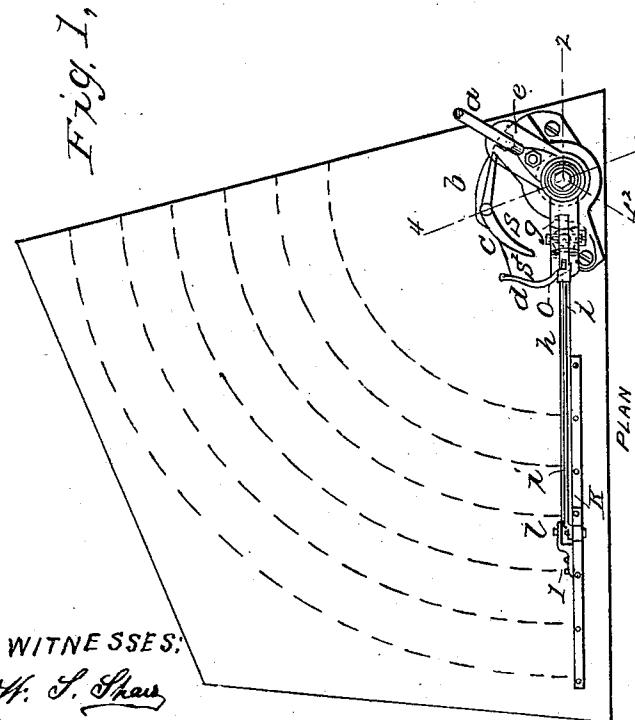


S. JOHNSTON.

## Harvester Rake.

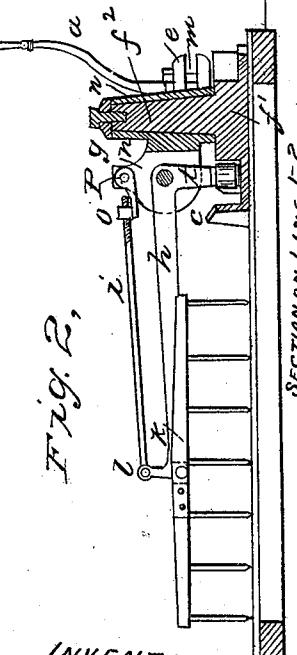
No. 41,009.

Patented Dec. 22, 1863.

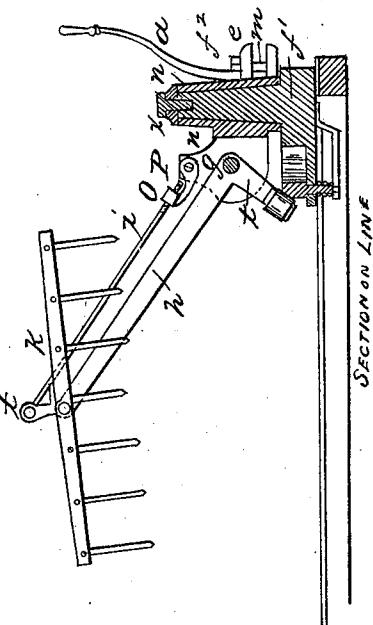


WITNESSES:

H. S. Sharpe  
Geo. H. Dugan



INVENTOR  
Samuel Johnston



SECTION ON LINE

# UNITED STATES PATENT OFFICE.

SAMUEL JOHNSTON, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN RAKES FOR HARVESTERS.

Specification forming part of Letters Patent No. 41,009, dated December 22, 1863.

*To all whom it may concern:*

Be it known that I, SAMUEL JOHNSTON, of Buffalo, in the State of New York, have invented a new and Improved Automatic Rake for Harvesters; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The raking arrangement is attached to the platform of a harvesting-machine upon that side of the same and near the front which is nearest to the machine. This location secures a harmonious movement between the platform and the rake however uneven the ground may be. It may also be located upon any other convenient part of the machine. It is made principally of iron, and the base is flat and of convenient form, so as to be bolted upon the platform or any other suitable part of the machine, and is distinguished in the drawing by letter  $f'$ , and has a perpendicular axle-like elevation on the side nearest the machine, about two feet high and tapering as it rises, and on the side next to the rake part is an undulating groove, letter  $s$ , in which the short arm of the crane  $h$  moves as the grain is raked off the platform. This short arm is lettered  $t$ , and the groove is partly inclosed and protected by rails or elevations on the surface of the base, said rail, on the outer side, marked by letter  $c$ .

At the back end or side of the base is a spring-gate, located at such a point as will allow the short arm to pass through after the grain is discharged from the platform, and then the short arm is moved back toward the front in an outer grooved way, so arranged as to elevate the rake, and this way is protected by the rail marked  $d$ . When the rake reaches nearly the front of the platform the rail  $c$ , on which the roller on the end of the short arm rests, terminates, and the roller and short arm rest in the inner groove, and the same operation is again performed. A hub-like cylinder,  $nn$ , with two arms—one to which the rake is attached, marked  $g$ , and the other, to which the lever and pitman are attached, marked  $e$ —revolves backward and forward upon the axle  $f'$ . This is secured upon the axle by a cap and screw, (marked  $x$ .)

The arm  $g$  has a secondary arm, in the form of a crane, (marked  $h$  and  $t$ ), pivoted in a vertical slot in said arm  $g$ , the long part  $h$  extending far enough so that the head of the rake  $k$  may be attached to the same by a pin, or in any other suitable manner. About four inches above said arm  $h$  a rod is hung upon a screw in said slot by means of a short piece, (marked  $p$ ), which said rod is extended over the arm  $h$  and nearly parallel thereto, and its outer end is loosely pinned or fastened to an upright rigidly attached to the head of the rake, at about the center thereof. This rod may be adjusted in length by means of a screw upon the end thereof, and by means of this rod, arranged in this manner, the rake may always be adjusted so that it will be substantially parallel with the platform and made to conform to the same, so as not to impinge upon the same too strongly or too lightly, or not to bear at all thereon, to suit circumstances.

The arm  $m$ , extending from the hub  $n$ , serves as a means for the attachment of the lever  $a$  and of a pitman upon the pin or standard  $m$  in the slot made horizontally therein. The other end of the pitman may be attached to the axle of the machine for the purpose of operating said rake, or it may be attached to any other mechanical equivalent of the same. The application of this power outside of the rake attachment and nearly opposite thereto increases the power applied and renders the operation of the rake very easy, and adds but little to the draft of the machine.

Having thus described my improvement, I claim—

1. The combination of the rotating hub or cylinder with the arms extending therefrom for the attachment of the rake and the lever and a pitman, so that the rake may be operated by either, as and for the purposes described.

2. The combination of the upright axle with the revolving hub or cylinder and the cam-tracks for the operation of the rake, substantially as described.

3. The combination of the adjustable rod  $i$  with the rake-head  $k$  and the arm  $h$ , to which it is attached, substantially as and for the purposes described.

SAMUEL JOHNSTON.

Witnesses:

W. S. SHAW,  
GEO. H. HUGHSON.