W. D. CARPENTER.

HARVESTER.

No. 73,501. Patented Jan. 21, 1868

Fig. 1.

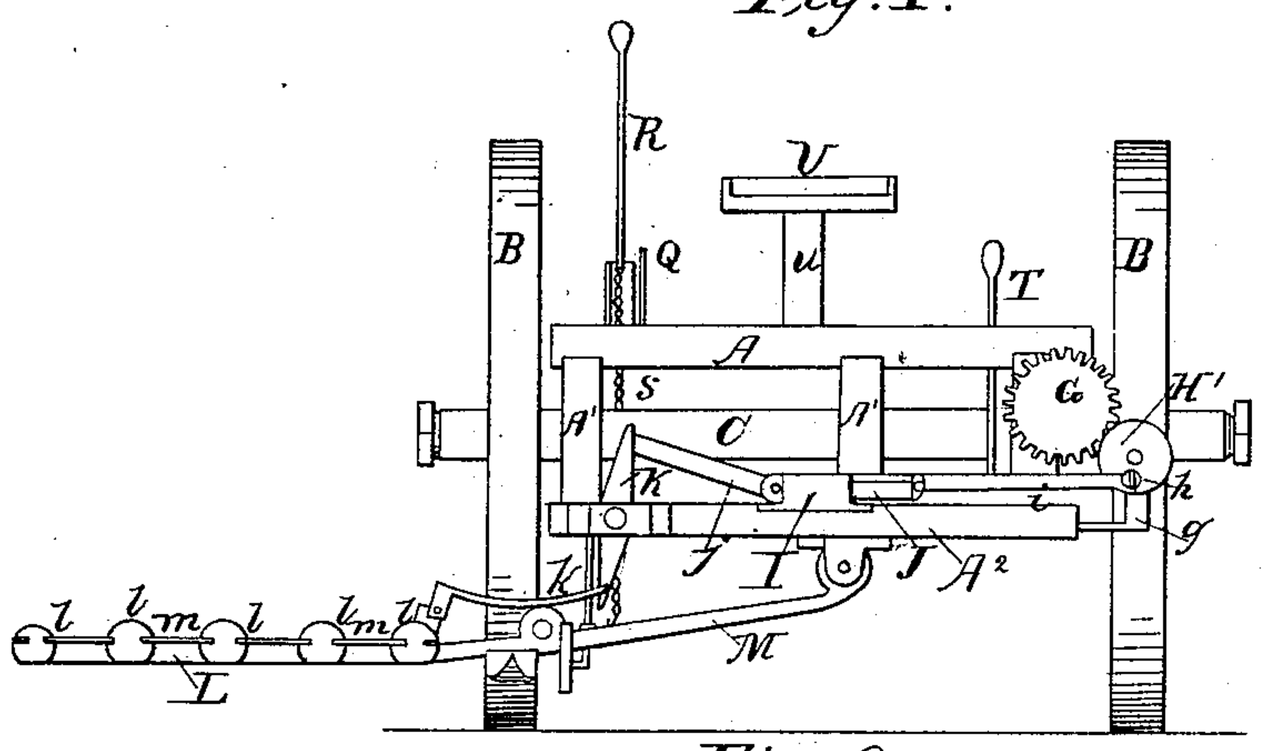
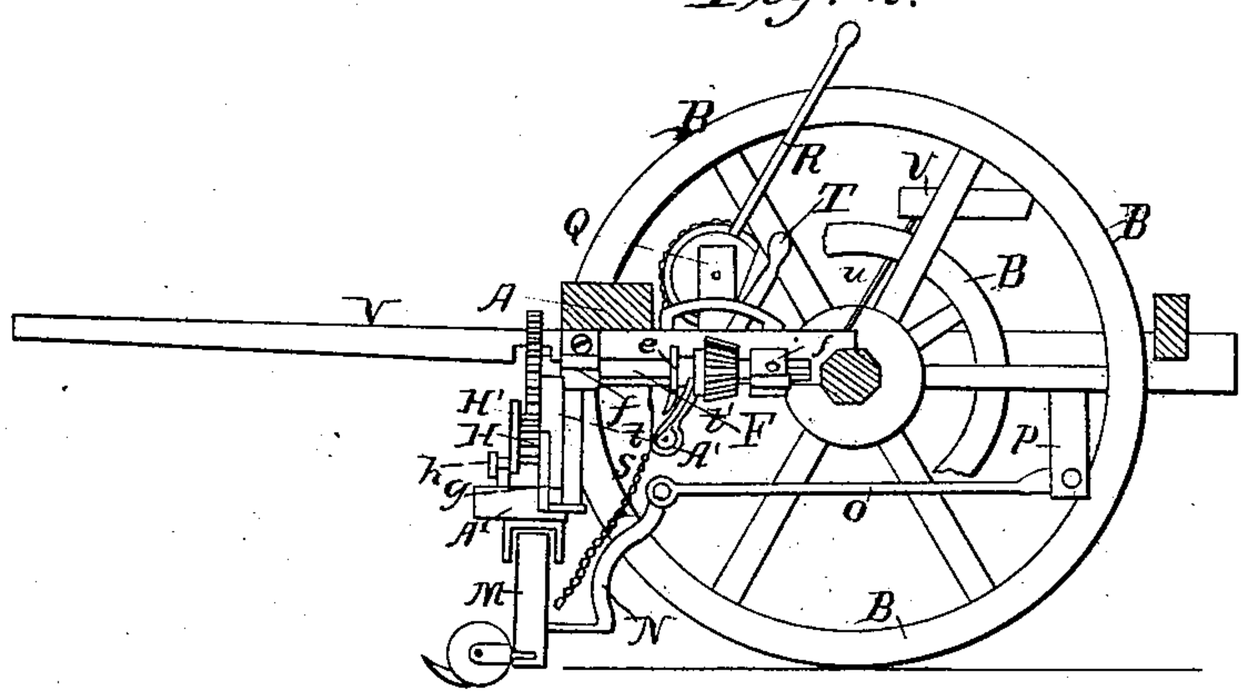


