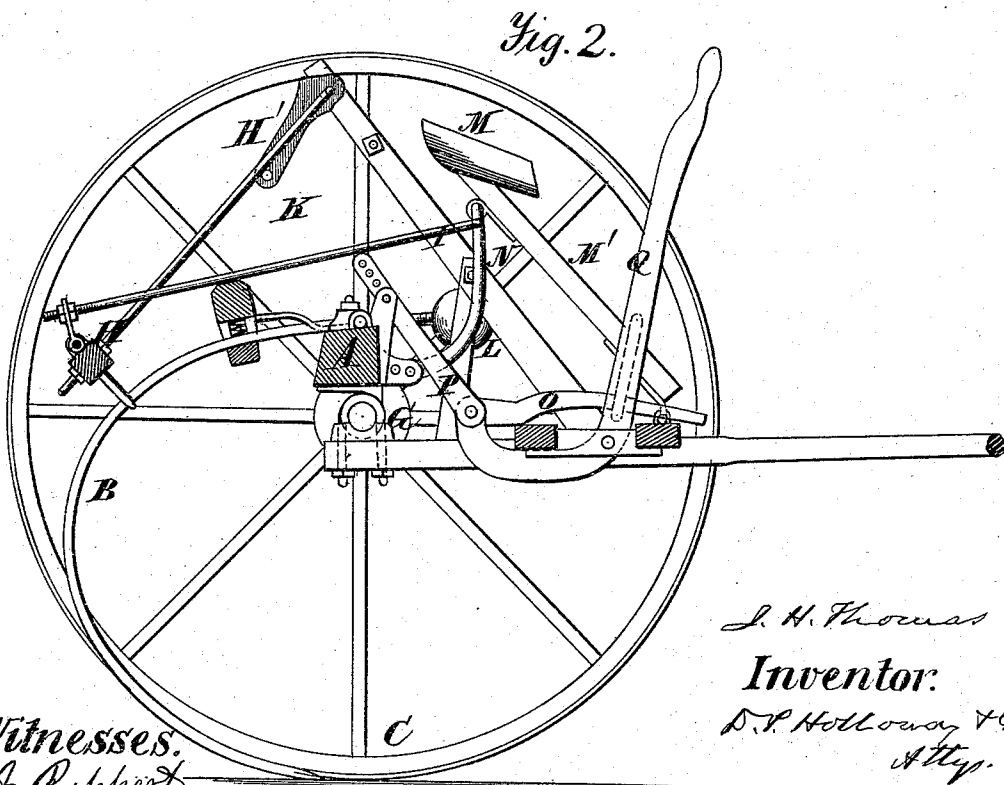
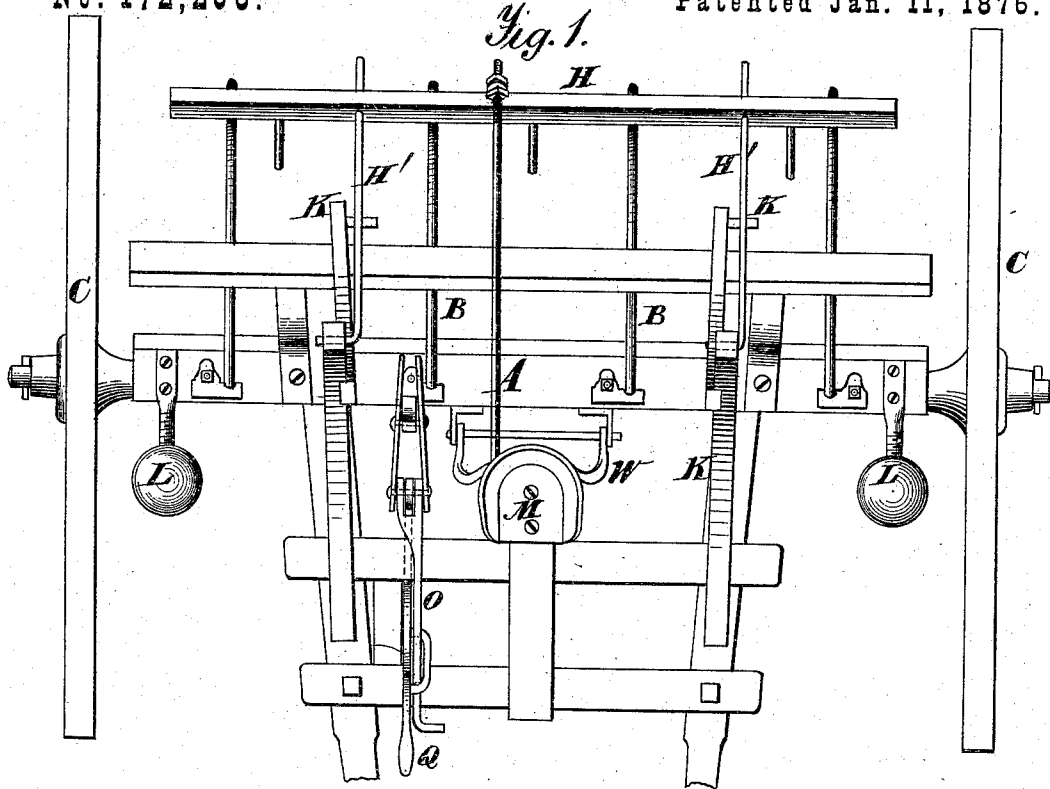


J. H. THOMAS.
HORSE-RAKE.

No. 172,206.

