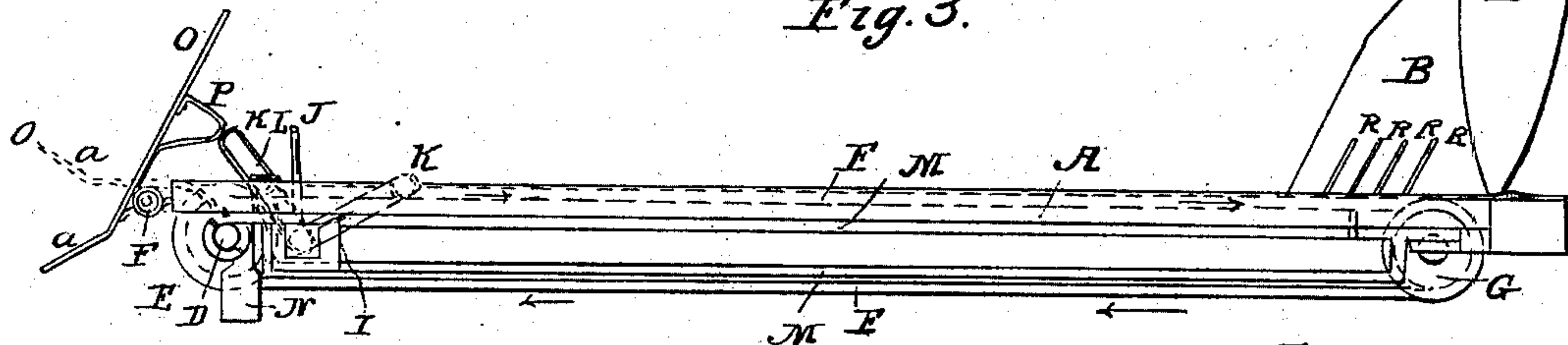
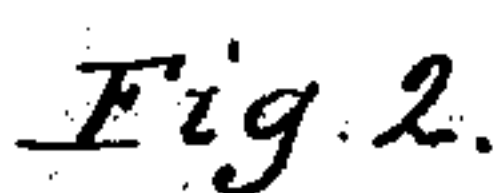


Harvester Rake.

Patented April 9, 1861.

Fig. 1.



Wm Howard
Hester B. Howard

Inventor:
Geo. E. Chmoweth
by his atty
Chas. F. Jansbury

UNITED STATES PATENT OFFICE.

GEORGE E. CHENOWETH, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN RAKING ATTACHMENTS TO HARVESTERS.

Specification forming part of Letters Patent No. 31,954, dated April 9, 1861.

To all whom it may concern:

Be it known that I, GEORGE E. CHENOWETH, of the city of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Harvester-Rakes; and I do hereby declare the following to be a correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan or top view of my improved rake. Figs. 2 and 3 are front elevations of the same, showing the rake in different positions. Fig. 4 is a side elevation of the rake-head and some of the connected parts; and Fig. 5 is a sectional view taken from the rear of the machine through line *xx* of Fig. 4, showing the rake-head, wrist-pin, connecting-rod, &c.

The same letter marks the same part wherever it occurs.

My improvements relate to that class of self-raking harvesters in which the rake operates from below the platform; and it consist in the operation of a reciprocating rake by an endless belt or chain, and in the various devices for that purpose, hereinafter more fully set forth and claimed.

In the drawings, A marks the grain-platform, and B the divider, both of which may be of any usual form.

C marks a crank, which indicates the point at which the power may be applied to operate the rake. The power may be communicated from the driving-wheel of the machine in any manner that may be found convenient.

D marks a pulley-shaft supported in proper bearings attached to the bottom of the platform.

E and G are pulleys over which the endless belt or chain F passes, and by which it is supported. The rotation of pulley E imparts motion to the belt F. This belt may be made of leather or of flat links of metal.

