D. K. & J. K. HARRIS.

Mowing Machine.

No. 6,846. Patented Nov. 6, 1849.

FIG. 2.

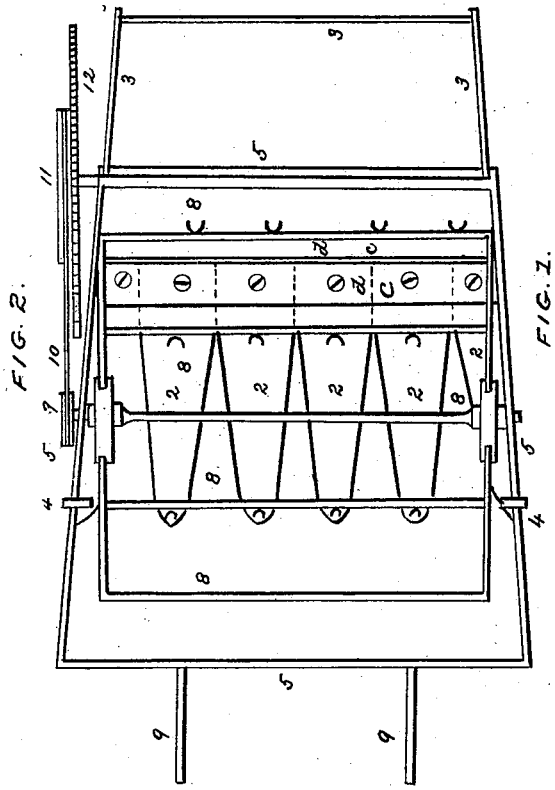
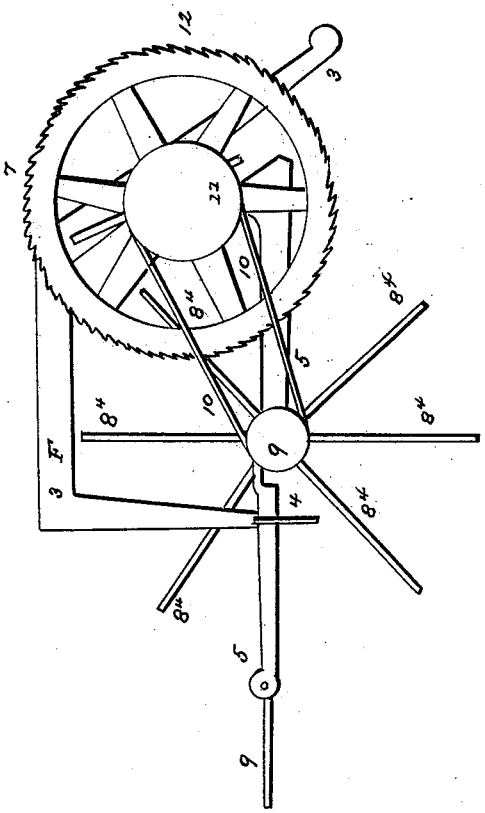


FIG. 1.



INVENTORS.
David K. Harris and
John K. Harris.

UNITED STATES PATENT OFFICE.

D. K. HARRIS AND J. K. HARRIS, OF ALLENSVILLE, INDIANA.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. **6,846**, dated November 6, 1849.

To all whom it may concern:

Be it known that we, DANIEL K. HARRIS and JOHN K. HARRIS, of Allensville, in the county of Switzerland and State of Indiana, have invented a new and useful Machine for Mowing or Cutting Grass, &c., by Horse-Power; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure B represents a top view of the whole machine.

Number 2 is a combination of knives. This construction shows a combination of these blades or knives by placing them side by side within shoulders between two iron bars, *c d*, being held firm in this combination by screws passing through both bars and each blade aforesaid. Any one of these blades or knives may be taken out at pleasure for the purpose of sharpening or otherwise. The edges of these knives meet at a short distance before they enter the iron bars *c d*. Each of these blades or knives has a sharp edge on both sides, and tapers from where they meet, before they enter the iron bars, to almost a point. Each knife is so constructed as to guide and protect itself by means of a rib, forming a part of the under surface and extending along the center to nearly the point of the blade. From each side of this rib or runner the blade is ground off to a keen edge, while the upper or top surface is a little concave, causing the side of the blade to turn up a little at the edge and point, thus increasing the strength of the blade and causing the edge to cut to the best advantage.

c d are two iron bars placed one directly above the other, and between which the blades 2 2, &c., are fitted and held firm by the screws aforesaid, the end of the rib on the under surface of each blade forming a shoulder and fitting against the lower bar.

