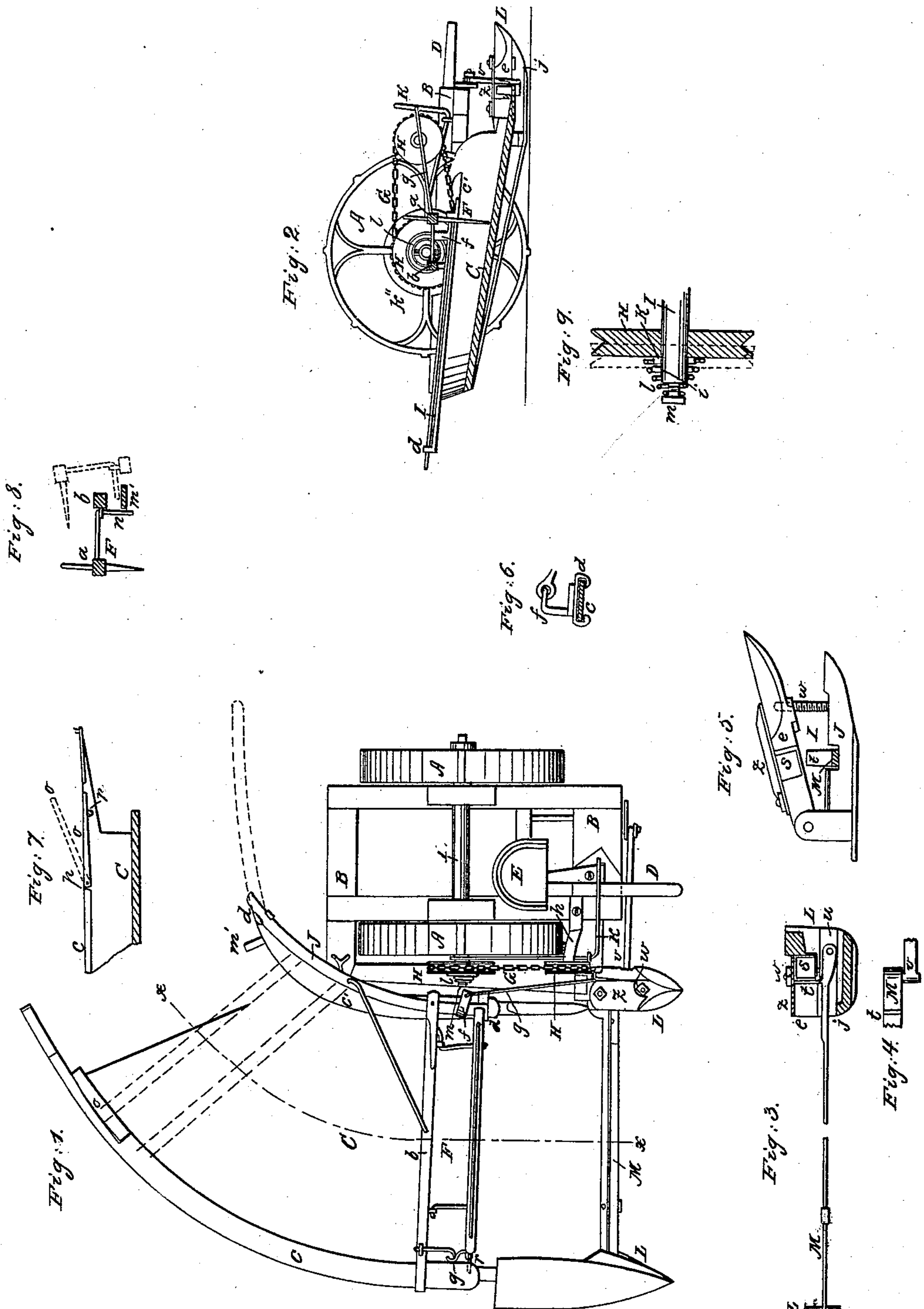


V. H. FELT.  
Harvester Rake.

No. 72,990.

Patented Jan. 7, 1868.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

VANDERLYN H. FELT, OF ROCHESTER, NEW YORK.

## IMPROVEMENT IN HARVESTER-RAKES.

Specification forming part of Letters Patent No. 72,990, dated January 7, 1868.

*To all whom it may concern:*

Be it known that I, VANDERLYN H. FELT, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan of my improved machine. Fig. 2 is a vertical section in plane  $xx$ , Fig. 1; Fig. 3, longitudinal section of the cutting apparatus in plane  $yy$ , Fig. 1; Fig. 4, view showing the connection of the pitman with the sickle-bar; Fig. 5, elevation of the inner shoe partly opened; Fig. 6, view showing the front guide of the segment-bar; Fig. 7, elevation of the rear end of the platform; Fig. 8, a diagram showing the action of the rake in elevating at the rear of the platform; Fig. 9, a view showing the disengaging-gear of the rake.

