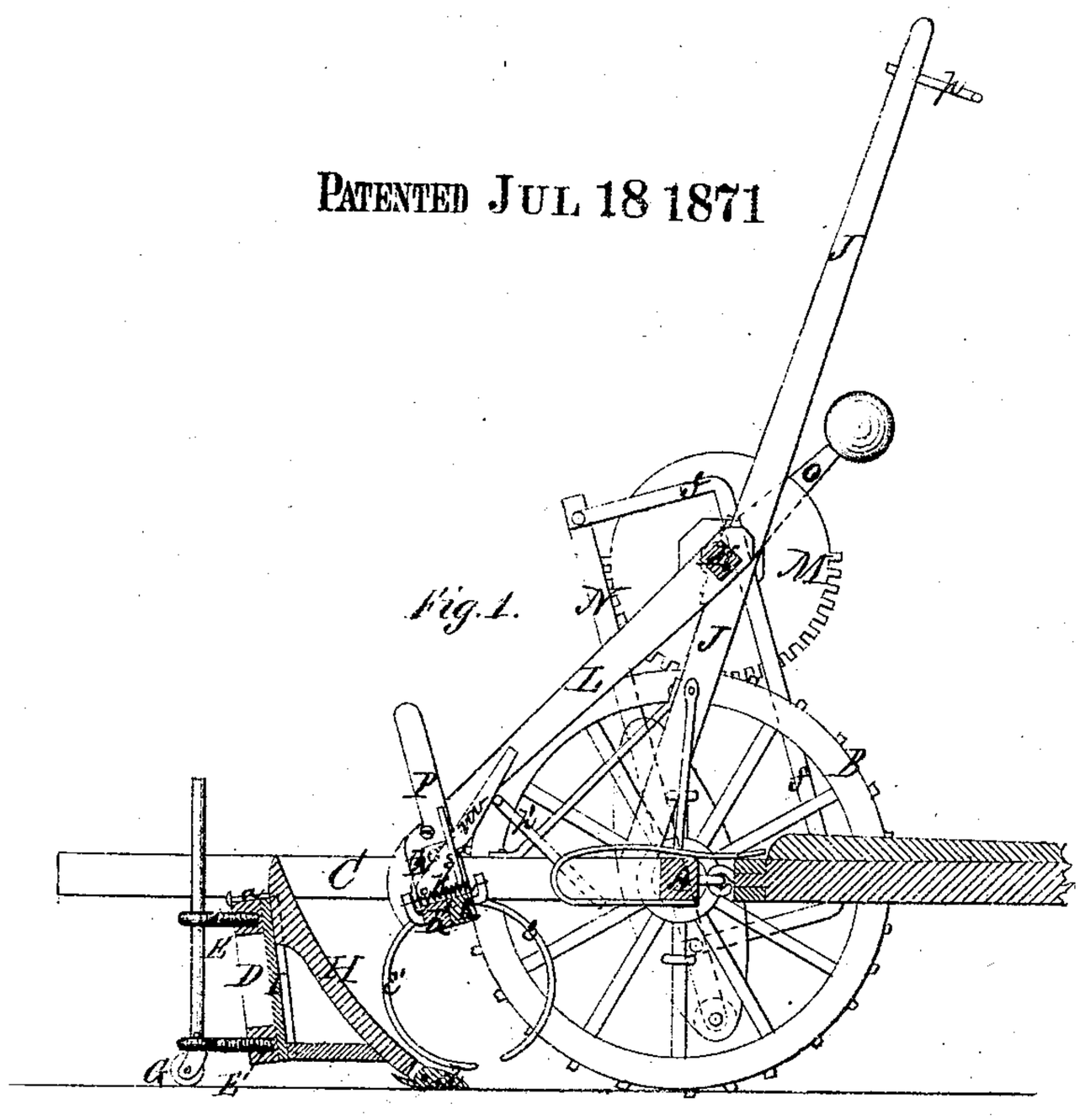

Fig. 1.