Fig. 2.



Witnesses:

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by his attorney

A. M. Smith

United States Patent Office.

WILLIAM D. CARPENTER, OF SOUTH BERWICK, MAINE, ASSIGNOR TO HIMSELF AND J. STACKPOLE, OF THE SAME PLACE.

Letters Patent No. 73,501, *dated January* 21, 1868.

IMPROVEMENT IN HARVESTERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM D. CARPENTER, of South Berwick, county of York, and State of Maine, have invented a new and useful Improvement in Harvesting-Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of the specification, in which—

Figure 1 is a front elevation of a harvesting-machine embracing my improvement, and

Figure 2 is a side elevation of the same taken from the outer or stubble side of the machine, the outer or driving-wheel being in part broken away for the purpose of more clearly showing the arrangement of parts.

Similar letters of reference denote like parts in both figures.

My invention consists in the employment of a reciprocating slide and jointed connecting-rod between the driving or crank-shaft and the reciprocating sickle-bar, arranged to move in the reverse direction to said sickle-bar, for the purpose of counteracting the jar and strain consequent upon the rapid reciprocation of said bar, hereinafter explained. It also consists in the particular arrangement of the driving-gear and crank-shaft, as hereinafter set forth.

In the accompanying drawings, A represents a main frame, which may be of any usual or desired construction, and B B′ the main carrying and drive-wheels, mounted on a common axle, C, secured in suitable bearings underneath the main frame. The outer wheel B′ is provided on its inner face with a bevel-wheel, D, which meshes with and communicates motion to a bevel-pinion, E, on the rear end of shaft F, which is mounted in suitable boxes or bearings on the main frame, shown at *f f*, fig. 2. The forward end of shaft F is armed with a spur-wheel, G, which meshes into and drives a tubular pinion, H, mounted on a stationary stud or pin attached to standard *g* on the drooping or pendent extension A^1 A^2 of frame A, and directly in front of the driving-wheel, as shown in the drawings. The forward face of pinion H is provided with the disk H′, to which the eccentric crank-pin *h*, through which the necessary reciprocating movement is imparted to the sickle, is attached in any usual or convenient manner. The drooping or pendent extension of frame A consists of the transverse horizontal bar A^2 brought down to a convenient point below the frame, for the purpose of bringing the points of support of the hinged coupling and the connecting-mechanism as nearly as practicable into line with the finger and sickle-bars supported and driven thereby, and of the pendants or uprights A^1, braced or otherwise rigidly attached to the main frame A. I is a slide-box, mounted on bar A^2, suitably grooved or otherwise adapted to receive and retain a reciprocating slide, J, to which motion is imparted from the crank-pin *h* by means of the connecting-rod *i*, and which in turn communicates motion to the pivoted upright lever K through connecting-rod *j*, connected at one end to the slide J, and at its opposite end to the upper end of said lever K, as shown in fig. 1. Lever K is pivoted centrally to bar A^2, and has the connecting-rod *k* connected to its lower end, through which the usual reciprocating movement is imparted to the sickle-bar. L is the finger-bar, and *l* the fingers, which, together with the sickle *m*, may be of any usual construction. The inner end of said finger-bar is hinged to one end of the coupling-arm M, which at its opposite end is in turn connected by a hinge to the frame-bar A^2. N is a standard or upright, rigidly attached to the coupling M, to the upper end of which is hinged the forward end of rear brace O, the opposite or rear end of which is pivoted in the pendant P, attached to the main frame at or near its rear, as shown in fig. 2. Q is an upright, attached to the main frame, in which is mounted a segment-sheave armed with lever R, and provided with cord or chain S, attached also to the coupling-bar, by means of which the height of the cutting-apparatus is controlled by the attendant on the machine, as desired. T is a lever, attached at its lower end to one end of a rock-shaft, mounted in a suitable box or bearing, *t*, underneath the main frame. Said rock-shaft is provided at its opposite end with a forked lever, *t′*, which engages in a groove in sleeve *e* of pinion E. The operation of lever T serves to slide the pinion back and forth on its feathered shaft F, and thereby to engage or disengage said pinion from the bevel-wheel D, as desired. U is a driver's seat, mounted on a spring-standard, *u*, attached either to the rear extension of the tongue V, or to the main frame, as preferred.

In operation, the rotation of the drive-wheel B′, in the forward movement of the machine over the ground, serves to communicate a reciprocating movement through bevel-wheel D, pinion E, shaft F, spur-wheel G, tubular

pinion H, crank-wheel H′, and pitman *i*, to the slide J, from which, in turn, through pitman *j*, lever K, and pitman *k*, a reciprocating motion, in reverse direction to that imparted to slide J, is imparted to the sickle-bar. By this arrangement the slide J, which may be of any desired weight, so as to equal or nearly equal the weight of the sickle, serves by its reverse movement to counteract the strain and jar consequent upon the employment of the reciprocating sickle-bar in the usual manner. The operation of the other parts of the machine will be readily understood.

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

1. The reciprocating slide, intermediate between the driving-gear and the reciprocating sickle-bar, arranged to operate in reverse direction to said sickle-bar, for the purpose and substantially as described.

2. The tubular pinion and crank-wheel H H′, mounted on a stationary stud or pin on standard *g*, in combination with its driving-gear, arranged, and operated as described.

3. The bevel-wheel D, bevel-pinion E, shaft F, spur-wheel G, crank and pinion-wheel H H′, pitmen *i j k*, slide J, and lever K, all arranged and operated as described, and for the purpose set forth.

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Witnesses:

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