

W. HARRISON.
Harvesters.

No. 139,787.

Patented June 10, 1873.

Fig. 1.

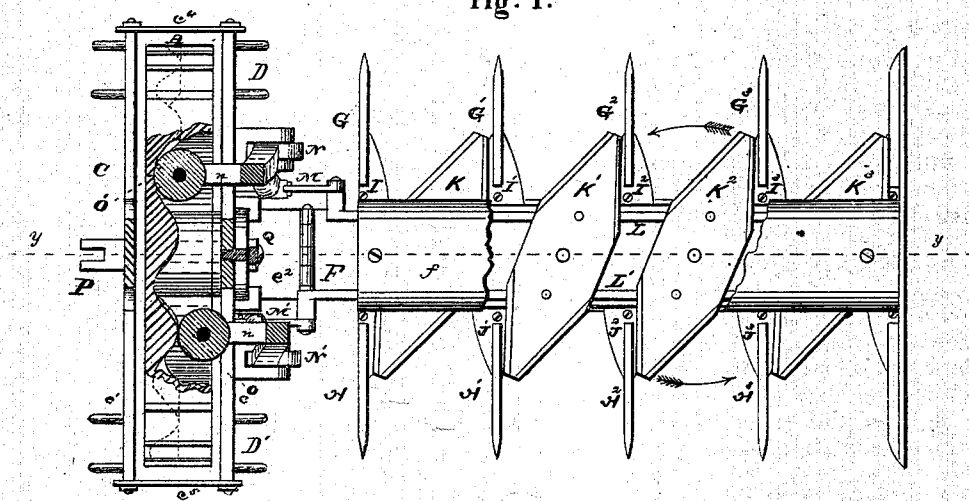
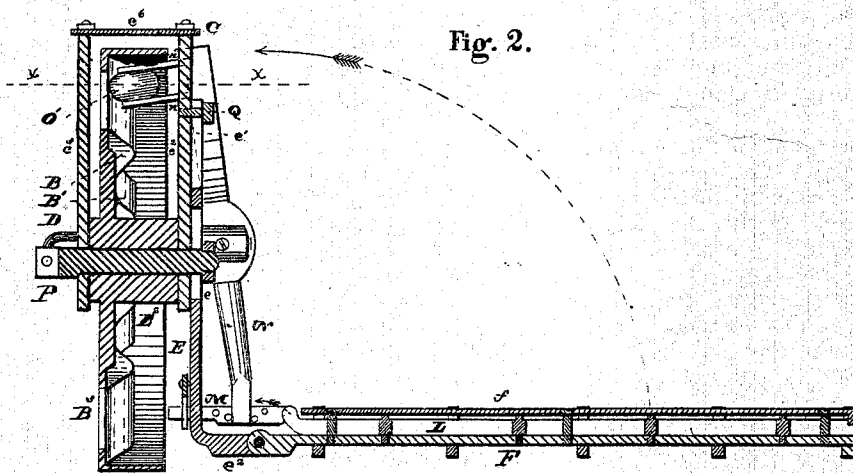


Fig. 2.



WITNESSES

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INVENTOR

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att'y

UNITED STATES PATENT OFFICE.

WILLIAM HARRISON, OF LINNEUS, MISSOURI, ASSIGNOR OF ONE-HALF HIS
RIGHT TO HENRY C. PREWITT, OF SAME PLACE.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **139,787**, dated June 10, 1873; application filed
March 31, 1873.

To all whom it may concern:

Be it known that I, WILLIAM HARRISON, of Linneus, Linn county, State of Missouri, have invented new and useful Improvements in Mowing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, and to the letters of reference marked thereon, in which—

Figure 1 is a plan view, having a portion of the upper part of the driving-wheel and frame shown in section, taken in line *x x*, Fig. 2. A portion of the top of the finger-bar is removed to show the construction and arrangement of the cutting-blades. The arrows indicate the movement of the movable blades. Fig. 2 is a sectional elevation taken in the line *y y* of Fig. 1.

Like letters indicate like parts.

To simplify and cheapen the construction, to lessen the draft, and to obtain a machine that can be readily used in all the positions and under all the conditions that occur in ordinary work, are mainly the objects of my invention.

