

*C. E. Murray,
Revolving Rake.*

No. 79,378.

Patented June 30, 1868.

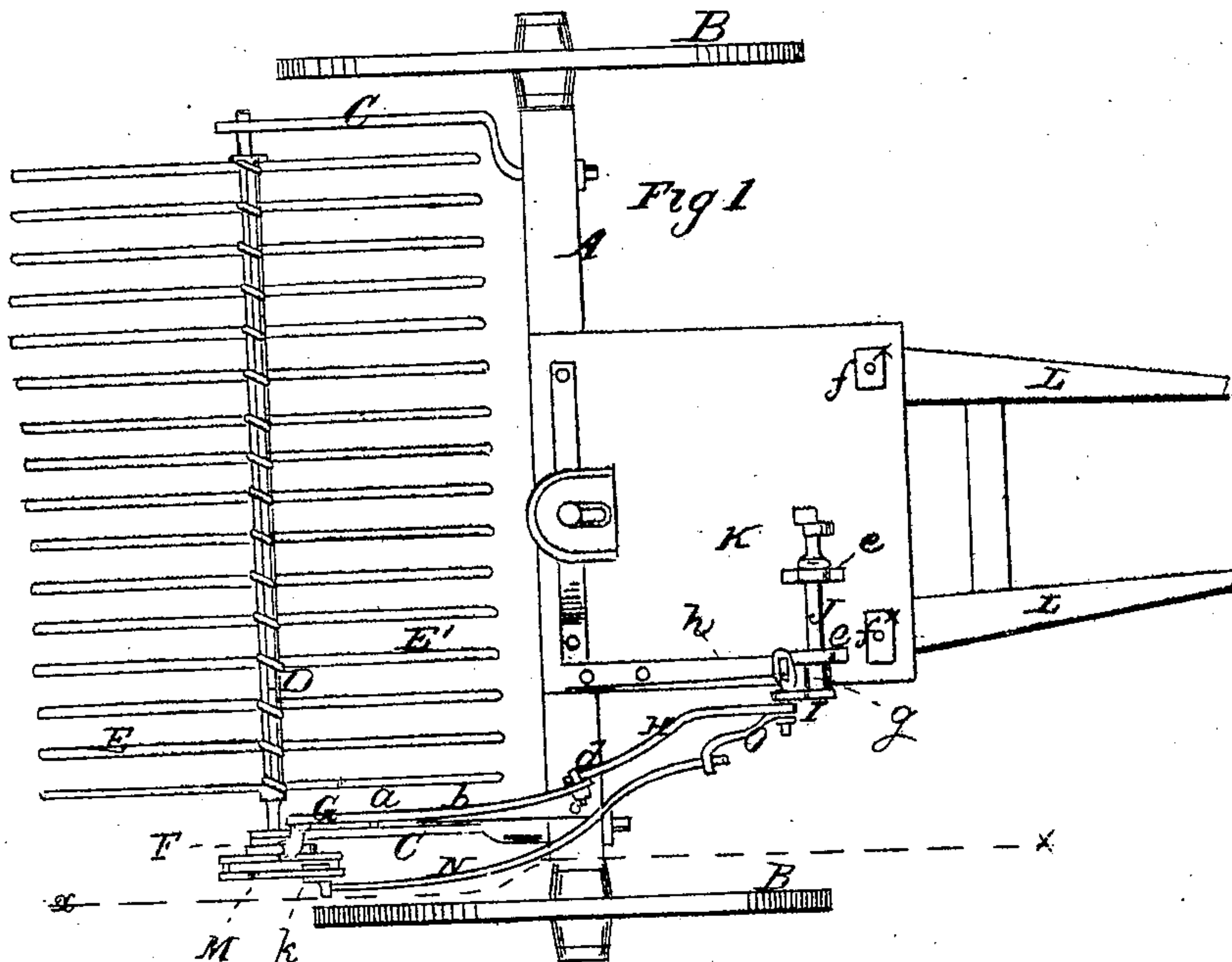
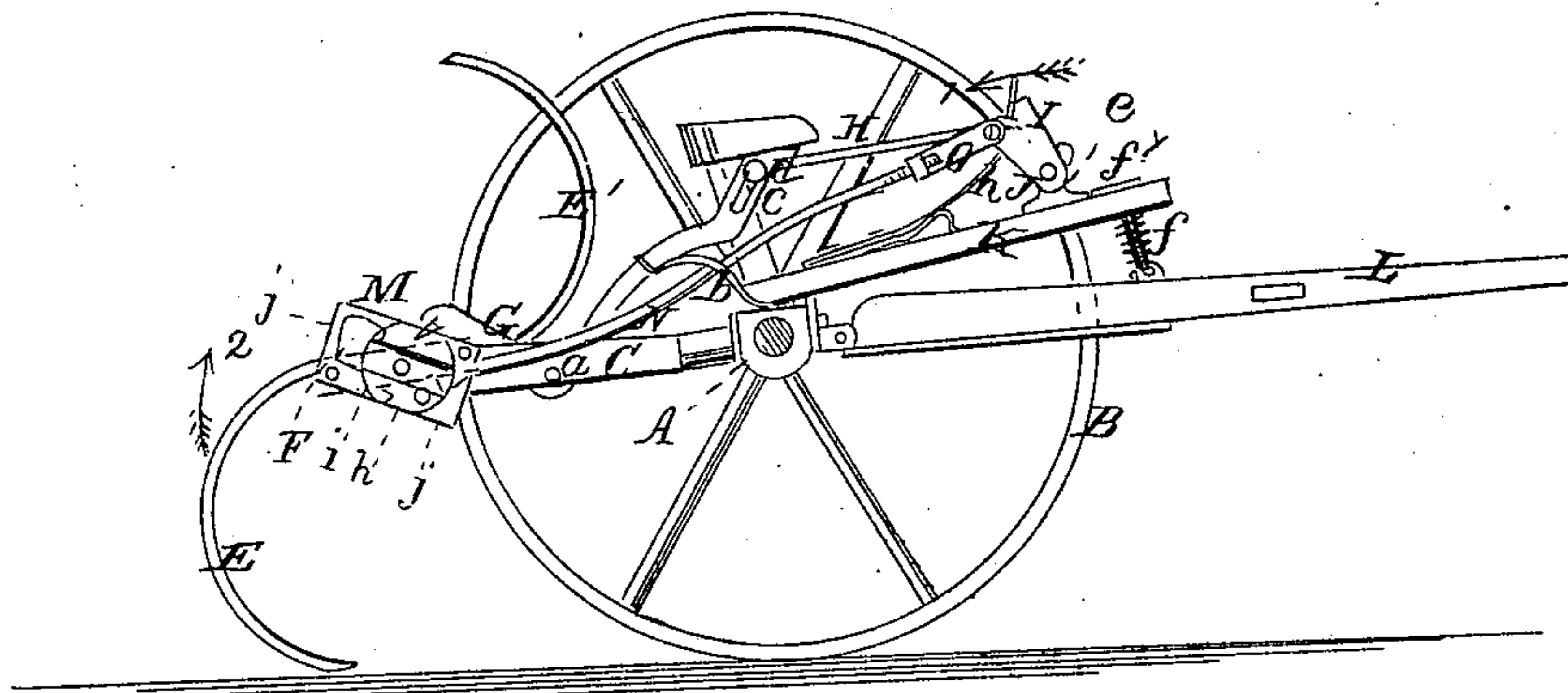


