S. N. Page.

Harvester Rake.

No. 46929 Patented Mar. 21, 1865.

Fig. 3.

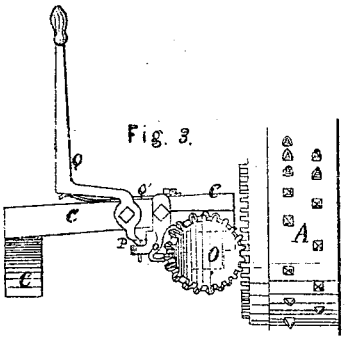


Fig. 1.

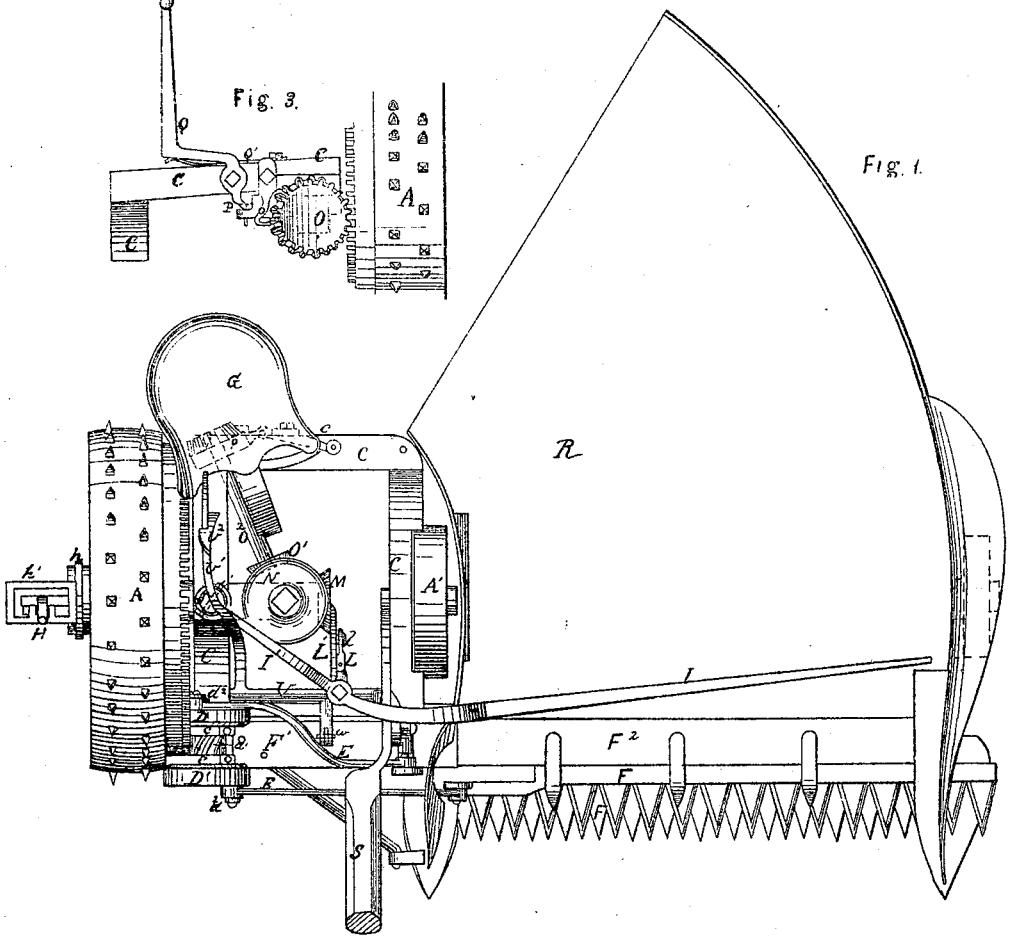
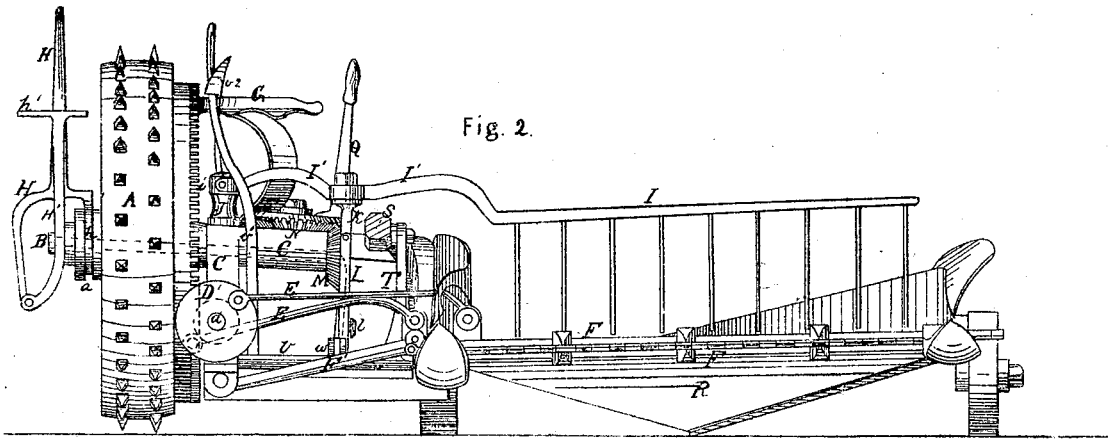


