

No. 120,669.

Amos Rank, Harvester.

2 Sheets--Sheet 1.

Patented Nov. 7, 1871.

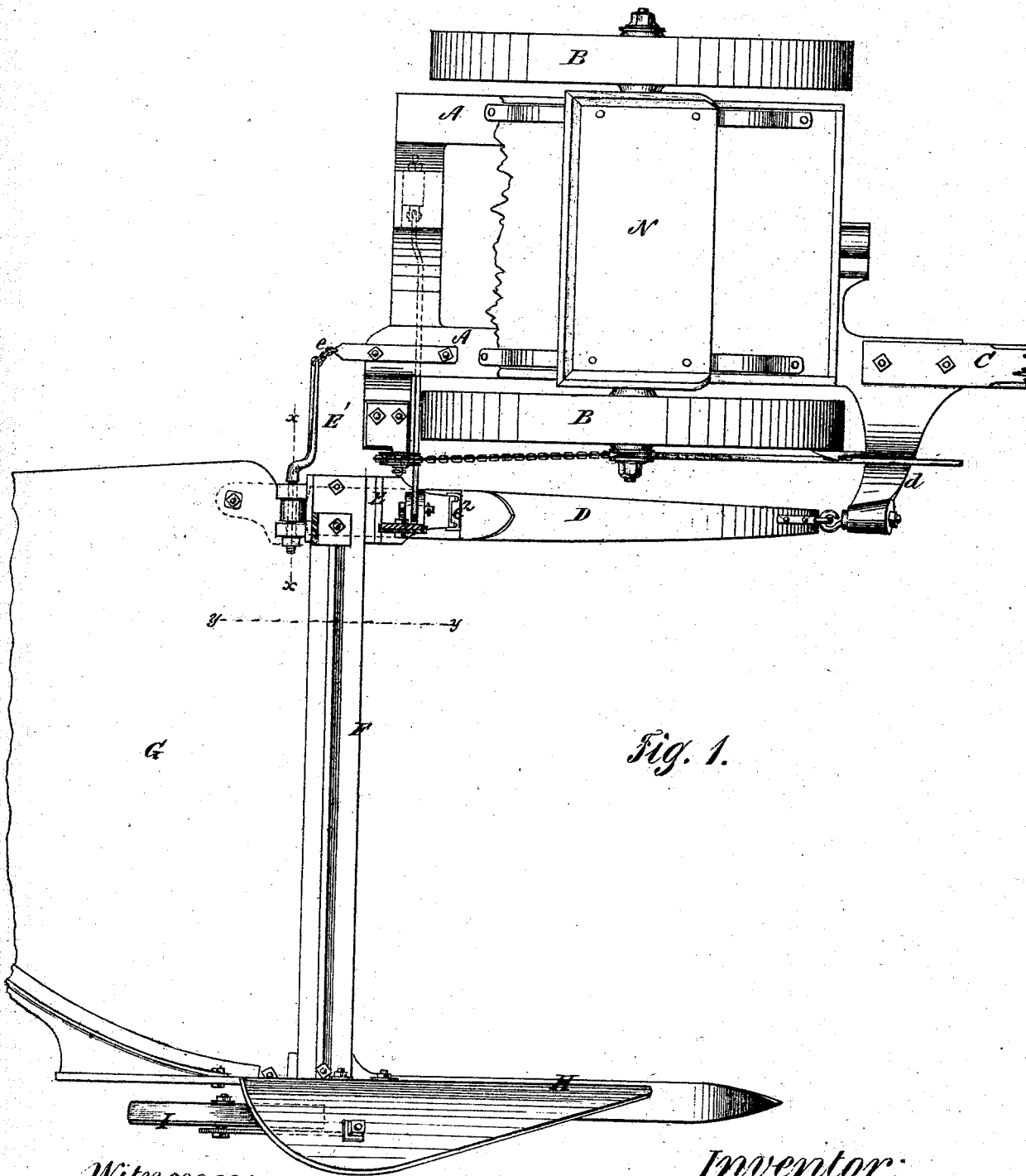


Fig. 1.

Witnesses:

Pred. Artos.

Wm. A. Rowe.

Inventor:

Amos Rank

by his Atty

Wm. D. Bald. in

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Fig. 2.

