

United States Patent Office.

SAMUEL L. DENNEY, OF CHRISTIANA, PENNSYLVANIA.

Letters Patent No. 106,336, dated August 16, 1870; antedated August 5, 1870.

IMPROVEMENT IN HORSE HAY-RAKES.

The Schedule referred to in these Letters Patent and making part of the same.

I, SAMUEL L. DENNEY, of Christiana, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Horse-Rakes, of which the following is a specification.

Description of the Accompanying Drawing.

Figure 1 is a plan embodying my invention;

Figure 2 is a vertical section in the line *x x*;

Figure 3 is a vertical lateral section, showing a part of the machine at the right hand of the line *x x*, drawn across fig. 1, and

Figures 4 and 5 are plan and side views of the tooth-guard.

Nature and Objects of the Invention.

The object of my invention is to reduce the labor of raking hay or grain, in so far as the operator of the machine is concerned, to that of simply moving the lever in the direction of the rake-wheel, whereby a rigid connection is formed, the forward movement of the rake causing the rake-teeth to be sufficiently elevated to discharge the contents therefrom, said contents being stripped or removed therefrom by the rearward projecting clearer-fingers, while the rake-teeth, having performed their office of elevating the hay, are instantly released, and, dropping back again, resume their former position on the ground, for again gathering the hay preparatory to the elevation thereof.

General Description.

A A are the thills;

B is the platform, and

C is the axle or rake-head.

D is the clearer-head, which is attached by the arms E E to the thills A A, and provided with the clearer-fingers F F F F.

G G G G G G are the tooth-guards and guides, which are provided with the supporting-bar H.

J is the rake-wheel, to which the notched or cogged wheel K is rigidly attached.

L is an arm, which is rigidly attached to the axle at the shoulder of the spindle, and provided with an elongated slot at its upper end, through which the end of the rod M slides.

N is a lever, by which the rod M is operated.

O is a spiral spring, which retains the tooth I of the rod M in a tooth of the cogged wheel K, until said tooth is released by the rod M coming in contact with the curved stand P, whereupon the said spring is elongated, and the tooth I of the rod M is lifted out of the notch or cog of the cog-wheel K.

P is a curved stand, which is rigidly attached to the platform of the device.

The axle C is rounded at 2 2, and the rear ends of the thills are adapted to their shape by being made

concave at that point, and said thills and axle are hinged together and held in place by the metallic straps 3 3, which are bolted to the thills.

The arms E E of the clearer-head D, which are attached to the axle C, and which pass under and in the rear of it, and unite together said axle and the clearer D, can be made of any desired shape required to suit different curved and positioned teeth, as it is important to place the clearer-head in as close proximity to the teeth as possible, in order to prevent them from being forced under and injured by the accidental or unavoidable backing of the horse attached to the device.

I make each of my tooth-guards, G, with a groove running in the direction of the length of the axle, and also with another groove at right angles therewith, extending to the point where the guard is bent to an angle.

Through the latter or more elevated part of said guard a slot is provided, to receive and guide the tooth as it plays up and down therein.

In this form of guard the greatest possible strength is secured in a small weight of metal; but, to add greater resisting power to the guard, I provide the bar H, which is rigidly attached to the guards at the rear end of the latter, as shown.

Heretofore, the guards have been broken by the dropping of the teeth to the ground, and by striking against projecting obstacles, the whole weight of the teeth thereby acting on a single guard.

It will be observed that, by the arrangement of the guard aforesaid, the teeth are supported, when pressed to the ground, by the metallic surface of the guard at the two points where the resistance comes, namely, in the groove and at their rear ends, thereby obviating the liability of the wood to wear away, and the loosening of the teeth.

The form of guard aforesaid may be conveniently and cheaply made, either by being pressed from rolled iron or steel, or cast with the groove and slot complete, thereby requiring no further manipulation.

In all of the many devices which have hitherto been employed for elevating the rake-teeth and discharging therefrom the load, where a wheel is employed with the notches or cogs on its inner face or circumference, a great trouble has arisen with the rake-wheel, which, after having been used for a short time, becomes loose on the spindle, so that, in passing over the ground, there is a constant tendency in the connecting parts to jar out of gear before the rake-teeth have been sufficiently elevated to discharge the load, and to pass clear of the windrow.

