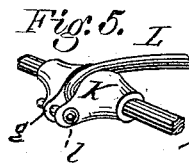
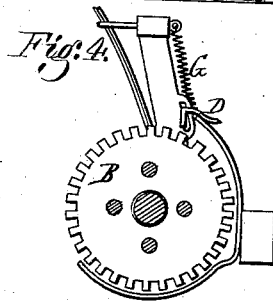
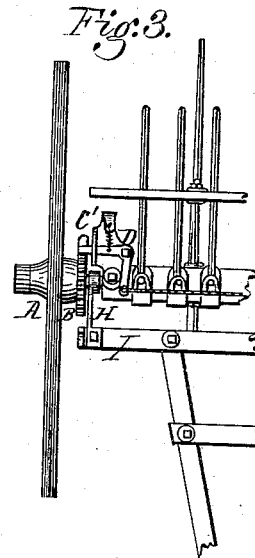
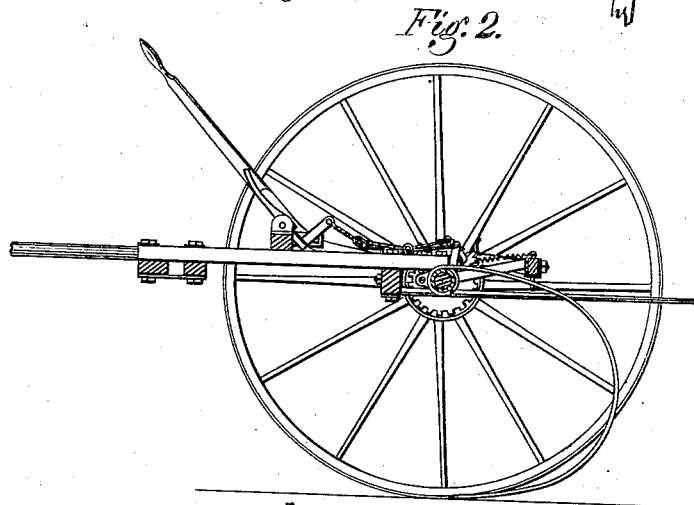
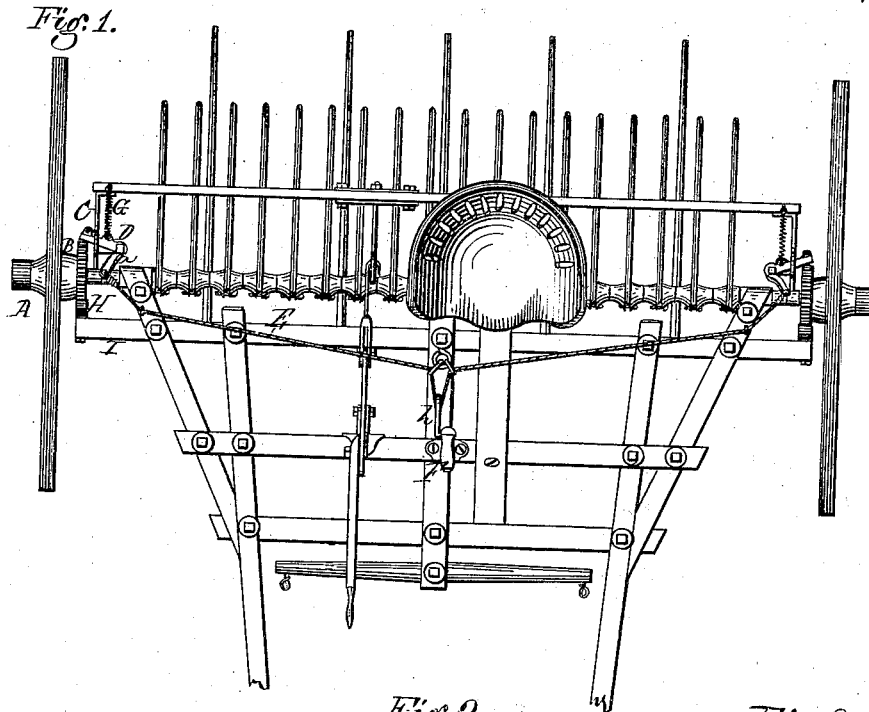


G. BARCLAY & J. KENNEDY.

Horse Hay-Rake.