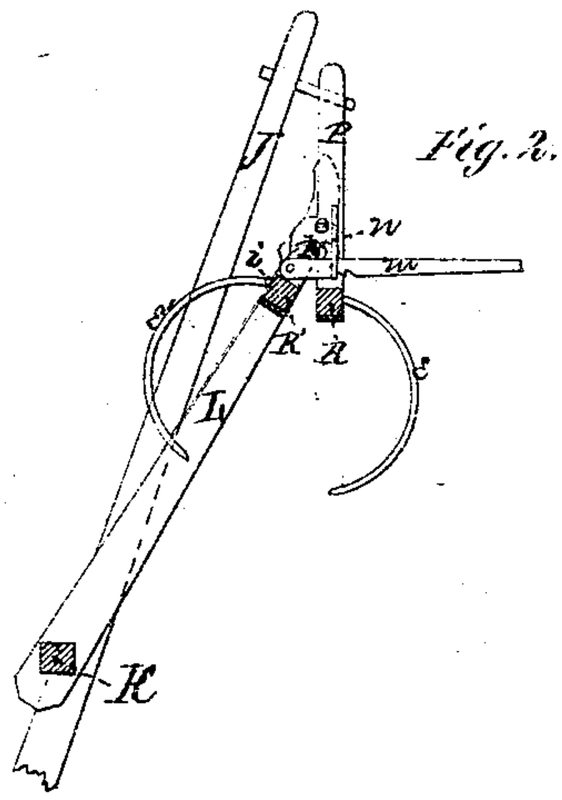

Fig. 2.

Witnesses
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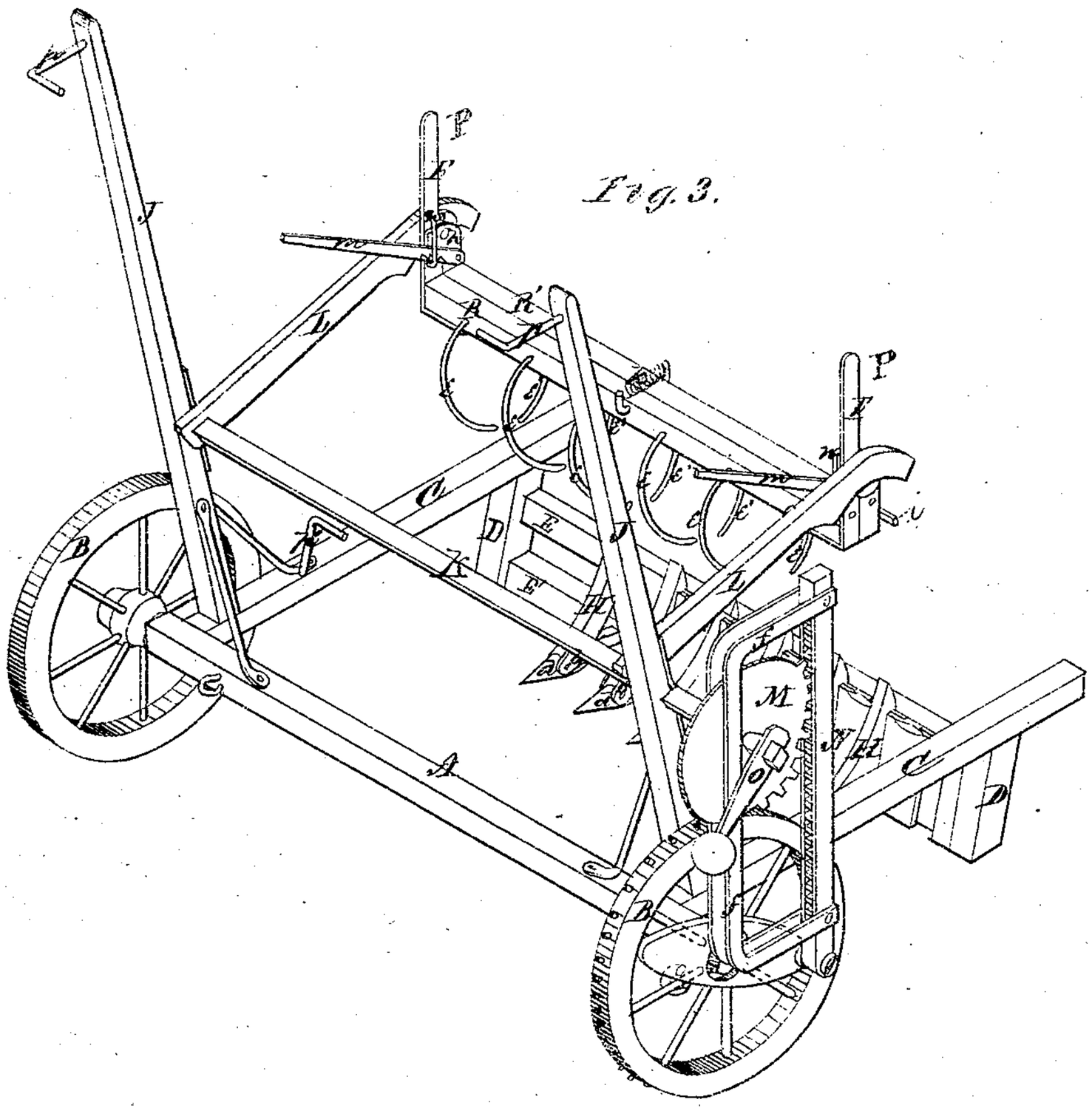

Fig. 3.

