

T. N. HENDERSON.

Horse Rake.

No. 64,104.

Patented April 23, 1867.

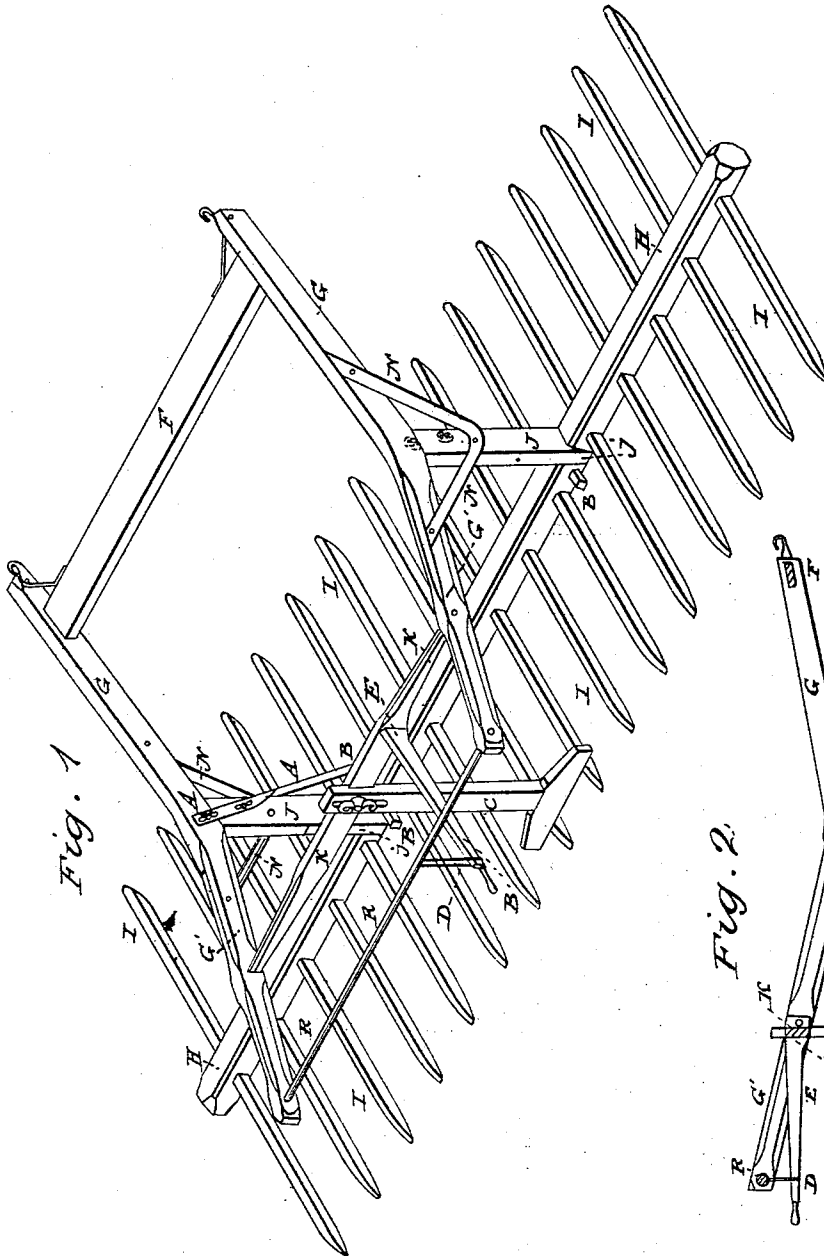


Fig. 1

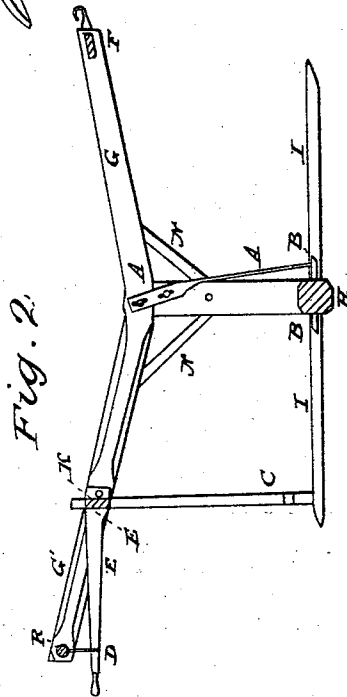


Fig. 2

Witnesses:

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Inventor:

Thos A Henderson

Per

Munn & Co Attys

United States Patent Office.