H marks the rake-head, the ends of which are supported and vibrate in the sliding boxes I. J marks the rake-teeth. The rake-head H is connected to the endless belt or chain F by the slotted connecting-rod K, which embraces the cylindrical portion of the head by a strap and receives the wrist-pin L in a slot at its other end. The wrist-pin L is firmly attached to the belt F and projects from it toward the rear of the platform, as shown in Fig. 1. A collar, c, holds the rod K in its

proper position on the pin L. Attached to rod K is a spring-pawl, T, which catches into a notch in the rake-head, its office being to hold up the rake-teeth and prevent their yielding while engaged in raking the grain from the platform. Its operation is clearly shown in Fig. 5. The boxes I, in which the rake-head vibrates, slide in guideways M beneath the platform. A guard-stirrup, N, protects the belt from contact with the ground. *b b* are pins against which the rake-teeth strike, and are raised, preparatory to their passage, in an upright position across the platform.

O marks the depositing-apron, which is of the shape represented, and has several projections, *a a*, turned up in the manner shown in Figs. 2 and 3, which serve to arrest and hold the grain until the gavel is ready to be deposited on the ground. The apron O is let into the platform, so that its upper surface is level or flush with that of the platform. It is attached to the platform by a long hinge-joint, Q, provided with a spiral or other spring, *r*, which keeps the apron down in its place, except when counteracted by a sufficient force. Attached to the bottom of apron O is an irregular cam, P, Fig. 3, which is operated by the rod K, and raises the apron at the end of each traverse of the rake, so as to deposit the gavel of grain upon the ground. Slots R are made in the divider B for the passage of the rake-teeth, and long slots S allow of their traversing the platform.

The operation of the machine is as follows: Power being applied to the shaft D, motion is imparted to the belt F, which travels in the direction indicated by the arrows. The belt being attached to the rake-head carries it across underneath the platform, the rake being carried from the outer to the inner side of the platform while the point of attachment (the wrist-pin L) is below the pulleys E G, as in Fig. 2, and in the opposite direction when it is above those pulleys, as in Fig. 3. In Fig. 2 the rake is shown at the commencement of its course across the platform when about to rake off the grain. The teeth J have been turned up into proper position by coming into contact with the pins *b*, and they are prevented from inclining backward by means of pawl T, which is engaged in a notch in the rake-head H, as clearly shown in Fig. 5. Thus supported they traverse the platform, carry-

ing the cut grain with them and placing it on the depositing-apron O. Arrived at that side of the platform, the rake-head is arrested, while the wrist-pin L passes around the pulley E. In doing this it slides to the bottom of the slot in rod K and causes that rod to act upon the cam or segment P, so as to raise the apron O to the position shown in Fig. 3, when the gavel of grain will fall by its own weight onto the ground. As the belt F continues its course, the rod K descends to the position shown in red dotted lines in Fig. 3, and the apron O, in obedience to the impulse of spring r, resumes its original position on a level with the surface of the platform. The projecting end of the wrist-pin at this point passes over one of the teeth J, and thus turns the rake-head to such a position that the teeth J no longer project above the surface of the platform, but pass beneath it to the outer side, ready for a repetition of the operation.

It will be observed that while the motion of the belt F is one of continuous revolution in one direction, that of the rake-head is recip-

rocating, the rake-teeth projecting above the platform and raking it while the head is moving in one direction, and lying concealed beneath it while passing in the opposite direction.

Having thus fully described the construction and operation of my improved harvester-rake, what I claim is—

1. The combination of the endless belt or chain F and operating mechanism, as described, with a reciprocating rake-head, H, for the purpose specified.

2. The combination, with the belt F, of the wrist-pin L and slotted rod K, substantially as and for the purpose described.

3. The depositing-apron O, constructed as described, and operated by means of the connecting-rod K on the endless belt F, substantially as and for the purpose specified.

The above specification signed and witnessed this 5th day of January, A. D. 1861.

GEO. E. CHENOWETH.

Witnesses:

CHAS. F. STANSBURY,
F. W. HOWARD.