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UNITED STATES PATENT OFFICE.

ALMON J. PRESTON, OF EAST GUILFORD, NEW YORK.

IMPROVEMENT IN COMBINED HAY-RAKES AND LOADERS.

Specification forming part of Letters Patent No. 117,204, dated July 18, 1871.

To all whom it may concern:

Be it known that I, ALMON J. PRESTON, of East Guilford, in the county of Chenango and State of New York, have invented certain new and useful Improvements in Hay-Rakes and Loaders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a combined hay-rake and loader, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a central vertical section of my hay-rake and loader. Fig. 2 is a detached view, showing the fork in an elevated position; and Fig. 3 is a perspective view.

A represents the axle of my machine, with a wheel, B, at each end, one of said wheels being provided on its outside circumference with cogs or pins so to insure its turning at all times, and which wheel, by means of its attachments, as will be presently described, forms the driving-wheel of the loader. From the axle A extend toward the rear two beams, C C, one near each end of the axle, and near the rear ends of said beams are posts D D, extending downward, said posts being connected by means of two cross-bars, E E′. In the center, on the rear sides of these cross-bars, is arranged a caster-wheel, G, upon which the rear end of the machine rests. This caster-wheel is made so as to be capable of adjustment up and down in order that the rake may be raised up from the ground for moving from one place to another. From near the front ends of the beams C C rise standards J J, which are slightly inclined forward, and in boxes on the same, at a suitable height, is mounted a horizontal shaft, K. This shaft is provided with two arms, L L, extending toward the rear, and having the hay-forks pivoted between their outer ends, as will be presently set forth. Upon one end of the shaft K is attached a wheel, M, having cogs around a certain part of its circumference, which gears with a rack-pitman, N, pivoted to the main driving-wheel. The pitman N is held at all times close to the cog-wheel M by means of a frame, *f*, attached to it, as shown. The machine being in motion, the arms L L with the hay-forks are, by means of said pitman and cog-wheel, thrown upward and slightly forward, and then back again, the shaft K obtaining a rocking motion. Upon the extreme ends of the said shaft K are weighted arms O O extending in opposite direction from the arms L L to counterbalance and assist in raising the load. On the inner side, near the outer end of each arm L, is pivoted a lever, P, and to the lower ends of said levers is attached a bar, R, connecting the two together. This bar R is provided with teeth *e*, forming one-half of the forks, for carrying the hay from the rake H. To the levers P P, below the points where the same are pivoted, are pivoted ears *h h*, attached to the ends of another bar, R′, said bar being also provided with teeth *e′*, and forms the second half of the forks. The teeth *e* and *e′* are curved downward and toward each other so that when the bars or fork-heads R R′ are brought close together, by means of the spring *k*, the teeth will be in position to hold a load of hay. To the ears *h h* are pivoted levers *m m*, which are notched on their under sides and pass through staples *n n* attached to the levers P P. At the ends of the fork-head R′ are pins *i i*. At the upper ends of the standards J J, and also on the beams C C, near the lower ends of said standards, are placed knee-screws *p p* and *p′ p′*.

The forks having taken up a load from the rake H, they are moved upward, as before mentioned, until the levers P P strike the upper knee-screws *p p;* at the same time the pins *i i* on the fork-head R′ will bear against the under or rear sides of the arms L L. The pitman N having not yet passed the upper dead-center, the levers P P are pressed against the upper knee-screws so as to open the forks and release the load, which falls down on the wagon. The opening of the forks causes the levers *m m* of their own weight to fall down, so that their notches will be on the staples *n n*, and thus hold the forks open. The forks then being open are returned to the rake, and the fork-teeth surround the hay collected in the mean time by the rake. At the very instant when the teeth have thus surrounded the hay the levers *m m* strike the lower knee-screws *p′ p′* and are released from the staples, allowing the spring *k* to close the forks and grasp the hay.

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

1. The arrangement of the rocking-shaft K, arms L L, cog-wheel M, rack-pitman N, with frame *f* and the weighted arms O O, all substantially as shown and described, and for the purposes herein set forth.

2. The notched levers *m m* and staples *n n* for holding the forks open, in combination with the knee-screws *p' p'*, as and for the purposes herein set forth.

3. The combination of the levers P P, fork-head R, knee-screws *p p*, pins *i i*, and teeth *e e'*, all substantially as and for the purposes herein set forth.

4. In combination with the levers P P, head R, and teeth *e*, the ears *h h*, head R', and teeth *e'*, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALMON J. PRESTON.

Witnesses:
G. H. TALCOTT,
EUGENE A. TRACY.