THOMAS N. HENDERSON, OF JACKSON, MICHIGAN, ASSIGNOR TO HENDERSON AND COOLEY.

Letters Patent No. 64,104, dated April 23, 1867.

IMPROVEMENT IN HORSE HAY-RAKES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS N. HENDERSON, of Jackson, in the county of Jackson, and State of Michigan, have invented a new and useful Improvement in Revolving Horse Hay-Rakes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a perspective view of my improved horse hay-rake.

Figure 2 is a vertical cross-section of the same.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved revolving horse hay-rake, the parts of which are so constructed and arranged that they may be adjusted to hold the rake-head at any desired angle while raking, and that the rake-head may be at all times completely under the control of the operator.

And it consists, first, in the combination of the adjustable drop, revolving cross-bar, and operating lever with each other, and with the handles and teeth of the rake; second, in the combination of the adjustable springs with the draught-bars, knees, and studs of the rake; and, third, in making each draught-bar and handle in one piece; the whole being constructed and arranged as hereinafter more fully described.

H is the rake-head shaft, which revolves in bearings attached to the lower ends of the knees J in the ordinary manner. The teeth I are made and attached to the shaft H in the usual way. B are iron studs passing through and secured to the shaft H for the lower ends of the adjustable steel springs A to rest upon in holding the rake-head. These studs B, when the rake-head is revolved, strike against and press out the lower ends of the steel springs A, which by their elasticity, as soon as the studs have passed, spring back to their former position and hold the rake-head steadily while raking. G is the draught-bar, and G' is the handles of the rake, which are made in one piece, as shown in figs. 1 and 2. The forward ends of the draught-bars G are connected by a cross-bar, F, and the rear ends of the handles G' are connected by a cross-bar or roll, R, as shown in fig. 1. To the under sides of the bars G are firmly attached the upper ends of the knees J; and the connection is further strengthened by the braces N, as shown in the drawings. A are the steel springs, the upper ends of which are secured both to the knees J, and to the draught-bars G by bolts which pass through the said knees and draught-bars, and through slots in the upper ends of the said springs A, as shown in figs. 1 and 2, so that the position of the springs may be regulated to give the desired pitch to the rake-teeth when operating. The springs A, just below the lower slots, are twisted or turned one-quarter around, so as to bring their lower ends into the proper position to act upon the studs B. K is a rolling cross-bar, the ends of which are pivoted to the handles G', and to its central part is attached the upper end of the adjustable drop C, by a thumb-nut and bolt which passes through the said rolling cross-bar K, and through a slot in the upper part of the drop C, as shown in fig. 1. By this construction the drop C may be adjusted in connection with the adjustment of the springs A, so as to hold the rake-head steady and at the proper angle while raking. E is the operating lever, one end of which is attached to the rolling cross-bar K, and the other end projects out in the rear of the cross-bar R in such a position as to be easily reached by the operator when it is desired to remove the drop C from the teeth I to allow the rake-head to revolve and discharge the collected hay. The free end of the lever E is kept within proper limits by the wire loop D, which projects downward from the cross-bar R to which it is attached, as shown in fig. 1.

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

The combination of the adjustable drop C, rolling cross-bar K, and operating lever E, with each other, and with the handles G' and teeth I of the rake, substantially as herein shown and described, and for the purpose set forth.

THOMAS N. HENDERSON.

Witnesses:

J. W. BENNETT,

GEORGE W. HAIGHT.