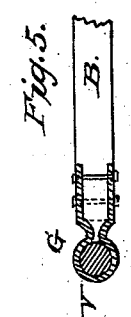
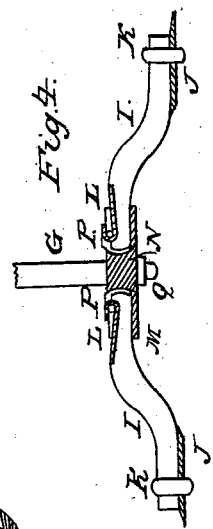
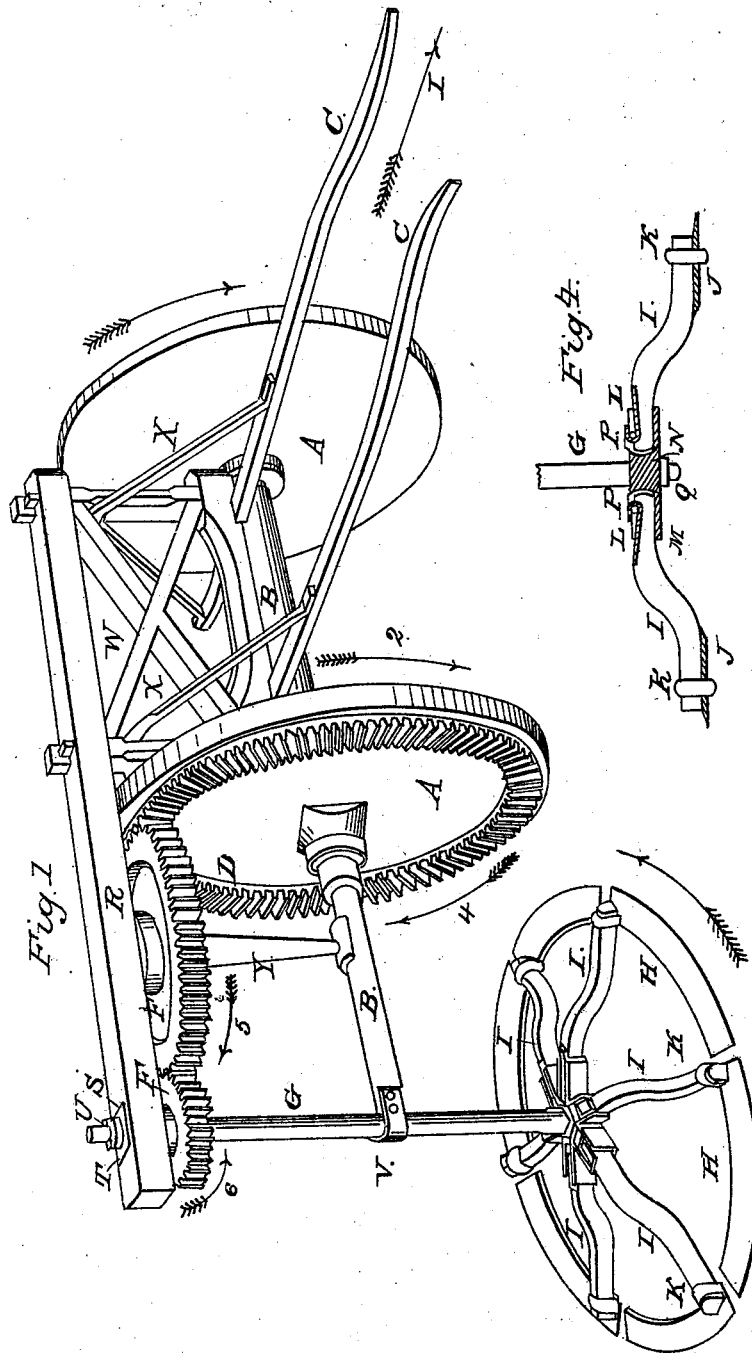


W. BOONE.
Mowing Machine.

2 Sheets—Sheet 1.

No. 5,931.

Patented Nov. 21, 1848.