Fig. 2.



UNITED STATES PATENT OFFICE.

SAMUEL N. PAGE, OF SALONA, PENNSYLVANIA.

IMPROVEMENT IN HARVESTING-MACHINES.

Specification forming part of Letters Patent No. **46,929**, dated March 21, 1865.

To all whom it may concern:

Be it known that I, SAMUEL N. PAGE, of Salona, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Harvesting-Machines; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, (making part of this specification,) in which—

Figure 1 is a plan of my improved harvester. Fig. 2 is a front elevation thereof. Fig. 3 is a view of a portion of the same, looking from the rear.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a harvester having two reciprocating cutter-bars; and the invention consists in novel mechanism for operating the cutters, and in an improved method of throwing said mechanism into and out of gear with the driving medium, all as will be fully explained.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the drawings, A represents the main carrying-wheel, from which emanates the motion received by the various operating parts, and which may be provided with pointed projections to insure its free rotation upon the axle B, and equalize the draft which might otherwise preponderate on the side at which the cutter-bars are located in consequence of the resistance offered thereto by the standing grain.

The axle B consists of a strong shaft projecting from the frame C. The lower anterior part of the frame C, at the side approximate to the driving-wheel, has formed upon it two upwardly-projecting lugs, *c c*, in which is journaled a shaft, *d*, carrying two crank-wheels, D D′, one being keyed upon each end of the shaft. On the shaft *d*, and occupying a position between the lugs *c c*, is a pinion, *d*, which meshes with teeth projecting from the inner face of the wheel A, and receives a rotary motion from the latter when the machine is in operation. To the wrist-pins d^2 d^2 of the crank-wheels D D are attached, respectively, the pitmen E E of the cutter-bars F F, both of which thus have a reciprocating movement imparted to them simultaneously and in opposite directions. This method of operating two reciprocating cutters is at once so obviously cheap and effectual as to render expatiation unnecessary. The position in which the wheel A is represented in the drawings is that which it is caused to assume when the implement is in operation—that is to say, when the cutters are to be reciprocated. To enable the operator to break and form a connection between the wheel A and pinion *d*′, said wheel is adapted to be shifted upon its axle B toward and away from the pinion *d*′. This shifting movement of the wheel may be effected by means of a lever, H, which is in convenient reach of the driver, who sits upon the seat G, and which is pivoted at its lower end to a bar, H′, and carries a semicircular fork, *h*, which fits within a groove, *a*, in the hub of the wheel A. The bar H′ is rigidly secured to the outer extremity of the axle B, and upon its upper end is formed or secured a rack, *h*′, in which the lever H is retained in proper position to hold the wheel A into or out of gear with the pinion *d*′. By the expedient thus described the operator of the machine may put the cutters in motion or suspend their operation with the greatest facility.

A′ is a small carrying-wheel employed in addition to the wheel A, and journaled at the side of the frame C opposite that at which said wheel A is located.