Patented Jan. 11, 1876.



Witnesses.
A. Rupfert.
A. C. Cassell

J. H. Thomas
Inventor.
D. P. Holloway & Co.
Attys.

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Fig. 3.

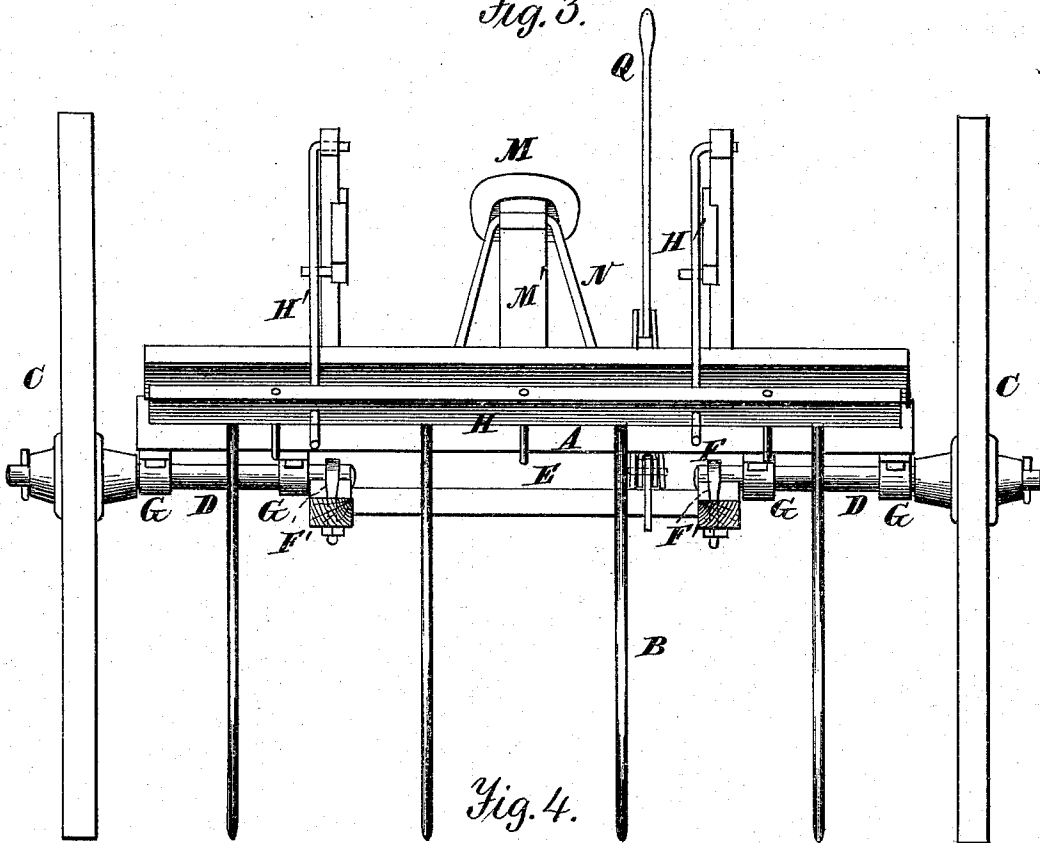
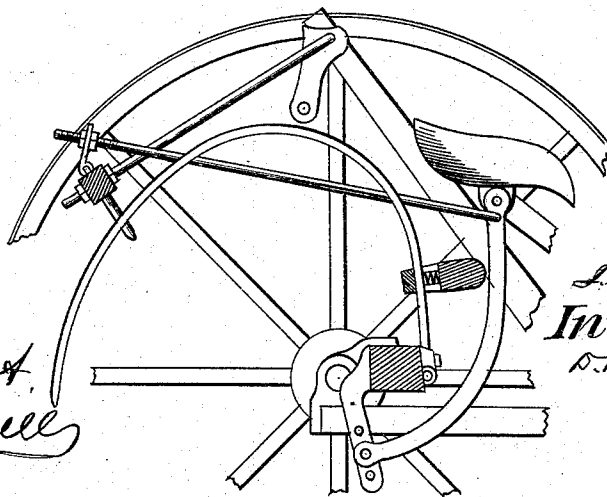


Fig. 4.