E represents handles of the frame E F, as seen in side view A. The handles are continued horizontally in the form of a runner (E F being a part thereof) to the points of the blades, where they turn up at nearly right angles to connect with the upper frame, 5, by a mortise or guide-slot, 4, by means of which the frame 5 or thills 6 may rise or fall a certain distance without elevating or depressing the blades. The lower bar, *c d*, is firmly attached at both ends to the said handles at the frame E F, on the inside of which handles, where they are continued horizontally and on a level with the upper surface of the lower bar, *c d*, grooves are cut to receive the two outside blades, which are made straight and thick on one side to fit the grooves, and sharp on the other side.

5 5 5 is the upper frame, as seen side view A. This frame is composed of two side pieces connected at both ends by ties, as seen in Fig. B. These side pieces project, in the shape or form of legs, downward and are connected to the lower frame, E F, by joints at 7, directly opposite the ends of the bars *c d*. 6 6 are two shafts or thills into which the horse is hitched. They are permanently attached to the upper frame, 5; 8 8 8, a reel or revolving rake with any convenient number of parallel rotary arms connected at the ends to spokes passing into the axle 8^8. On the outside of these rotary arms a number of teeth or pins are inserted. The axle of the reel plays in two horizontal mortises let in from the top of the two side pieces of the upper frame, 5, in such manner that the said axle may be slid forward, as occasion may require, for the purpose of tightening the band 10, which connects it to the driving-wheel 12. On one end of this axle a small drum-wheel, 9, is attached to the side of rake. This reel is made to revolve by band or other gearing, 10, connected to the drum attached to the driving-wheel 12. The axle of wheel 12 plays in two mortises cut in the legs of the upper frame, 5, in the form of a segment of a circle, with a radius equal to the distance of these mortises from the axle of the reel, and with the center in the mortises in which this axle (the axle of the reel) plays. On the outside of the driving-wheel 12 (the driving-wheel 12 has teeth or spikes all round the rim) a drum-wheel, 11, is attached to receive the band 10, which passes around the small drum 9, attached to the axle of the rake-reel. The circular form of the mortise in which the axle of the driving-wheel 12 plays admits the wheel to rise and fall without affecting the gearing-band or the frame containing the knives. The points of the blades or knives may also be elevated or depressed by means of the handles E, as occasion may require, without affecting the motion of the driving-wheel or the revolution of the reel or revolving rake.

8^4 8^4 8^4 8^4 are arms or spokes of the rotary arms or rakes 8 8 8 8.

The principal design of the reel or revolving rake is, first, to gather the grass or other substance and bend the spears back over the edge of the blades while they are advancing forward, the teeth or pins passing down through the bent spears and holding them firm and even against the slant edge of the advancing knives until the spears of grass are cut, after which they are thrown back and scattered evenly over the ground to cure.

The machine is propelled by horse-power, the draft of the horse being transmitted from the upper frame, 5, to the lower frame, E F, by means of the two legs of said upper frame, 5, working in joints, connecting both the upper and lower frames near the ground, on a level with the points of the blades 2 2, &c. The blades may be elevated or depressed by working the handles E, when the machine is under way, without affecting the motion of the driving-wheel 12 or rolling rake.

What we claim as our invention, and desire to secure by Letters Patent, is—

The construction and use of the mortise or guide-slot 4, in combination with that for the axle of the driving-wheel, for the purpose of allowing the wheel or thills, or both, to rise and fall without elevating or depressing the blades.

DANIEL K. HARRIS.
JOHN K. HARRIS.

Witnesses:
WILLIAM FISHER,
PHILANDER S. SAGE.