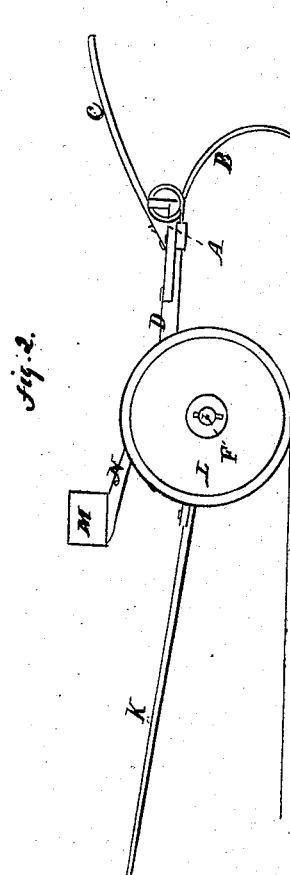
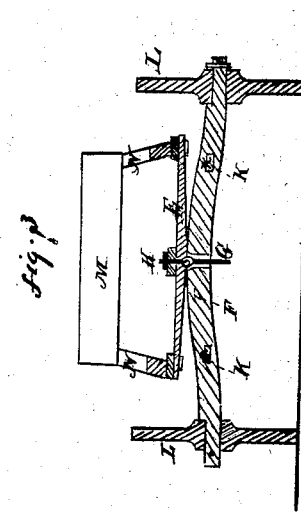
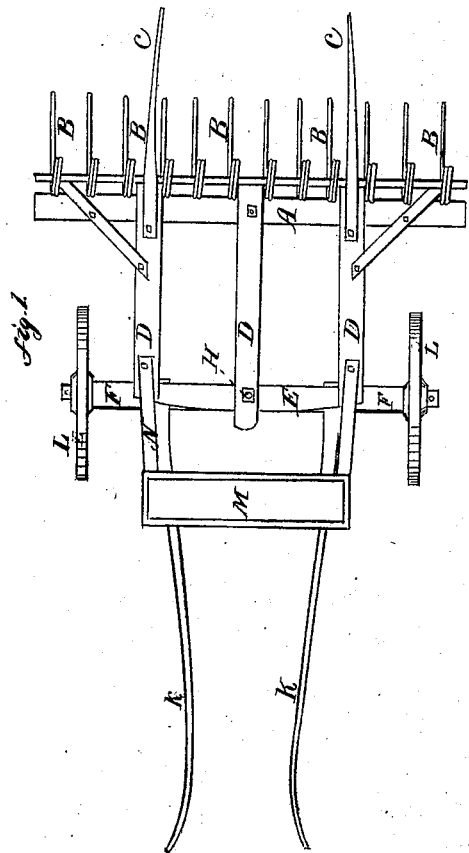


E. Saunders, Horse Rake.

No. 5,883.

Patented Oct. 24, 1848.



UNITED STATES PATENT OFFICE.

ELI SAUNDERS, OF WEATHERSFIELD, VERMONT.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. 5,883, dated October 24, 1848.

To all whom it may concern:

Be it known that I, ELI SAUNDERS, of Weathersfield, in the county of Windsor and State of Vermont, doctor of medicine, have invented a new and useful Improvement in the Spring-Tooth Horse-Rake; and I do hereby declare that the same is fully represented and described in the following specification and accompanying drawings, letters, figures, and references thereof.

Of said drawings, Figure 1 denotes a top view of my improved rake. Fig. 2 is a side elevation of it; and Fig. 3 is a cross-section of it, taken through the axle-tree and looking toward the counterbalance-box.

My improved horse-rake possesses many advantages over others in use, and particularly over that of Charles Carlisle, for which Letters Patent of the United States were granted on the 15th day of May, A. D. 1847. In said Carlisle's rake the counterbalance-box, or that in which weights are placed for the purpose of counterbalancing the weight of the rake-head, is fixed directly to and upon the shafts and in rear of the horse. The great weight of such box and its contents, being arranged on the shafts and between the horse and the connections of the shafts with the axle, so presses down the shafts as to create a constant and serious strain or leverage on the back of the horse. All this is completely avoided by my improved mode of applying the counterbalance-box, as it is not placed or fixed to or on the shafts, but is arranged entirely independent of and above them and supported on arms projected from the rake-head frame, by which the horse has to bear on his back the weight of the shafts only.

In the drawings, A represents the rake-head, and B B B, &c., the spring-teeth thereof.

C C are the guide-levers or handles.

D D D are parallel bars or timbers, composing, with the rake-head and rocker-bar E, what I term the "rake-head frame." The said rocker-bar is curved like a rocker on its under edge and from end to end of it. It rests directly upon the axle-tree F, and is kept in place thereon by the connecting-pin G, which extends downward through the axle and is jointed to the rake-head frame by means of a staple or ring-bolt, H, in such manner as to allow of the free rocking movements of the rocker-bar on the axle in divers directions.

L L are the wheels of the axle, and K K are the shafts to and within which the horse is harnessed.

M is the counterbalance-box, which is supported on two or any other suitable number of struts or arms, N N, made to project from the rake-head frame, and above the axle and toward the shafts, as seen in the drawings. By this arrangement and application of the counterbalance-box all the weight of it, as well as that of its contents, is thrown on the axle alone, and not at all on the back of the horse. Besides, the rake-head is left free to vibrate or move freely on the axle and adapt itself to the sinuosities or variations of the surface of the ground over which it may be drawn when in use.

My machine can be furnished to the farmer at a much less price than that of Carlisle's would cost, inasmuch as in most cases it will only be necessary for him to purchase the rake-head and its balance-box without the shafts and wheels, as almost any ordinary set of wagon or buggy shafts and fore wheels and axle will answer for mounting and supporting the rake-head, and there are very few farmers who have not such at their command.

What I claim as my invention is—

My improved manner of applying the counterbalance-box—viz., by affixing it to arms or other proper contrivances projecting directly from the rake-head frame, and over and in front of the axle—in combination with the manner of sustaining the rake-head—that is to say, by a rocker to rest and rock upon the axle—as specified, the said improvement taking off all downward strain of the counterbalance on the shafts and back of the horse, and thereby enabling the animal to work to better advantage than he could were the weight of the counterbalance, or any part thereof, to be thrown on him. Besides this, the simplicity of the machine and ease of operation of it render it superior and less costly in construction than most others of the kind in common use.

In testimony whereof I have hereto set my signature this 3d day of April, A. D. 1848.

ELI SAUNDERS.

Witnesses:

C. M. CHAMBERLIN,
D. V. CHAMBERLIN.