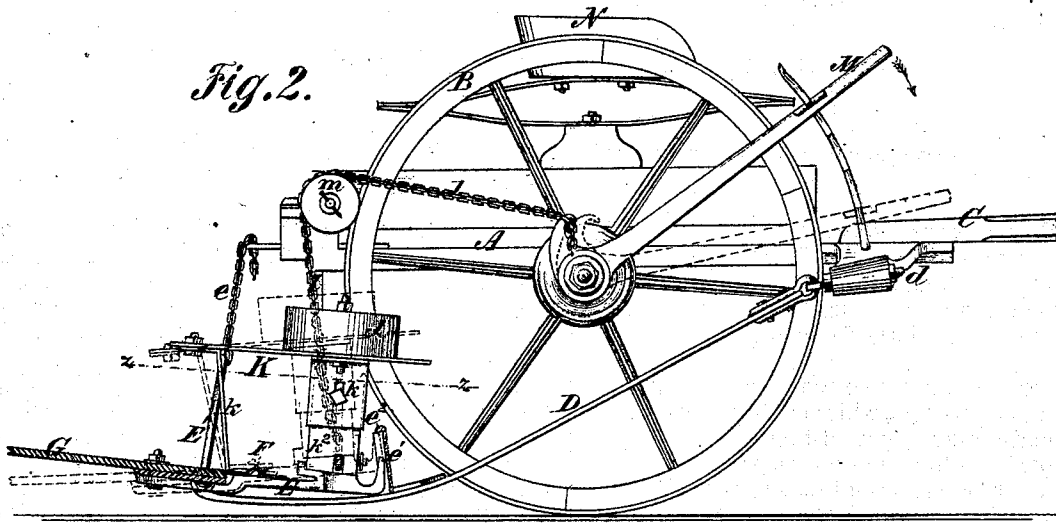


Fig. 3.

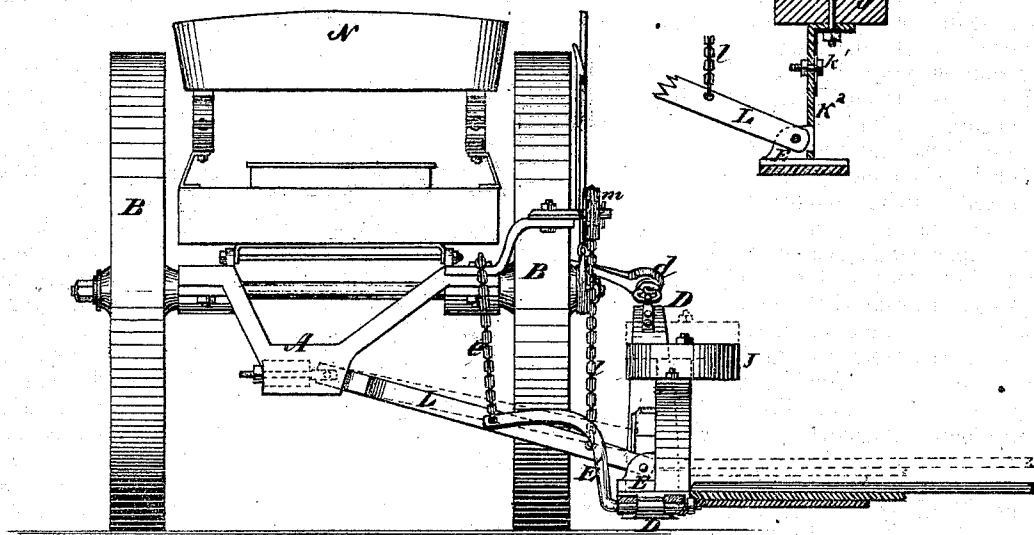
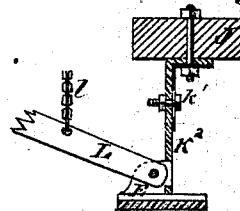


Fig. 4.



Witnesses:
Chas. Art's
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Inventor:
Amos Rank
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UNITED STATES PATENT OFFICE.

AMOS RANK, OF SALEM, OHIO.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 120,669, dated November 7, 1871.

