H. ALBRIGHT.

Horse Rake.

No. 46,435. Patented Feb 21, 1865.

Fig. 1.

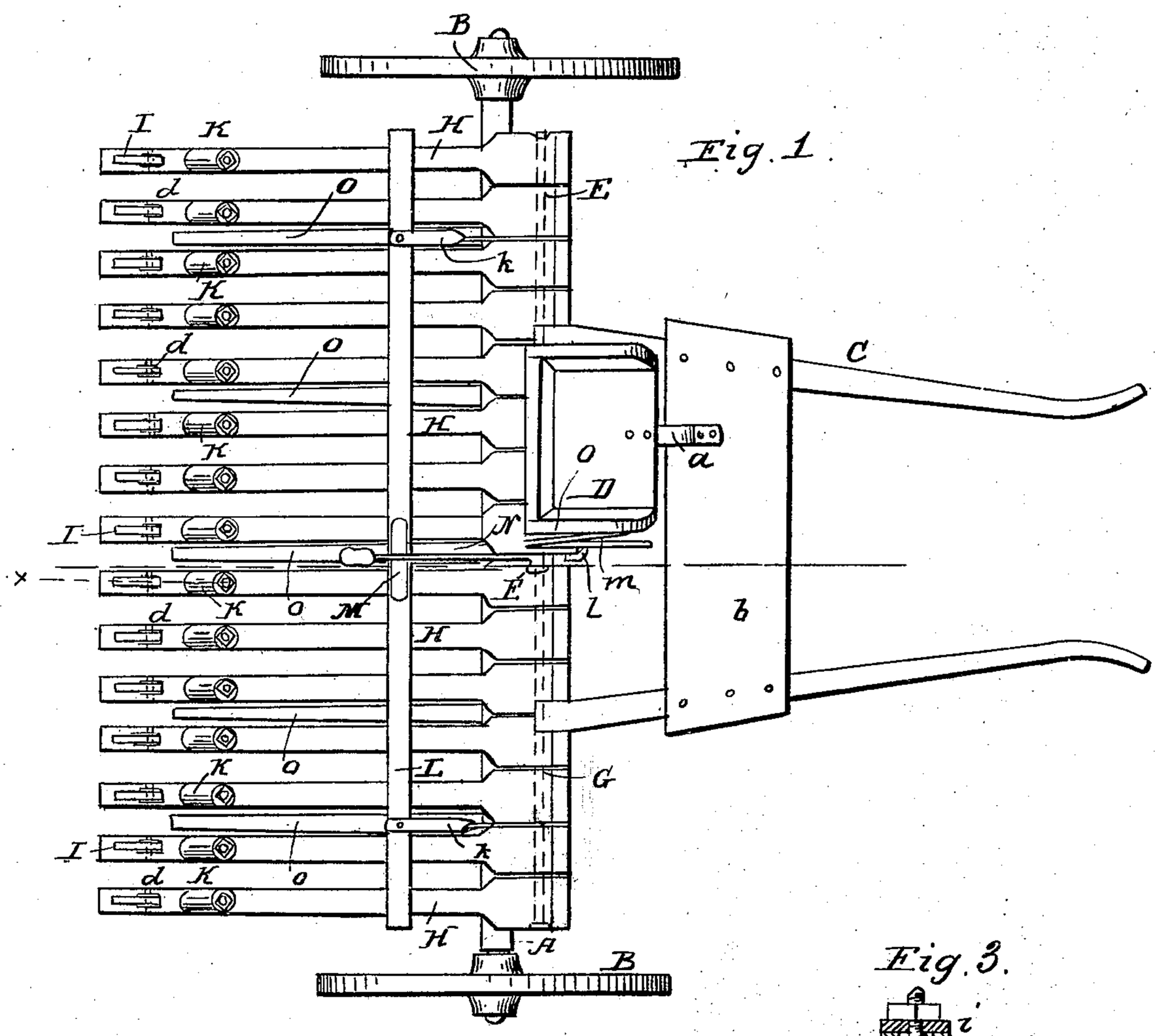

Fig. 2.