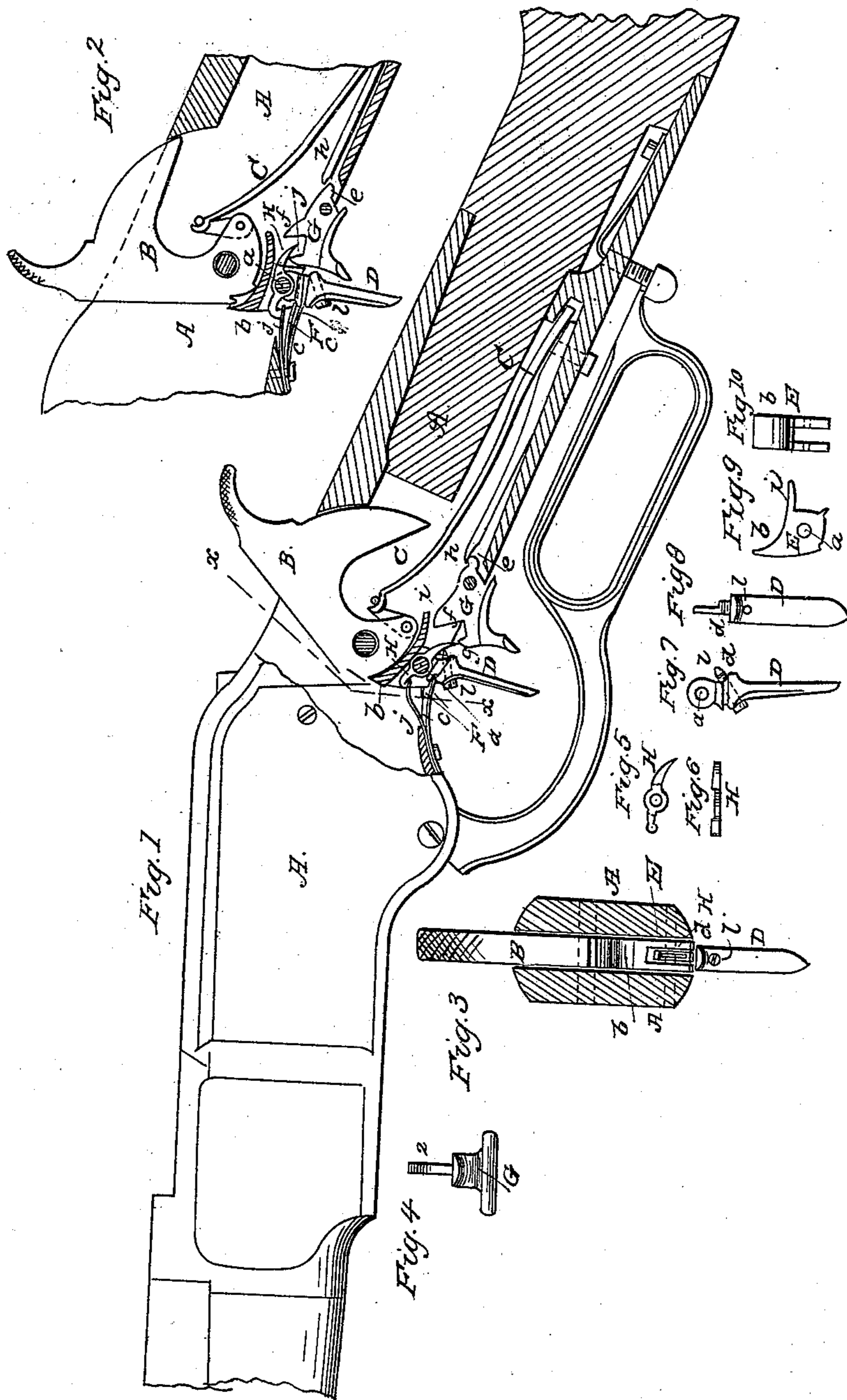
But, in order to obviate this imperfection and the trouble attendant thereupon, I make my lifting-rim K, which can be either a separate rim secured to the

J. DEUTZ.

Gun Lock.

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Witnesses
Amos Nida
L. S. Mober

Inventor
J. Deutz
PER *Mum & Co*