I represents the rake, whose arm I′ at the extremity of its loose end is attached by a pivot, *i*, to a post, J, swiveled in the frame C. In the arm I′, and at a point about equidistant from its juncture with the rake and the end pivoted at *i*, is a swiveled link, K, to which is jointed a slotted bar, L, traversed by a wrist-pin, *l*, on the end of an arm, L′, the latter being secured to and rotated by a beveled pinion, M, which is journaled in the frame C. The pinion M rotates vertically and receives its motion from a crown gear-wheel, N, which is also journaled upon the frame C, and occupies a position at right angles with the pinion M, the arrangement of the two being clearly illustrated in Fig. 2.

Motion is transmitted from the carrying-wheel A to the gear-wheel N through the medium of pinions O O′, mounted upon the respective ends of a shaft, O^2. One end of this shaft is journaled in the same part of the

frame C as the gear-wheel N, and its other end in a sliding lug, P, which is secured on the under side of the frame C, at the rear end thereof, by dovetailing or otherwise. By means of a lever, Q, pivoted upon the frame C, the pinion O may be thrown into or out of gear with the teeth on the inner face of the wheel A, the two conditions of the wheel effecting or suspending the operation of the rake I when the machine is moving forward. When in gear the pinion O is so held by the hand of the operator, which is made to exert an outward pressure upon the lever Q, and when the pinion is to be thrown out of gear the removal of the driver's hand enables a spring, Q′, to act upon the lever, so as to throw it in the direction of the wheel A, which movement retracts the pinion O to a point where it will be entirely out of contact with the wheel A, and hence the rotation of the pinion ceases and the operation of the rake I is suspended. To throw the pinion in gear with the wheel A, the driver pushes the lever away from him, and a reverse movement of the lever serves to disengage the pinion from the wheel. After being thus disengaged, the pinion O, with the shaft O^2 and pinion O′, is held against any rotation or other movement which might result from the motion of the machine by a catch, *o*. The machine being put in motion and the pinion O thrown in gear, the motion is transmitted to the pinion M in the manner described, and the arm L′ is swung round in a vertical plane, during which the wrist-pin *l* acts upon the slotted bar L, and while traversing the slot in said bar the wrist-pin moves it horizontally and permits it to retain its vertical position. This horizontal movement of the bar L is communicated to the rake I and causes the latter to sweep across the grain-platform R in a horizontal plane. As soon as the rake reaches the rear end of the platform the wrist-pin *l* will have traversed the slot in the bar L, and on the pin coming in contact with the top of said slot the rake is returned to the front of the platform by a circular motion, at which stage the pin *l* assumes a position in the lower part of the slot in the bar L, ready to traverse upward within said slot as the rake moves over the platform.

The tongue S is fastened at its rear extremity to one of the side pieces of the frame C, and is supported at a proper height by a rigid vertical arm, T, secured upon the front portion of the frame C.

U is a horizontal shaft, journaled at its respective ends in the arm T and one side of the frame C, and jointed at *u* to the pivoted bar F′, to which the finger-bar F^2 is hinged. The rotation of the shaft U effects the elevation of the bar F′ and of the finger-bar F^2, and such rotation may be accomplished by the turning of a lever, U′, which is joined to said shaft U and retained in a depressed and retracted condition by a spring-catch, U^2, projecting upward from the frame C.

The lever U′ may be operated by the driver with facility, and by retracting it the finger-bar, with the cutter-bars, is elevated either permanently for the purpose of adapting them for reaping, or temporarily to avoid obstacles when the implement is used as a mower, the cutter-bars being adapted for mowing when in their lower position. It is only necessary to push aside the catch U^2 to release the lever U′ and permit the cutters to fall to their working position in mowing.

The grain-platform R is attached to the finger-bar and to the frame in such manner that it may readily be detached when the reaper is to be converted into a mower.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In combination with the driving-wheel A, adapted for adjustment upon its shaft in the manner explained, the crank-wheels D D′, fixed upon one and the same rotating shaft, *d*, the latter carrying a pinion, *d′*, to receive motion from the driving-wheel A, as set forth.

2. In combination with the above parts, the lever H and rack H′ *h′*, constructed, arranged, and employed substantially in the manner and for the purposes herein described and represented.

SAMUEL N. PAGE.

Witnesses:
G. J. ELDRED,
HUGH CONLEY.