To all whom it may concern:

Be it known that I, AMOS RANK, of Salem, in the county of Columbiana and State of Ohio, have invented a new and useful Improvement in Harvesters, of which the following is a specification:

My invention relates to that class of harvesters having two wheels, a hinged finger-beam, and an automatic rake mounted thereon. Its object is to impart a rolling motion to the cutting apparatus on its longitudinal axis to conform to inequalities of the ground, and to regulate the height of cut without disturbing the relations of the cutting apparatus and rake; to which ends the improvement consists in combining with the pivot-pin of the hinged shoe, by which pivot the shoe is connected with the drag-bar, a crank-arm or bracket, by which the heel-end of the finger-beam is suspended from the main frame, and on which pivot the finger-beam rocks axially to raise or lower the points of the guards.

In the accompanying drawing, my improvement is shown as embodied in the well-known "Ætna harvester," upon which sundry Letters Patent of the United States have been granted to me. This improvement, however, obviously may be adapted to other machines.

Figure 1 represents a plan or top view of so much of my improved harvester as is necessary to illustrate the invention herein claimed; Fig. 2, a view in elevation of the same, as seen from the divider end of the machine, with the finger-beam and platform in section at the line *y y* of Fig. 1; Fig. 3, a similar view from behind, with the platform in section at the line *x x* of Fig. 1; Fig. 4, a detached view, partly in section, showing the connection of the coupling-arm and rake-frame with the shoe.

It is deemed unnecessary here to do more than refer to the parts of the machine shown in my former patents.

A main frame, A, is mounted on two wheels, B, and drawn by a tongue, C. A drag-bar, D, is hinged to a bracket, *d*, projecting from the main frame. The drag-bar extends backward behind the finger-beam F, and its rear end is pivoted to the rear end of a shoe, E. The pivot-pin E', which connects this shoe and the drag-bar, is extended beyond the shoe on its grain side, bent upward far enough to clear the stubble, and connected with the main frame by a

cord or chain, *e*, which limits the descent of the shoe below a certain point. By this mode of construction the pivot becomes the fulcrum on which the platform and rake, as well as the cutting apparatus, rock, as hereinafter explained. The shoe extends forward some distance in advance of the finger-beam, and its front end works freely up and down in a guide, *e*¹, provided with a stop, *e*², to limit its upward movement. The finger-beam F is secured to this shoe in any well-known way, and is, by preference, formed of thin sheet-iron or steel to diminish its weight. To compensate for any diminution of strength or stiffness thus occasioned I form a central rib or corrugation, *f*, in the bar, parallel with its longitudinal axis by means of rollers, swages, or dies, in any well-known way. A platform, G, divider H, and grain-wheel I, of well-known construction, are attached to the finger-beam. An automatic rake (such, for instance, as that shown in my patent of November 2, 1869, No. 96,353) is to be mounted on a frame, K, secured upon the shoe E. The position of this rake is indicated by the block J. The rear end of the frame K is supported by a standard, *k*, on the finger-beam or shoe, while its front end rests on an adjustable support, *k*¹ *k*², on the front of the shoe. This adjustable support is made in two pieces, which overlap each other and are held in the desired position by a slot and set-screw. By this device the rake can be adjusted relatively to the finger-beam. A coupling-arm, L, is likewise pivoted to the shoe, near its forward end. A cord or chain, *l*, passes over a pulley, *m*, on the main frame and is connected with a lifting-lever, M, so that the driver can, from his seat N, raise or lower the cutting apparatus.

The driver can at any time lift the toe of the shoe by moving the lever M forward. This movement tilts the points of the guards up and the rake backward (as shown by the dotted lines in Fig. 2) until the toe of the shoe strikes the stop *e*², when, by a continuance of this lifting-movement, the whole cutting apparatus, rake, and platform can be raised. When the lever is released the weight of the rake causes the parts to resume their normal position.

It will be observed that in my improved machine the pivot-pin E' forms the fulcrum on which the finger-beam, platform, and rake rock, as well as their main point of suspension from the main

frame. It will also be noted that the coupling-arm, rake-support, and finger-beam, being all in front of this fulcrum, counterbalance the weight of the platform, which projects back of the fulcrum, and thus renders the tilting or rocking of the cutters, by the driver operating the lifting devices connected with the coupling-arm, an easy task.

I claim as my invention—

The extended bent pivot-pin connecting the

drag-bar and shoe, constructed as described, and acting as a fulcrum and as a support on which the shoe, the cutting apparatus, the rake, and the platform oscillate, as set forth.

In testimony whereof I have hereunto subscribed my name.

AMOS RANK.

Witnesses:

SAML. T. STREET,
WILLIS CADWALLADER.

(74)