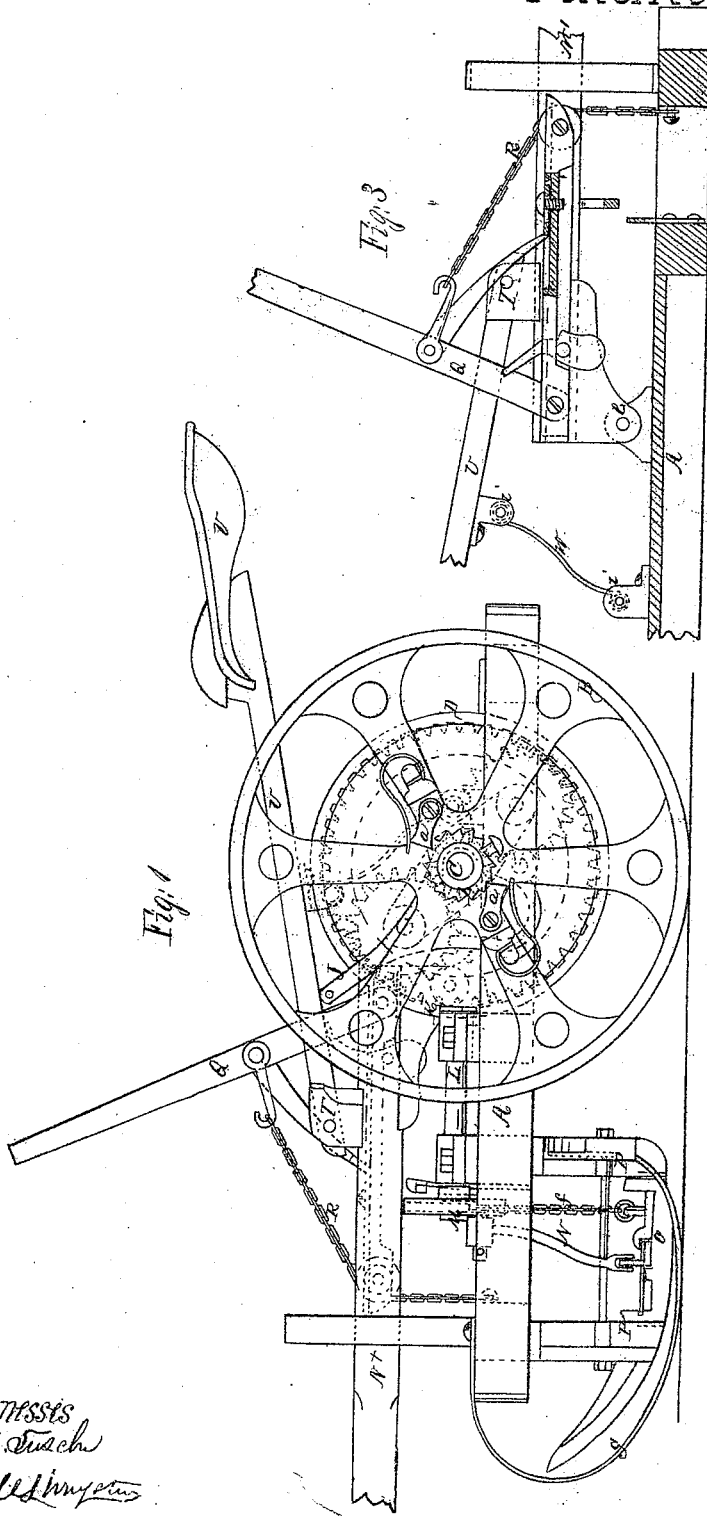


F. Nishwitz.

Mower.

N^o 46488

Patented Feb. 21, 1865.



