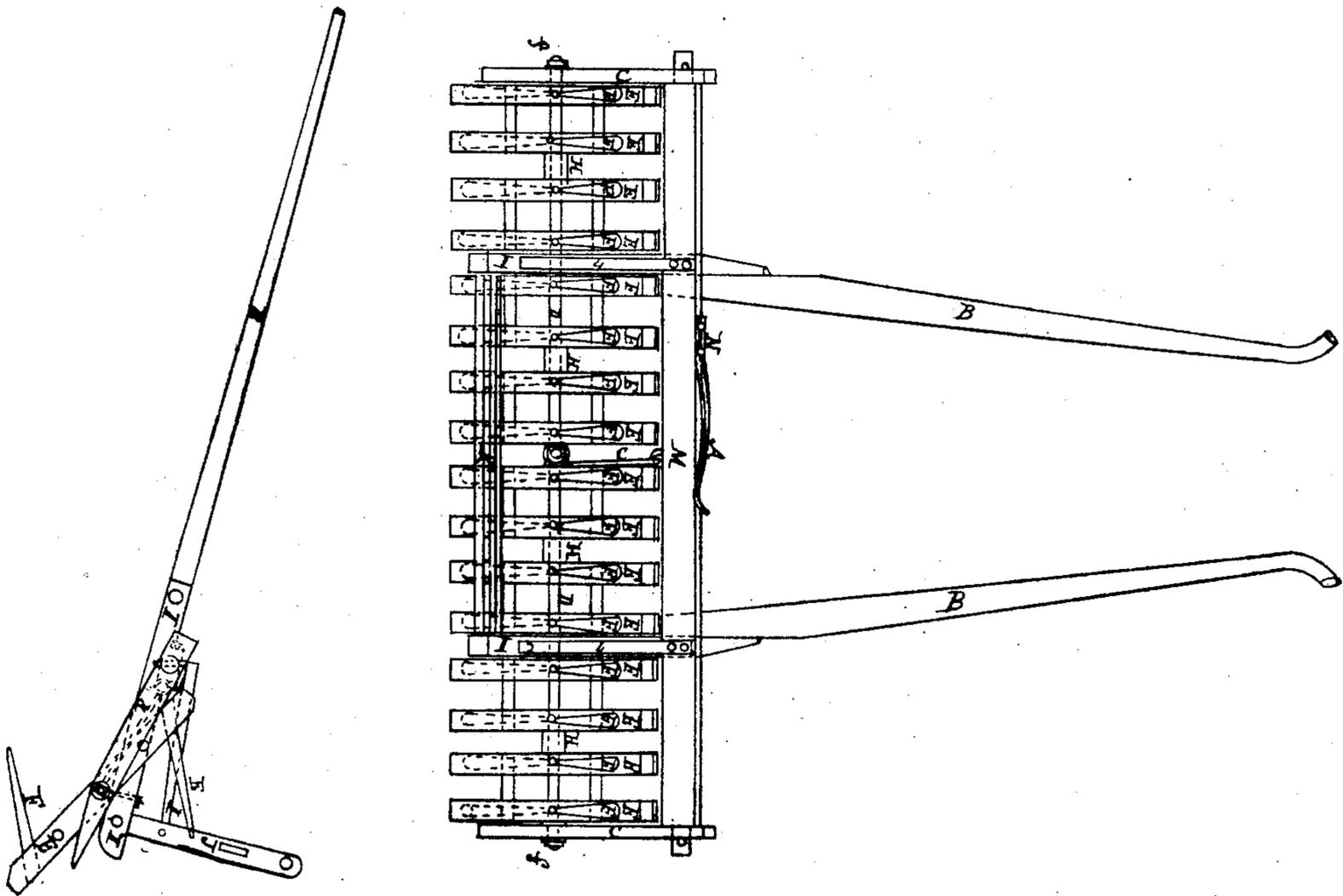


H. L. Beach.

Horse-Rake.

N<sup>o</sup> 76040

Patented Mar. 31. 1868.



Witnesses:

Gates Willard  
B. H. Spear

Inventor

Henry L. Beach  
by Alfred D. Stone  
his atty

# United States Patent Office.

HENRY L. BEACH, OF NEW YORK, N. Y., ASSIGNOR TO BEACH HORSE HAY-RAKE MANUFACTURING COMPANY, OF SAME PLACE.

*Letters Patent No. 76,040, dated March 31, 1868.*

## IMPROVEMENT IN HORSE-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, HENRY L. BEACH, of the city, county, and State of New York, (assignor to the Beach Wheel-Horse-Rake Manufacturing Company,) have invented, made, and applied to use, certain new and useful Improvements in the Construction and Operation of Horse Hay-Rakes; and I do declare that the following is a full, clear, and correct description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

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

Figure 2 is a side elevation of the same.

In the drawings, like parts of the invention are pointed out by the same letters of reference.