Fig 2



Witnesses,

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United States Patent Office.

C. E. MURRAY, OF SUGAR VALLEY, PENNSYLVANIA.

Letters Patent No. 79,378, dated June 30, 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, C. E. MURRAY, of Sugar Valley, in the county of Clinton, and State of Pennsylvania, have invented a new and improved Horse-Rake; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved revolving wire-tooth horse-rake, and it consists in a peculiar means employed for holding the rake, and revolving the same at proper intervals, in order that it may discharge its load, and also in a certain means to allow a vertical play to the teeth, to admit of them conforming to the inequalities of surface over which they may pass.

In the accompanying sheet of drawings—

Figure 1 is a plan or top view of my invention.

Figure 2, a side sectional view of the same, taken in the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

A represents an axle, having a wheel, B, on each end of it, and two arms, C C, projecting from its rear side, to serve as bearings for the rake-head D, the latter being allowed to turn freely in the former.

This rake-head is provided with two sets of teeth, E E', which are constructed of wire, and curved in the usual form, as shown in fig. 2, one set of teeth projecting from the shaft in a direction reverse to the other set.

On one end of the rake-head D there is attached a ratchet, F, provided with two teeth at opposite points, and G is a pawl, which engages with said ratchet, said pawl working on a pivot at *a*, and having a spring, *b*, bearing against it, the spring having a tendency to keep the pawl engaged with the ratchet.

The rear end of the pawl G is provided with an oblong slot, *c*, and is connected to a rod, H, by a pin, *d*, which passes through the slot *c*.

The front end of the rod H is attached to an arm, I, which is secured to one end of a shaft, J, the latter having its bearings *e* on a foot-board, K, the rear end of which is permanently secured to the axle A, and the front end supported by spiral springs *f*, on rods *f' f'*, attached to the thills L L, said rods passing through the foot-board K, and serving as guides for the same, as will be fully understood by referring to fig. 2.

The arm I has an eye, *g*, attached, through which a spring, *h*, passes.

This spring is secured to the foot-board K, and has a tendency to throw the arm I backward, in the direction indicated by arrow 1, (see fig. 2.)

To the extreme end of the rake-head, near the ratchet F, there is secured a plate, M, having an oblong slot, *i*, made in it, with a notch or recess, *j*, at each end of the slot, (see fig. 2,) and

N is a rod, the front end of which is screwed into a bar, O, the latter being secured to and projecting from the arm I.

The rear end of the rod N has a pin, *k*, projecting from it, which passes through the slot *i*.

The rake is retained in position by the pawl G, which engages with the ratchet F, the pawl G, and rod H, holding the arm I forward, and keeping the spring *h* depressed.

While the rake is thus held or retained in position, the lower set of teeth, E, rake up the hay, and when a sufficient quantity of hay has been gathered by them, the operator, by pressing his foot upon a treadle attached to shaft J, forces back the rod H, the rod N yielding or giving sufficiently to admit of the rod H forcing down the rear end of the pawl G, so that the front end of the same will be raised out from the teeth of ratchet F.

When this is done, the spring *h* instantly forces back the arm I, and the rod N acts against the plate M, turning it and the rake-head D a half revolution, in the direction indicated by arrow 2, so as to bring the set of teeth E' down to a working position, where they are retained by the pawl G, which engages with the other teeth of ratchet F.

After each half revolution of the rake, the arm I is moved forward and the spring *h* depressed by the driver actuating a treadle of shaft J, the rod N, by this movement of the arm, being drawn forward, so that the pin *k* of said rod may catch into the forward notch or recess *j*, of slot *i*.

The several parts are then in a condition to admit of another half revolution of the rake being made, when required.

By having the foot-board K resting on springs connected with the thills, the rake-teeth are allowed to rise and fall, to conform to the inequalities of surface over which they may pass.

By this means the teeth are prevented from being bent or unduly strained.

I claim as new, and desire to secure by Letters Patent—

1. The rake, provided with two sets of teeth, E E', and hung at the rear of the axle A, as shown, in combination with the ratchet F, pawl G, rod H, arm I on shaft J, spring h; and the rod N, and slotted plate M, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The resting of the front end of the foot-board K on spiral springs f, which rest on the thills L L. substantially in the manner as and for the purpose set forth.

The above specification of my invention signed by me, this 17th day of December, 1867.

C. E. MURRAY.

Witnesses:

J. M. QUIGGLE,
JNO. W. FLEMING.