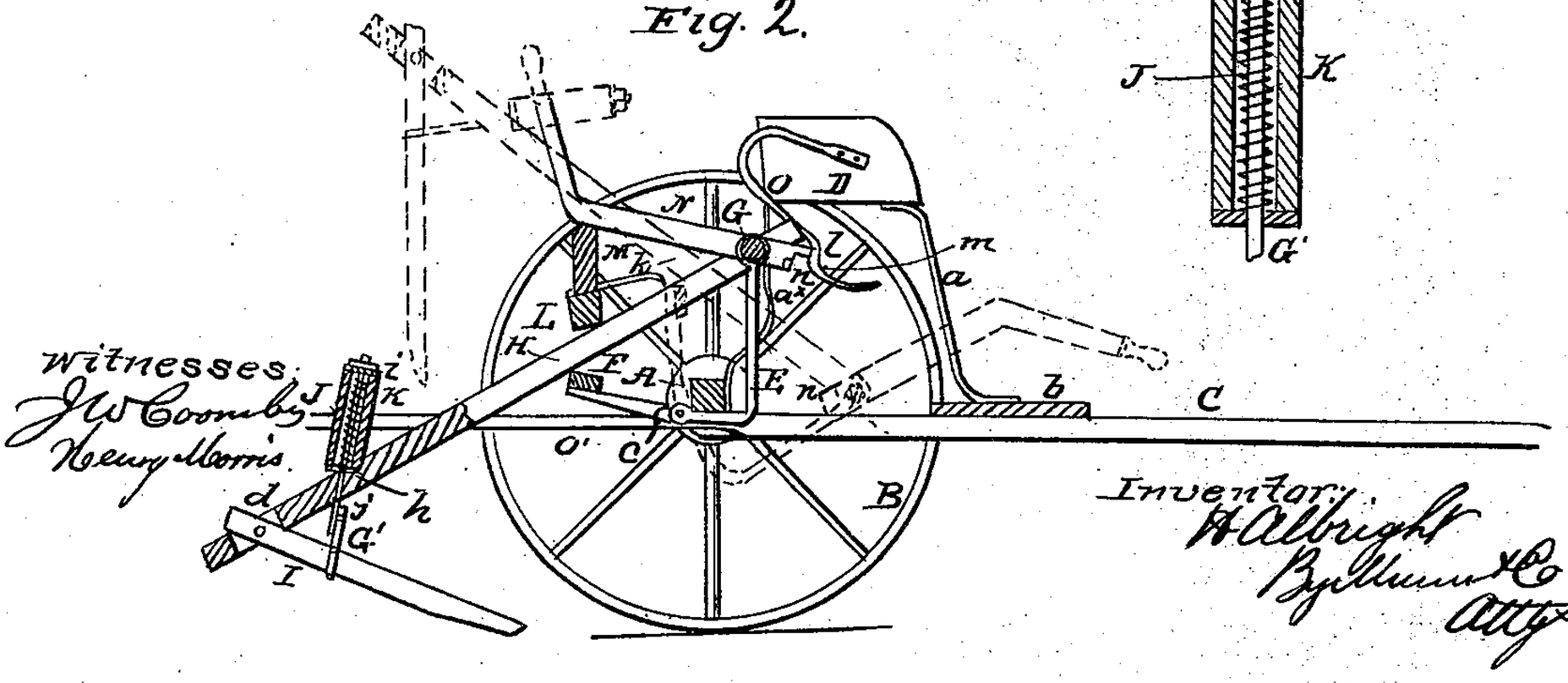

Fig. 3.

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HUBLEY ALBRIGHT, OF LEWISBURG, PENNSYLVANIA.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. **46,435,** dated February 21, 1865.

To all whom it may concern:

Be it known that I, HUBLEY ALBRIGHT, of Lewisburg, in the county of Union and State of Pennsylvania, have invented a new and Improved Horse-Rake; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a plan or top view of my invention. Fig. 2 is a side sectional view of the same, taken in the line *x x*, Fig. 1; Fig. 3, a detached enlarged longitudinal central section of a spring pertaining to the invention.

Similar letters of reference indicate corresponding parts in the several figures.

The object of the invention is to arrange the teeth in such a manner that they will be capable of being easily raised in order to discharge their load, and also readily adjusted in a working position and retained therein. This part of the invention consists in a novel way of applying the teeth to the machine, and in certain parts for operating the same, as hereinafter fully set forth.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an axle, having a wheel, B, placed loosely on each end of it, and C are thills attached to the axle.

