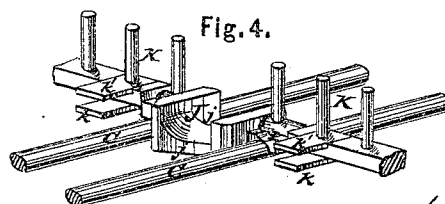
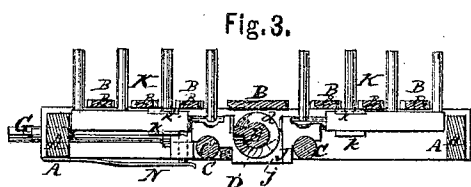
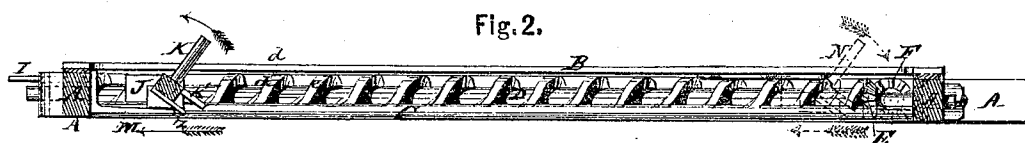
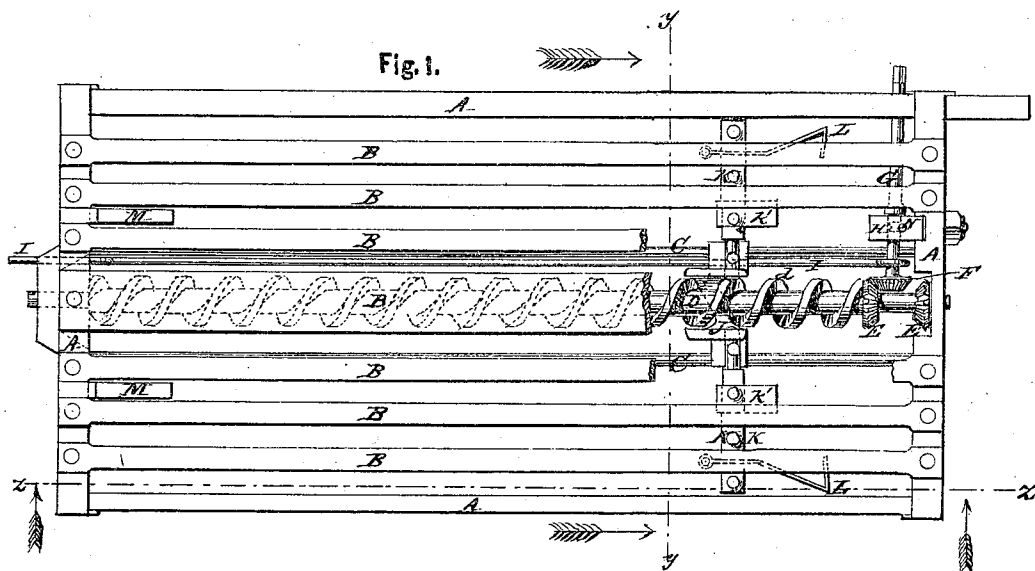


W. T. SMITH.

Improvement in Harvester-Rakes.

No. 132,870.

Patented Nov. 5, 1872.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM T. SMITH, OF BELLEFONTAINE, OHIO, ASSIGNOR TO HIMSELF AND
SAMUEL C. HOVEY, OF SAME PLACE.

IMPROVEMENT IN HARVESTER-RAKES.

Specification forming part of Letters Patent No. 132,870, dated November 5, 1872; antedated November 2, 1872.

To all whom it may concern:

Be it known that I, WILLIAM T. SMITH, of Bellefontaine, in the county of Logan, Ohio, have invented an Improvement in Harvester-Rakes, of which the following is a specification:

This device is a side-delivery raking apparatus, composed of a slatted platform and reciprocating-rakes, with teeth projecting through the platform during the effective movements and folded below the same in returning.

The invention consists, first, in a pivot-slide, guide-rod, screw-shaft, and driving-gear, arranged in the gavel-platform as new means for guiding and reciprocating the rakes; second, in a peculiar combination and arrangement of stops for folding, erecting, and supporting the rakes, all as hereinafter fully set forth. The objects of the invention are simplicity and practical efficiency.

Figure 1 is a plan of my improved self-raking platform, portions of some of the slats being broken away to expose parts beneath. Fig. 2 is a vertical longitudinal section of the same on the line *z z*, Fig. 1, the rakes being represented in the acts of rising and falling by full and dotted lines. Fig. 3 is a transverse section on the line *y y*, Fig. 1. Fig. 4 is a perspective of the rake-slide and contiguous portions of its ways, and of the rakes as pivoted to the same and in working position.

A represents a strong and light rectangular frame of wood or metal; and B, longitudinal slats applied to the top of the same, with spaces between to accommodate the rake-teeth. C C represent a pair of metallic guide-rods, supported longitudinally in the frame A in central position and at its bottom; and D, a longitudinal screw-shaft, arranged between these guides and journaled in the ends of the frame. E E represent a pair of beveled gears, keyed on the shaft D at one end; and F, a shiftable driving-gear, adapted to be held in mesh with either of the former or between the same. G represents the driving-shaft; and H, its slotted bearing; and I, the shifter-rod. J represents a slide, mounted on the guide-rods C, and adapted intermediately to engage with the screw-shaft D; and K K, the rakes pivoted thereto; the said slide having vertical flanges within the ways C, with sockets to receive the cylindrical inner ends of the two rake-heads, and extended open bearings for the same, and also notches to allow the requi-

site depression of the rake-teeth in returning. *d* represents a spiral flange, forming the thread of the screw-shaft D; and *j j*, faces of the slide J, formed correspondingly with said flange to receive the impact of the same. L L represent spring-tappets, attached to slats B, in the path of two or more of the teeth of the rakes K, to arrest the same and to cause them to fold at the commencement of each return movement, as illustrated by dotted lines in Fig. 2; the same yielding to allow the teeth to pass in the discharging movements. M M represent tappets; and *k k* arms of the rakes K, to engage therewith, to erect the rake-teeth, as illustrated in Fig. 2. *k' k'* represent arms of the rakes K, to engage with the slats B, so as to support the rake-teeth in vertical position. The platform A B, with its appurtenances, will be attached behind the cutter-bar of a reaper by hinge or otherwise, and motion imparted to the driving-shaft G through band and pulley, or their equivalents. The shifter-rod I will be connected to a hand-lever by which to operate it. Some means will be necessary to hold the driving-gear in mesh. I have shown as for this purpose a spring-catch, N, engaging with the driving-shaft G, within its slotted bearing H. In practice the fastening would be applied to the shifter-rod I, or to the hand-lever for operating the same.

I have not deemed it necessary to illustrate any of these last-mentioned details, as they admit of considerable variation and form no part of this invention.

The device, as shown, can readily be applied by any mechanic skilled in the art.

What I claim as new herein is—

1. The pivot-slide J, guide-rods C C, screw-shaft D, reversing-gear E E F, and driving-shaft G, arranged in the grain-platform, and constructed and combined substantially as herein shown and described, as means for guiding and reciprocating the rakes K.

2. The spring-tappets L, tappets M, rake-arms *k*, and stops *k'*, constructed, arranged, and operating as herein shown and described, for folding, erecting, and supporting the rakes K.

WILLIAM T. SMITH.

Witnesses:

R. H. ST. JOHN,
ADAM NEER.