Witnesses

A. Ruppert
A. C. Caswell

J. H. Thomas
Inventor.

D. P. Holloway & Co.
Atty.

UNITED STATES PATENT OFFICE

JOHN H. THOMAS, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. **172,206**, dated January 11, 1876; application filed June 2, 1875.

To all whom it may concern:

Be it known that I, JOHN H. THOMAS, of Springfield, in the county of Clarke and State of Ohio, have invented a new and useful Improvement in Hay-Rakes, of which the following is a specification:

My invention relates to that class of horse hay-rakes, in which a series of semicircular steel teeth are attached to a head, and actuated by a lever to raise the teeth, when a sufficient quantity of hay has been gathered.

The nature of my improvements will distinctly appear in the following description and claims:

The rake is carried upon wheels, and the weight of the driver is made to assist in raising the rake-teeth.

In the annexed drawings, Figure 1 is a plan view of machine. Fig. 2 is a vertical longitudinal section. Fig. 3 is an elevation, as seen from the rear.

The same letters are employed in all the figures in the indication of identical parts.

A is the rake-head. It is a four-sided piece of timber. Instead of being square on top, according to the usual form, I bevel the upper surface to conform to the inclination of the rake-teeth, and thereby I effect a saving in the weight of the steel teeth, and allow the sides of the axle to stand perpendicular, and simplify the construction of the teeth. In the ordinary construction the teeth are horizontal on the rake-head, and their downward inclination commences behind the latter, whereas in this construction the downward inclination commences at their point of attachment, and the teeth may therefore be shortened.

The machine is carried upon two wheels, C C, turning upon iron spindles D D. These are secured to the shaft-frame E by clamps F, which pass through the metallic caps F', fitted snugly to the spindles, and also through the ends of the shafts. The spindles being confined to the shafts they will not turn with the rake-head, which oscillates on the spindle without turning it. The rake-head is fastened to the round spindles by collars G, which permit the rake-head to be oscillated upon the fixed spindles. The rake-teeth B are held down by a bearing-bar in the well-known manner. H is the clearer. It is a wooden bar,

having straight teeth projecting downward between the rake-teeth; and its object is to strip the hay from the teeth when the latter are raised. It is attached to rods H' projecting from inclined supports I, which are firmly braced on the shaft-frame. Arms K are extended back from the supports I, and so arranged and constructed that when the rake-teeth are down to gather the hay the clearer-teeth will be entirely above them, so as not to interfere with the work. This is effected in the case, as illustrated, by means of pins projecting from the sides of the arms K, which engage the bars or rods H', and hold them so that the clearer shall not touch the rake-teeth until they are somewhat raised. When, however, the teeth are raised the clearer-teeth will pass into the gathered hay, and the clearer-bar resting on the rake-teeth, and rising with them as the latter are drawn through the clearer, the hay will be stripped from the rake. By supporting the clearer-bar on the arms K I am enabled to use shorter rods H', and thereby am enabled to raise the rake-teeth higher, for when the rods H' are long enough to rest on the teeth at a sufficiently-acute angle not to interfere with the easy lifting of the teeth, they are liable to carry the bar so far that the teeth, when raised, will pass beyond the bar. The iron balls L are attached to the rake-head in front to counterbalance the rake-teeth. They are attached by a screw-thread, so that by placing them at a greater or less distance from the rake-head the amount of the weight utilized as a counterpoise may be regulated at the will of the operator. The weight of the driver is also made to act directly on the rake-head, on the same side with the balls L. By shifting the balls the machine may be adapted to a lighter or heavier driver without moving the hinge by which the seat is connected to the rake-head. The hinge may, however, be shifted, if desired. The seat M is attached to a standard, M', which is hinged to the shaft-frame, and supported on the bent rod N hinged to the standard M', and so curved that when the rake-head is brought down to elevate the rake-teeth the hinge will pass under the rake-head. The weight of the driver bears continually on the rake-head, and this

pressure, as well as that of the hay gathered by the teeth, is sustained upon the foot-lever O. The hand-lever Q is also used to assist in shifting the teeth. This part of the mechanism is fully described in my former application, filed June 11, 1874.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the rake A B and driver's seat, resting upon the front side of the rake-head, the adjustable counterpoise L, attached to the rake-head on the same side as the supports to the driver's seat, substantially as set forth.

2. In combination with the wheels and short stationary spindles, attached to the shaft-frame, the rake-head A and collars G, attaching the rake-head to the spindles, so that it

shall revolve around them as a center, substantially as set forth.

3. In a rake, where a clearer is used across the rake and outside the teeth, the bars H', supporting such clearer independently of the rake, and the support K, which is arranged to engage the bars H', which support the clearer H and hold the latter clear of the rake-teeth when the latter are down, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. THOMAS.

Witnesses:

A. P. LINN COCHRAN,
ROBT. C. RODGERS.