E. R & W. P. Spear.

Revolving Rake.

No. 54228 Patented Apr. 24, 1866

Fig. 1.

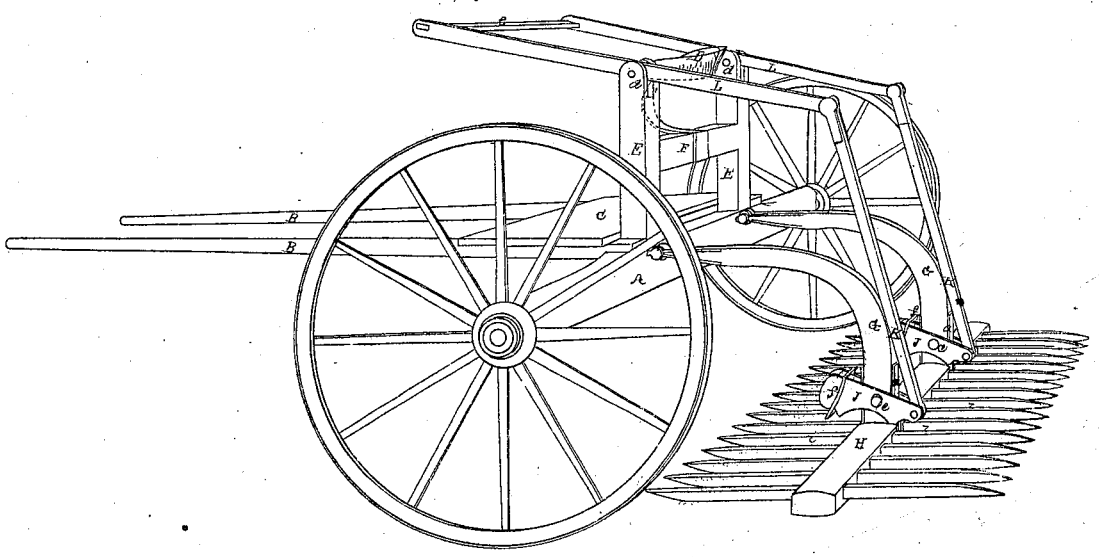


Fig. 2.

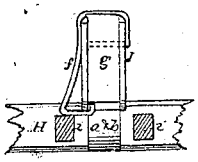


Fig. 3.

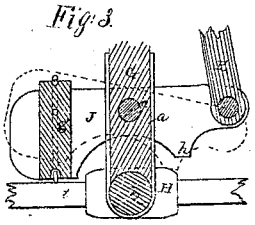


Fig. 4.

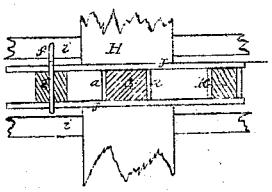
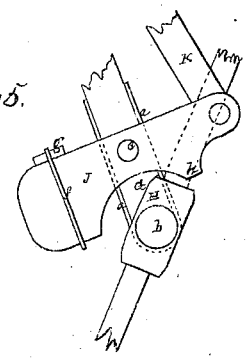


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

E. R. SPEAR AND W. P. SPEAR, OF ORLAND, INDIANA.

IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. **54,228**, dated April 24, 1866.

To all whom it may concern:

Be it known that we, ERASTUS R. SPEAR and WILLIAM P. SPEAR, of Orland, in the county of Steuben and State of Indiana, have invented certain new and useful Improvements in Revolving Rakes; and we do hereby declare the following to be such a full and clear description thereof as will enable any one skilled in that branch of mechanics to which its construction appertains to make and use the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of our improved revolving rake. Figs. 2, 3, 4, and 5 show parts in detail.

The rake is intended to be drawn by a horse, and is supported by or suspended from a carriage with two wheels, of which A is the axle-tree. B B are the thrills or shafts. C is the platform, on which the driver stands or rests his feet when occupying the seat D.

On the axle-tree A, near where the shafts are attached to it, are two posts, E E, connected by a cross-bar, F, which supports the spring of the seat D.

To the rear side of the axle-tree are jointed two draft-arms, G G, connected at their lower ends to the rake-head H by straps *a a*, (see Figs. 3 and 4,) in which wrists *b* on the rake-head act as journals, on which it can revolve. The straps *a* pass around the rake-head at about one-third of its length from each end and between two teeth, *i i*.

Near the lower end of each of the draft-arms G is a spring-bar, J, composed of two plates, embracing between them the draft-arm, and swinging on a joint-pin, *c*, passing through both G and J.

Connecting-rods K K extend from joints at the rear ends of the spring-bars up to the rear ends of the levers L L, having their fulcrums at *d d* on the posts E E, and connected together at their front ends by a bar, *e*, in front of and under the control of the driver.

The spring-bars may be made of wood or metal, and to the front end of each is attached a spring, *f f*. (See Fig. 2.) This spring we construct of steel wire, and in its general form and action is similar to the spring-catch of an umbrella.

Between the front ends of the plates composing the spring-bar a strip of wood, *g*, of the thickness of the draft-arm, is bolted, and one end of the wire is passed through the spring-bar and wood *g*, then bent up and over the top of the wood and across the top of the spring-bar, and is then bent down on the side opposite to that in which it was first inserted, but not perpendicularly, but to a sufficient angle to allow the next bend that it makes, in passing horizontally under the spring-bar, to extend over and partly across the next adjacent tooth of the rake near the head. (See Figs. 2 and 3.) The end is then turned up into a groove across the bottom of the strip *g*, so that the spring may not get out of place.

The spring-bars have their front ends rounded, so as not to be liable to catch when near the ground, and have a projection or tooth, *h*, on their lower edges, between the joints *c* and those by which they are attached to the connecting-rods K, which, when the driver desires, he causes to press down on the back upper corner or edge of the rake-head by lifting the bar *e* in front of him. This movement lifts the front point of the rake-teeth and prevents them from catching in going over rough or uneven ground.

When it is expedient to cause the rake to revolve the driver depresses the bar *e*, thereby lifting the after ends of the spring-bars J, relieving the head from the pressure of the tooth *h*, and causing the horizontal parts of the springs *f f* to press the front teeth down, which downward tendency is aided by the weight of that which has been collected on the teeth of the rake, and continues as the carriage moves on until the rake has made a half-revolution, swinging in the straps *a a* at the lower ends of the draft-bars.

When the tooth *h* is lifted off the rake-head this becomes free to revolve without coming in contact with any other part, the teeth that were in rear rising upward and to the front, passing on either side of the connecting-rods K and draft-arms G, and falling past the spring-bars, the springs *f f* giving way to allow the teeth to pass. The driver, by again lifting the bar *e*, keeps the rake in a position to collect another load.

When it is required to move without having it perform any work the connecting-rods K are disengaged from the spring-bars and the

rake and draft arms are raised until the last are up against the posts E E, where they are secured during transportation.

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

The arrangement and combination of the levers L L, connecting-rods K K, draft-arms G G, and spring-bars J J, and their springs *f f* with a revolving-rake, substantially in the manner and for the purpose set forrth.

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WILLIAM P. SPEAR.

Witnesses:
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C. SCHNEIDER.