No. 168,553.

Patented Oct. 11, 1875.



Witnesses:  
A. B. Smith  
H. C. Barclay

Inventors:  
George Barclay  
James Kennedy  
by A. B. Smith  
Attorney

# UNITED STATES PATENT OFFICE.

GEORGE BARCLAY AND JAMES KENNEDY, OF OSHAWA, CANADA.

## IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. **168,553**, dated October 11, 1875; application filed January 19, 1875.

*To all whom it may concern:*

Be it known that we, GEORGE BARCLAY and JAMES KENNEDY, of Oshawa, in the county and Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Horse Hay-Rakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a plan or top view of a rake embodying our invention. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a partial plan view, showing a modification in the bracket supporting the pawl. Fig. 4 represents a side elevation of the gear-wheel, spring-pawl, and its releasing-standard; and Fig. 5 represents the thimble or holder, through which the rake-tooth is connected with the axle or rake-head.

Similar letters of reference denote corresponding parts wherever used.

The invention relates to the means for automatically dumping the load, and to the construction of the thimble to which the teeth are connected; and consists, first, in the combination, with a cog-wheel affixed to the hub, and a pawl-bracket secured to the axle, and provided with a spring-pawl, which engages with the cog-wheel for elevating the teeth in dumping, of a fixed spur or projection on the draw-bracket, for automatically releasing the pawl when it is brought into contact therewith by the partial rotation of the axle; and, second, in a novel construction of the thimbles, for adapting the teeth to be readily connected or removed, as hereinafter explained.

In the drawings, A is the wheel-hub, to the inner end of which is fastened a wheel, B, having rectangular cogs. C is an arm or bracket secured to the axle, and upon which is pivoted a pawl, D, having a bent arm or lever, *a*, for attachment of a chain, wire, or rope, E, connecting it with an arm, *h*, on a pivoted foot-bracket, F, so that, by depressing the toe of the foot-bracket, the pawl is brought into engagement with the cogs of the wheel B, thereby partially rotating the axle or rake-head, and thus lifting the teeth by the turning of the ground-wheel.

In Fig. 1 the brackets C are represented as extended and forming the supporting-arms of the staple or lifting-bar, but separate rods or arms, C', may be used for this latter purpose, as shown in Fig. 3.

G is a spiral spring, attached to the bracket or lifting-bar and pawl, for withdrawing the pawl from engagement with the cog-wheel when the pressure on the foot-bracket is removed. H is a projecting arm or spur, secured to the draw-bar I in front of the cog-wheel, and against the upper projecting end of which the pawl is brought by the rotation of the ground-wheel, for automatically throwing the pawl out of engagement with the cog-wheel, and allowing the teeth to drop again to raking position after the gathered load has been discharged.

The thimbles K increase in diameter toward the center of their length, and are provided with a central peripheral groove, within which the end of the tooth L, bent into a semicircular hook, is placed. At the sides of the groove, on the forward face of the thimble, lugs or ears *g* are formed, and a bolt or pin, *l*, passing through these ears, prevents the backing out or accidental displacement of the teeth, while permitting their ready removal for repairs or renewal.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The cog-wheel B, affixed to the hub A, and the pawl-bracket C, secured to the axle, and having the spring-pawl D arranged to operate as described, in combination with the projecting arm or spur H, secured to the draw-bar, and operating to release the pawl D, as set forth.

2. The thimbles K, provided with the central groove and with the lugs *g*, and pin or bolt *l*, for securing the rake-teeth, as set forth.

GEORGE BARCLAY.  
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Witnesses:

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