Witnesses
Geo. Swack
Mellinger

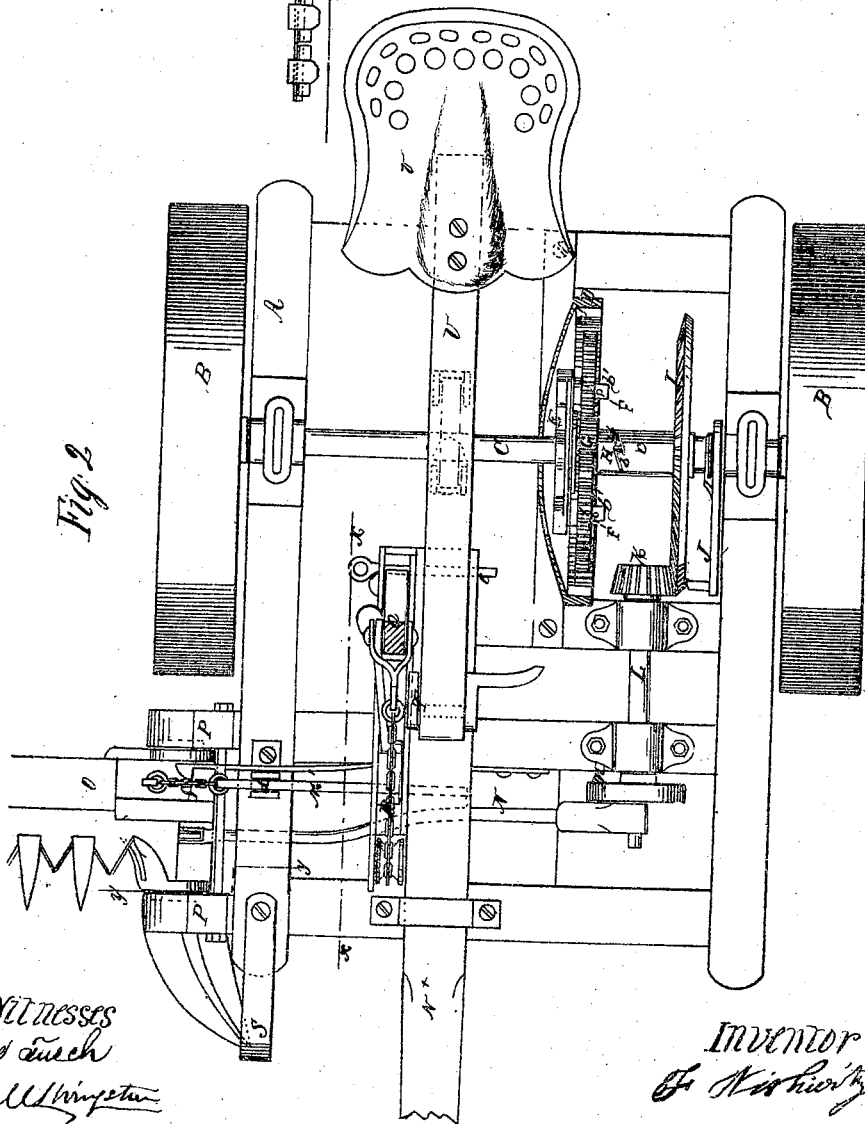
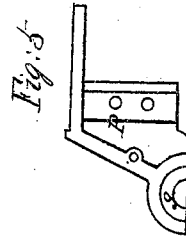
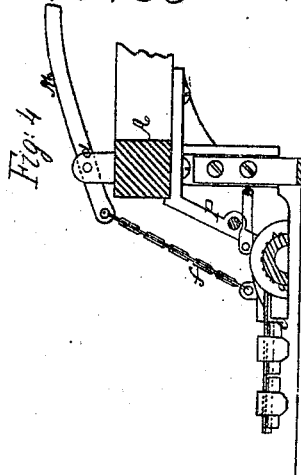
Inventor
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Patented Feb. 21, 1865.



Witnesses
Fred Luech
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INVENTOR
F. Nishwitz

UNITED STATES PATENT OFFICE.

FREDERICK NISHWITZ, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 46,488, dated February 21, 1865.

To all whom it may concern:

Be it known that I, FREDERICK NISHWITZ, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Grain and Grass Harvester; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view of my invention; Fig. 2, a plan or top view of the same; Fig. 3, a longitudinal section of a portion of the same taken in the line *x x*, Fig. 2; Fig. 4, a transverse vertical section of the same taken in the line *y y*, Fig. 2; Fig. 5, a detached view of one of the sides of the socket which receives the finger-bar.

Similar letters of reference indicate like parts.

This invention relates to a new and improved sickle-driving mechanism, hereinafter fully shown and described, whereby I am enabled to obtain a requisite speed by a very compact arrangement of parts.

The invention also relates to an arrangement of a lever applied relatively with the draft-pole, in the manner hereinafter described, so as to cause the outer end of the finger-bar to be elevated when the inner end of the same has been elevated a certain height. The invention also relates to a new and improved shoe, arranged and applied in such a manner as to support the front part of the machine and partially sustain the finger-bar, so that it will run lightly over the surface of the ground, and at the same time serve to protect the pitman which drives the sickle.

The invention further relates to a novel manner of attaching the finger-bar to the main frame of the machine, whereby a strong and durable joint-connection is obtained.

A represents the main frame of the machine, which may be of rectangular form and mounted on two wheels, B B, placed loosely on their axle C, and connected with it by pawls *a* and ratchets *b*, (shown in Fig. 1,) so arranged that the axle will be turned by the wheels when the machine is drawn forward.