D is a driver's seat, secured to bars $a^{\times}$ on the axle A, and braced by a rod, *a*, from a foot-piece, *b*, on the thills.

E represents three bent rods of V form, which are secured by pivots *c* to the back part of the axle A, said pivots being at the back of the axle A, as shown in Fig. 2.

To the back ends of the rods E there is attached a bar, F, which is parallel with the axle A, and the front ends of said rods extend up above the front of the axle A, and are secured to a rod G. On this rod G there are placed loosely a series of parallel bars, H, which have mortises *d* made in them near their back ends, and in these mortises the rake-teeth I are secured by pivots *e*. These mortises *d* are of sufficient length to admit of the rake-teeth I working in them on the pivots *e*, and each tooth I has a rod, G′, attached to it, on which spiral springs J are placed. These springs J have their lower ends resting or bearing upon plates or disks *h*, placed loosely on the rods, the upper ends of the springs being attached to plates *i*, secured on the upper ends of the rods. The rods G′ pass through the bars H, and the plates or disks *h* bear upon the upper surfaces of said bars, as shown clearly in Fig. 2.

Around the spiral springs J there are placed tubular india-rubber springs K. These springs K are fitted between the plates or disks *h* and the plates *i*, and the spiral springs J keep the rubber springs K free from the rods G′, and prevent the former from being injured by abrasion under the action of the rods. (See Fig. 3.) These springs J K have a tendency to keep the rake-teeth I in a proper working position, the rods G′ being twisted to form a loop, *j*, on each one of them, the springs keeping the loops in contact with the under sides of the bars H, unless the rake-teeth are forced back by obstructions as the machine is drawn along.

L is a bar which rests upon the upper surface of the bars H, and has arms K attached to it at right angles, the front ends of which are fitted loosely on the rod G. This bar L has a projection, M, attached to it at about its center, against which a lever, N, bears when the rake-teeth I are at work. This lever N is of bent form, is fitted loosely on the rod G, and has a short arm, *l*, at its front end.

O is a spring of curved form, as shown clearly in Fig. 2, and attached to one side of the driver's seat D, directly in front of the lever N. This spring has a shoulder, M, formed on it by a peculiar bend in the spring, and against this shoulder the arm *l* of the lever N bears when the rake-teeth I are in a downward or working position, and the lever N thereby made to press against the projection M on bar L, which keeps the rake in a proper working position.

The operation is as follows: As the machine is drawn along, the teeth I gather or rake up the hay, and in case a tooth meets with any obstruction the springs previously described admit of the tooth yielding or giving in a backward direction so that it may pass over the obstructions, the springs drawing back the tooth to its original position as soon as the obstruction has been passed over. Each tooth, also, it will be seen, is allowed to rise and fall independently of its fellows to conform to the inequalities of the ground. In order to dis-

charge the load, the driver, from his seat D, throws forward the lever N, the front end of which is provided with a short arm, *n*, which bears against the central bent rod, E, and the bar F raises the bars H, and consequently the teeth I, bars or arms *o*, which are attached to the axle A, preventing the hay from rising with the teeth. When the load is freed from the teeth I, the latter are allowed to descend to their original position, the arm *l* of the lever passing behind the shoulder *m* of the spring *o*. In shoving forward this lever N, the arm *l* frees itself from the shoulder *m* of the spring *o*.

In consequence of the arrangement of the bent rods E and bars H, as shown, the resistance offered to the teeth I by the hay and the passage of the former over the ground are in line or about in line with the line of draft, the latter being from the pivots *c;* hence it will be seen that the rake-teeth have a tendency to remain in a proper working position; but at any time, if a downward pressure on the teeth is required, the driver can press backward the lever N. The rake-teeth also, in consequence of this arrangement, are rendered capable of being raised with the greatest facility, as the bars H may be nearly balanced on the pivots *c*.

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

1. The arrangement of the teeth-bars H and bent rod E, the latter being attached to the axle A, as shown, and in such a relative position with the rake-teeth I to operate as and for the purpose set forth.

2. The lever N, in combination with the bars H F L and the spring *o*, all arranged as and for the purpose specified.

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Witnesses:
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