C. CARLISLE.

Horse Rake.

No. 5,119. Patented May 15, 1847.

Fig. 2

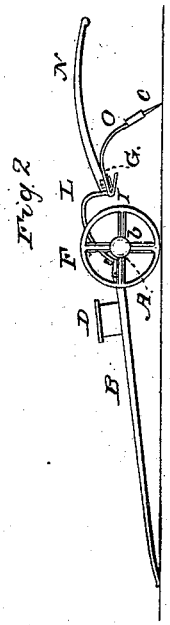


Fig. 3

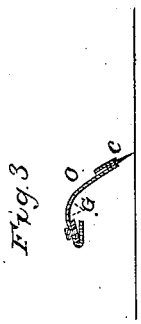
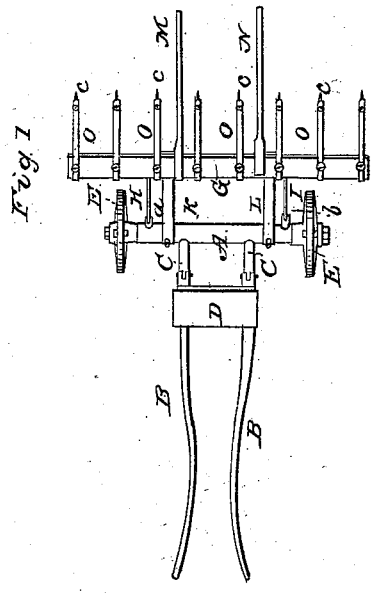


Fig. 1



UNITED STATES PATENT OFFICE.

CHARLES CARLISLE, OF NORWICH, VERMONT.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. **5,119**, dated May 15, 1847.

To all whom it may concern:

Be it known that I, CHARLES CARLISLE, of Norwich, in the State of Vermont, have invented certain new and useful Improvements in the Horse-Rake; and I do hereby declare that the same are fully set forth and described in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1 denotes a top view of my improved horse-rake. Fig. 2 is a side elevation.

In the said drawings, A denotes an axle-tree, having a pair of shafts, B B, jointed to it or hinged to projections C C from it, the joints or hinges being such as will permit the elevation and depression of the shafts in vertical directions. A box, D, is secured upon the shafts just in advance of the joints, as seen in the drawings. This box is intended to receive weights, for the purpose hereinafter described. The said axle-tree has two wheels, E F, applied to journals made on its ends, like those of any common axle-tree. In the rear of this axle-tree and wheels, and parallel to the axle-tree, is a cross-beam, G, which is secured to the axle-tree by two arms, H I, which extend from the beam, and are represented jointed to the axle-tree by means of a staple, *a* or *b*, passed through an eye formed on the end of the arm, and driven into or secured to the axle-tree, the said eyes and staples being so arranged as to permit the beam to be moved up and down in vertical directions. The beam rests on the ends of two springs, K L, which are secured to the axle-tree and project over it and in rear of it, as seen in the drawings.

The handles M N are secured to and project back from the cross-beam, as seen in the drawings. The person who directs the movements or operations of the rake lays hold of the said handles. The rake-head or cross-beam G supports and carries the rake-teeth. They consist of a series of bent springs, O O, &c., each of which is firmly secured to it, as seen in Figs. 2 and 3, the latter representing a vertical and central section of the cross-beam and one of the springs and its socket, and a wooden tooth inserted in it. Each of said sockets is intended to receive and support a rake-tooth, *c*, made of wood or other proper material, which is properly shaped and driven firmly into the socket or tube, and when worn out or injured may be removed and have a new one substituted in its place.

The box D should have stones or other weighty matters thrown into it until it shall so press upon the projections C C as to overbalance the weight of the rake-head and other parts on the opposite side of the axle-tree, so as to raise the rake-teeth entirely above the surface of the ground when the machine is not in action.

When a piece of ground is to be raked over the attendant applies his hands to the handles of the rake-head and forces them and the head down, so as to cause the rake-points to enter the soil. The manner in which the rake-head is supported and connected to the axle-tree enables the attendant to govern its vertical movements without their being subjected to any influence arising from any elevations or depressions over which the wheels in advance may be passing.

What I claim as my invention is—

1. The combination of a balance-box or weight, with the shafts and axle-tree, for the purpose described.

2. The mode of supporting the rake-head and confining it to the axle-tree—viz., by the springs and jointed rods acting substantially in manner and for the object as specified.

In testimony whereof I have hereto set my signature this 3d day of December, A. D. 1846.

CHARLES CARLISLE.

Witnesses:

GEO. LYMAN,

EDWARD LYMAN.