In the accompanying drawing, A represents a driving-wheel of ordinary construction, provided inside and in its plane with a circular cam-way, B B¹ B² B³, that faces toward the finger-bar side. C represents the frame in which the driving-wheel is hung, consisting of two cross-pieces, *c* and *c*¹, extending on either side across the wheel, being in length somewhat more than the diameter of the driving-wheel, and of two upright pieces, *c*² *c*³, on either side of the wheel, and extending from the horizontal pieces *c* and *c*¹ respectively upward above the top of the wheel. Both the horizontal pieces and the vertical pieces *c*² *c*³ are respectively united at their ends by cross-pieces *c*⁴ *c*⁵ *c*⁶, Figs. 1 and 2. The horizontal pieces *c* and *c*¹ are suitably and similarly provided with attachments, D and D', at their ends, to either of which the draft-pole can be fastened. On the finger-bar side of the machine a supplemental frame or upright, E, is attached to the frame C by any suitable fastening. The upright E is provided with slots *e e*¹, extending in the direction of its length. At its lower end the upright E is provided with a projection, *e*², extending a short dis-

tance toward the finger-bar side. To the outer end of the projection *e*² is hinged the finger-bar F, which, otherwise of ordinary construction, is provided with a double series of guard-fingers, G G¹ G² G³ and H H¹ H² H³, arranged respectively on either side of the finger-bar, as shown in Fig. 1. The guard-fingers G G¹ G² G³ and H H¹ H² H³ are of the usual form, but at their rear ends on top are rigidly attached two-edged pointed blades I I¹ I² I³ and J J¹ J² J³, Fig. 1. These fixed blades are arranged horizontally just below the level of the movable blades or knives K K¹ K² K³, their outer pointed ends extending about as far as the points of the movable blades. They project equally on both sides of the guard-fingers, to which they are attached. The finger-bar is provided with a top plate, *f*, that passes over the movable blades, and serves to cover and to hold them in position. K K¹ K² K³ represent movable blades or knives, as shown in Fig. 1. Their general shape is that of a diamond, both ends being similar and pointed. They are pivoted at their centers to the center of the finger-bar F, and project equally on both sides of the finger-bar. Between their centers and their points, and on both sides of their centers respectively, they are also pivoted to two scythe-bars, L L', respectively. The scythe-bars L L' extend lengthwise with the finger-bar, and along its edges and at their inner ends, are respectively pivoted to two pitmen, *m m*', Figs. 1 and 2, which pitmen, in turn, are respectively pivoted to the lower ends of two rocking-levers, *n n*', Figs. 1 and 2. The rocking-levers *n n*' extend upward respectively on each side of the upright E, and are suitably connected at the cross-piece *c* so as to admit of a vibrating motion. At their upper ends, and toward the side of the driving-wheel, they are furnished respectively with projecting arms *n n*', between which rollers *o o*' are hung. These rollers are arranged so as to travel in the cam-way B B¹ B² B³. The relative adjustment of the cutting apparatus, (and its various parts,) the rocking-levers *n n*', and the cam-way B B¹ B² B³, is such as to bring one roller, O, against the top of a cam while the other roller, O', is in the depression between two cams, as shown in Fig. 1. As the

driving-wheel is turned the upper ends of the rocking-levers are successively thrown outward, which motion, being transmitted to their respective scythe-bars below, causes them to vibrate, and the movable knives K K^1 K^2 K^3 to oscillate on their centers, as indicated by the arrows in Fig. 1. It will be observed that in its operation the knife K makes a drawing cut, and, also, owing to the fixed blades I and J and their relative arrangement to the other parts of the cutting apparatus, the distance that the movable knives traverse to accomplish their work is considerably less than that of an ordinary rigid scythe. An advantage is also gained in applying the power between the central pivots of the movable knives K K^1 K^2 K^3 and their points. The effect of each and all of these advantages described is to materially diminish the draft. The machine being similarly constructed on both sides it can be operated at will in either direction. A further gain accruing from the shape of the movable knives and their mode of attachment, is, that in case of breakage of a point, they can be easily reversed. Further, in the independence of attachment of the movable knives, and the elasticity of their joints, less damage ensues in encountering an obstacle. To raise the finger-bar, any approved mechanism can

be made use of. Its position when upturned is indicated by the large arrow, Fig. 2. As it is raised the inner ends of the scythe-bars, through their pitmen m m' press the lower ends of the rocking-levers in sufficiently to throw the rollers o o' out of gear. If desired, the axle P can be extended and a second driving-wheel attached in the usual manner. The seat is attached in the customary mode. To adjust the finger-bar vertically the upright E is moved up or down, and at the desired position held by tightening the thumb-screws Q .

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

The driving-wheel A , provided with the cam-way B B^1 B^2 B^3 , the frame C , the upright E , the rocking-levers N N' constructed as described, the pitmen M M' , the scythe-bars L L' , the movable knives K K^1 K^2 K^3 , the finger-bar F , and slotted fingers G G' , &c., and H H' , &c., all in combination, as and for the purpose shown.

WILLIAM ^{his} + HARRISON,
mark.

Witnesses:

ALEX. W. MULLINS,
THOS. BROWNLEE.

1500 m-30