D represents a circular disk-shaped plate, which is permanently attached to the main frame A, and is provided with teeth *a'* at the

inner side of its rim. The axle C passes loosely through the center of the plate D, and on the axle there is firmly keyed an arm, E, which projects at equal lengths from opposite sides of the axle, and is provided near each end with a pin, *b*. These pins project at right angles from the arm, and a pinion, F, is fitted loosely on each pin, said gearings gearing into the teeth *a'* of the plate D. The pinions F F are of equal dimensions, and they both gear into a pinion, G, on a collar, H, which is placed loosely on the axle C and allowed to turn freely upon it. The outer end of the collar H is provided with ratchet-teeth *b**. (Shown in Fig. 2.)

I is a bevel-toothed wheel, which is fitted loosely on the axle C, and is provided with a hub, *c*, which has ratchet-teeth *b***, made on its end opposite the teeth *b** of the collar H. The wheel I may be connected with the collar H and disengaged from it, as desired, by means of a lever, J, provided with cams or any suitable or equivalent device for moving said wheel. The wheel I, when connected with the collar H, is in gear with a bevel-pinion, K, on the inner end of a shaft, L, placed longitudinally on the main frame A, and having a crank-wheel, M, on its front end, to which the pitman N is attached which drives the sickle. By this arrangement it will be seen that when the machine is drawn forward the pinions F F of the arm E will be rotated. As the arm E rotates in consequence of said pinions gearing into the teeth *a* of the stationary plate D, and as the pinions F F both gear into the pinion G of collar H, motion is communicated to said collar, and the latter will rotate the bevel-wheel I when the hub *c* is engaged with collar H, and the shaft L rotate through the medium of the wheel I and pinion K. By this means I am enabled to give a requisite speed to shaft L by a very compact arrangement of gear, for in addition to the speed obtained by the multiplication of the gear I obtain that of the axle C, which, as the gear receives its motion from it, of course makes up toward increasing the speed of the shaft L.

On the front part of the main frame A there is placed transversely a lever, M', having its fulcrum at *d*. The inner end of this lever extends under the draft-pole N*, the inner end of which is secured by a pin, *e*, to the frame A, near its center. The outer end of the lever M' is connected by a chain, *f*, to the inner end

of the finger-bar O, which is attached to the main frame by a joint of peculiar construction, as follows: To the main frame there are secured two pendants, P P, which are slightly inclined, and have each a semicircular groove, *g*, made in them at their lower ends, as shown clearly in Fig. 5, and the finger-bar O is provided at each side of its inner end with a semicircular projection, *h*, and these projections are fitted in the grooves *g* and allowed to turn freely therein. Thus by this simple arrangement I obtain a strong and durable joint—one which will admit of the finger-bar rising and falling freely, and which will also admit of the finger-bar being very readily attached to and detached from the main frame. The front part of the main frame A, and consequently the finger-bar O, is raised, when desired, by means of a lever, Q, and chain R, arranged in the ordinary way, and when the front part of the main frame is elevated a certain distance the inner end of the lever M' will be brought in contact with the draft-pole N* and the outer end of the finger-bar automatically raised.

S represents a shoe composed of a flat metal bar curved or bent in semicircular form at its front part, so as to extend over on the upper part of the main frame A, the back part of the shoe being curved upward and secured to the rear pendant, P, to which the finger-bar is secured. This shoe serves to support the finger-bar, causing it to run lightly over the surface of the ground, and at the same time it protects the lower part of the pitman N.

To the back part of the draft-pole N* there is attached, by a joint, T, a bar, U, on the back end of which the driver's seat V is secured.

This bar U is supported from the main frame A by a bar or spring, W, which is connected by joints *i i* to the bar U and the main frame. This elastic bar or spring, while serving as a support for the seat-bar U, also admits of the weight of the driver assisting in elevating the front part of the main frame A, and relieves the team of downward pressure on the draft-pole.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the stationary toothed plate D, pinions F F, attached to the ends of an arm, E, firmly keyed on the axle C, with the pinion G on the collar H, placed loosely on the axle, and the bevel-wheel I, also placed loosely on the axle and connected with the collar H, all arranged to operate substantially as and for the purpose set forth.

2. The lever M', applied to the main frame A, and in relation with the draft-pole N*, as shown, and connected to the finger-bar O by a chain, *f*, all arranged to operate substantially as and for the purpose set forth.

3. Connecting the finger-bar O with the main frame A by means of a joint composed of the semicircular recesses *g g* in the pendants P P and the semicircular projections *h h* on the sides of the finger-bar O, substantially as described.

4. The shoe S, arranged and applied to the main frame A relatively with the pitman N and finger-bar O, to operate substantially as and for the purpose specified.

F. NISHWITZ.

Witnesses:

THEO. TUSCH,

M. M. LIVINGSTON.