The nature of my invention consists in certain improvements, as more fully hereinafter set forth, in the construction and operation of horse hay-rakes.

To enable those skilled in the arts to make and use my invention, the following description will be found sufficient.

A shows a cross-board, to which are attached the shafts B. This cross-board has hung upon it the connections C, serving to connect to it a bar, rod, or head, D, upon which the teeth-heads E, supporting the teeth F, are secured. D shows the bar, rod, or head, to receive the teeth-heads E, which in the present instance is made in two sections or parts, said sections being secured, in any convenient manner, in the connections C, attached to the cross-board A. This rod, bar, or head, may be made of metal or wood, of any proper size, and one section of the same has one end secured in the connection C, while its opposite end, provided with an eye, passes through the connection C, and the opposite section has one end secured in the connection C, and its opposite end provided with a hook, which is inserted within the eye of the opposite section, and after being passed through the same may be bent or turned down, so that a permanent connection between the two sections is formed. E are the teeth-heads, composed of two strips of wood, secured together by means of braces e, in which the teeth F are inserted, in the same manner as described and shown in Letters Patent granted me, December 10, 1867. These teeth-heads are provided with openings about midway their length, through which openings the sections of the rod, bar, or head, are passed. Between the teeth-heads E are placed the collars H, made of sufficient length to keep the teeth-heads a proper distance apart, while upon the opposite sides of the teeth-heads are placed the circular washers f. Upon the under side of the cross-board are secured the projecting arms I, forming, as it were, a continuation of the shafts B, which also serve to support the sections of the rod, bar, or head, a pin, provided with an eye, sufficiently large to receive the section of the rod, bar, or head, being passed through said arm from its under side, after the section of the rod, bar, or head has been inserted within the eye, and the pin is secured by means of a nut passing over it, and bearing upon the upper side of the projecting arm I. These projecting arms I are mortised to receive the uprights J, connected together by the cross-pieces K', so as to form, as it were, a frame. From these uprights run the connecting-pieces L, connecting the frame to a sliding bar, M, resting upon the cross-board A, and upon which the ends of the teeth-heads rest, or the bar M may be notched or provided with pins, so that if a lateral movement be given to it, instead of a forward one, the notched portions of the bar will be brought under the teeth-heads, which will be free to revolve. Secured upon the cross-board A, directly in front of the bar M, and having one end bearing upon the same, is a flat spring, N.

Such being the construction, the operation may be thus described: When in position for operation, the horse having been secured in the shafts B, the ends of the teeth-heads rest or bear upon the upper surface of the sliding bar M, their opposite ends resting upon the ground. In this position the teeth and teeth-heads, as in my patent of December 10, 1867, present the appearance of the letter Z, one set of teeth being nearly upon the ground, and the other set elevated in the air.

As the rake is drawn over the ground the operator follows the same, so as to be in a suitable position to grasp the frame, already described, and when the first set of teeth have gathered a sufficient quantity of hay, the frame connected to the sliding bar is thrown forward, and the teeth being thus relieved from contact with the bar, easily revolve, depositing, in their revolution, the hay gathered by them, and bringing the second set

of teeth into the proper position to perform their portion of the work, which they will proceed to do as soon as the operator draws back the frame, allowing the spring N to restore the bar to its former position.

It will be observed that the bar, rod, or head, is made in sections, so connected together that each section is free to accommodate itself to any irregularities of the ground, and that the progress of the machine may not be in any way impeded by rocks, stones, or other impediments, and that this feature is aided in a great degree by the connection C, hung, as shown, and by constructing the frame so that when the same is pulled downward and backward, the sliding bar can be elevated, carrying with it the teeth-heads, thus preventing their contact with rocks and stones. Again, it will be observed, that the sliding bar is so constructed that, at any time when it may be desired to back the machine, it is instantly lifted up and away from its position upon the cross-board, leaving the teeth free to revolve, and enabling the operator to back the machine without injuring it.

The low cost at which my rake can be produced, no wheels being required, coupled with its simplicity, particularly recommends it.

The jointed rod, bar, or head is shown, supporting teeth-heads, in which the teeth are secured. In some cases I may prefer to use the same with teeth secured to or held in any convenient way in this jointed rod, bar, or head itself, thus adapting the present improvement to the rakes, as ordinarily constructed, as, for example, the old-fashioned flat revolving rake, and others.

Having thus described my invention, what is claimed as new, is—

1. The combination of the teeth-heads E and teeth F with the jointed bar, rod, or head D, constructed and operating substantially as described.
2. The sliding bar M, in combination with the spring N, and frame, when the same shall be constructed and operate substantially as described.
3. In combination with the jointed bar, rod, or head D, the connections C, constructed and operating substantially as and for the purposes set forth.
4. Attaching the sliding bar M to the frame, so that the same may be moved away from the teeth-heads E, for the purposes set forth.

HENRY L. BEACH.

Witnesses:

A. SIDNEY DOANE,  
GATES WILLARD.