Like letters of reference indicate corresponding parts in all the figures.

My improvements have special reference to the arrangement of parts for operating the rake.

As represented in the drawings, A A' are the driving-wheels; B, the main frame; C, the platform; D, the draft-pole, and E the driver's seat. These parts do not differ, essentially, from the corresponding parts in ordinary harvesters. The platform is of the segmental or curved form shown in Fig. 1, and over it sweeps a rake, F. This rake is composed of a head,  $a$ , and cross-piece  $b$ , suitably connected. The cross-piece is secured to a curved segment-bar, J, which rides upon the inner rim,  $c'$ , of the platform, being retained on the inner rim by guides  $d d$ , that allow a free sliding motion, as shown. With a projection,  $f$ , of the segment-bar attaches a pitman,  $g$ , connecting at the opposite end with an endless chain, G, that passes around pulleys H H'. The length of the chain is so proportioned with the sweep of the rake that a single revolution will carry the rake the length of the platform. The pulley H' is secured to a fixed bearing,  $h$ , while H rests loosely on the end of the axle I. In the end of the axle is a pin,  $i$ , and the face of the pulley is provided with a socket,  $k$ , of a form corresponding with

the pin, so that when the pulley is pressed forward these two parts engage, and thus the pulley receives motion with the axle. The pulley is pressed forward by a lever, K, convenient to the foot of the driver. Outside the pulley is a coiled spring,  $l$ , resting between the face of the pulley and an adjusting-screw,  $m$ , which enables the spring to be tightened up at any time, to compensate for loss of elasticity. By this arrangement it will be seen that when the driver's foot is free from the lever K the pulley is out of gear and the rake is passive; but by keeping the lever depressed the rake receives its regular reciprocations. The reverse action is usually employed to disconnect the gear of harvesters, the depression of the lever throwing the parts out of engagement instead of in. This arrangement enables me to drive the rake from the outer driving-wheel, A, with great facility, so that side draft is obviated in a great degree. At the end of the inner rim,  $c'$ , of the platform is situated a projecting stop,  $m'$ , against which strikes a stem,  $n$ , of the rake-head, and thus throws up the head at the extent of the stroke, as indicated by red lines, Fig. 8. At the extremity of the outer rim,  $c$ , is a bar,  $o$ , hinged at  $p$ , and forming a continuation of the rim, as clearly shown in Figs. 1 and 7. The rake-head is provided with projections  $q$  and  $r$ , the former resting under the rim  $c$ , to prevent the rake from rising as it sweeps back from front to rear, and the latter riding upon the rim after the rake is elevated in its passage back from rear to front again. When the rake elevates at the rear end, the projection  $r$ , resting under the hinged bar  $o$ , will raise the latter, as indicated by red lines, Fig. 7, till finally, when the projection escapes, the bar will again fall and the projection will drop over it, ready to ride back, as before mentioned. Were it not for this hinged bar, when the rake elevates it would again drop back to its former level on the floor of the platform. This arrangement is very simple and very effective in accomplishing the purpose designed. In each of the shoes L L' of the platform is placed a block of rubber,  $s$ , Figs. 3 and 5; and the sickle-bar M is provided with stops or projections  $t t$ , which strike against them at the extremity of each stroke. These blocks of rubber break the shock of the sickle-bar in its



rapid vibrations, and prevent much wear and tear of the parts, and also deaden the noise. In ordinary harvesters much difficulty is experienced from the wear and rattling of the sickle-bar, and a frequent replacing of the parts is required.

Instead of forming lugs or bearings on the end of the sickle-bar for the connection of the end of the pitman-rod, as usual, I simply form a hole or socket, *u*, on a line with the bar itself, Figs. 3 and 4, and then form a hook or turn on the end of the pitman-rod *v* and insert it in the socket. This brings the action in a straight line with the axis of the bar, and produces a much easier and more uniform movement than when the connection of the parts is out of line.

In order to adapt the shoe *L* to receive the rubber block and the joint of the sickle-bar and pitman, I form it of two parts, *e j*, hinged together at the rear, as shown in Fig. 5. These parts are clamped together in front by

a screw and nut, *w*. Over the top of the shoe rests a pivoted slide, *z*, which, when swung open, exposes the rubber block, which may thus be adjusted or replaced at pleasure.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with the reciprocating rake *F*, provided with projections *q r*, the arrangement of the connecting and operating parts, consisting of the loose pulley *H*, provided with the reacting-spring *l*, and operated by lever *K*, the endless chain *G*, the hinged bar *o*, and the stop and projection *m' n*, the whole operating in the manner and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

VANDERLYN H. FELT.

Witnesses:

R. F. OSGOOD,  
EDWIN S. COYE.