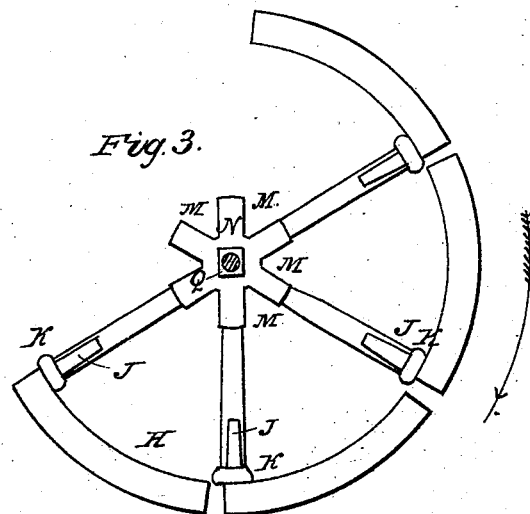
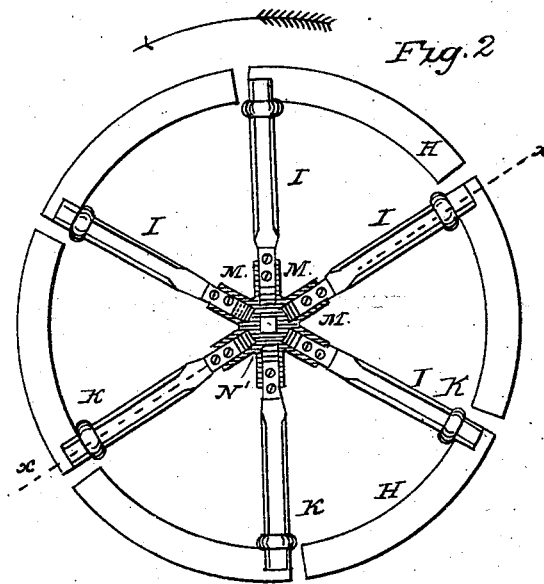


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Mowing Machine.

2 Sheets—Sheet 2.

No. 5,931.

Patented Nov. 21, 1848.



UNITED STATES PATENT OFFICE.

WILLIAM BOONE, OF NEW HOPE, MISSOURI.

IMPROVEMENT IN GRASS-CUTTING MACHINES.

Specification forming part of Letters Patent No. 5,931, dated November 21, 1848.

To all whom it may concern:

Be it known that I, WILLIAM BOONE, of near New Hope, in the county of Lincoln and State of Missouri, have invented a new and useful Improvement in Machines for Mowing, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the machine arranged for operation. Fig. 2 is the plan of the circle of scythes and the metallic boxes in which the scythe-snaths are confined. Fig. 3 is a plan of the boxes and four of the scythes inverted. Fig. 4 is a vertical section on the dotted line *xx* of Fig. 2. Fig. 5 is a plan of the box or bearing of the pendent scythe-axle fastened to the projecting end of the axle-tree.

Similar letters in the several figures refer to corresponding parts.

The two cart-wheels *A A*, the axle-tree *B*, the shafts *C C*, to which the beasts of draft are attached, the circle of cogs *D*, affixed to the side of one of the cart-wheels, the horizontal cog-wheel *E*, into which they mesh, and the pinion *F* on the pendent shaft *G* that propels the scythes, may be made and arranged in the manner represented in the drawings, or in any more convenient manner. I intend to make no claim to the combination and arrangement of those parts.

The cart-wheels *A A* are represented in the drawings as being made solid to correspond with the model. In a full-sized machine, however, these wheels will be made with fellyes and spokes. The circle of cogs will be cast in segments and screwed to the fellyes; or the circle of cogs may be formed in any convenient way.

The improvements that I have made in the mowing-machine relate principally to the construction of the scythes *H* and the manner of attaching them to the rotary pendent axle *G*. I generally employ six scythes to complete the circle; but any number may be used, according to the diameter of the circle. Each scythe is made complete, of good cast-steel, a segment of a circle of the required revolving cutter, and is brought to a fine cutting-edge on its outer or convex line, and is blunt on its inner edge, or that which is next the center, being the reverse of that of the common scythe. It is secured to the snath *I* by a hooked shank, *J*, and ring *K*, in the manner usually prac-

ticed in securing the ordinary scythe. The snath *I* is made in the shape of the letter *S*, and has a hook, *L*, fastened to the end opposite to that to which the scythe is secured for the purpose of hinging it to the radial cast-iron box *M* of the hub *N*, attached to the lower end of the pendent revolving axle *G*. The cast-iron hub *N* is cast with as many radial boxes *M* of a rectangular form as there are scythes in the circle, each box being open at the outer end and top and closed on its two sides, bottom, and inner end, and is crossed by a horizontal transverse wrought-iron rod, *P*, cast in the metal composing the sides of the radial box, to which rod the hook of the snath is hinged. The radial boxes are all made alike. The hub contains a vertical central opening, through which the lower end of the vertical axle *G* is inserted, having a spiral thread formed on it to receive a nut, *Q*, by which the hub is made fast to the axle. The snaths being inserted into the radial boxes, will admit of the scythes being raised in the arcs of circles scribed from the centers of the rods to which they are hinged, for the purpose of sharpening them, or for unhooking the snaths from the rods, or for any other purpose required. The sides of the boxes will prevent the snaths from moving sidewise in the boxes, and the bottoms will prevent them from dropping below the levels at which they are adjusted for the due operation of the scythes. The scythes are raised and lowered by raising or lowering the hub on the axle, or by changing the snaths for others of more or less curvature. The angle of the scythes with a horizontal plane is altered by means of blocks or wedges inserted between the bottoms of the radial boxes and the snaths. The upper end of the axle is suspended to the outer extremity of a horizontal cap-timber, *R*, of a vertical frame secured to the upper side of the axle-tree, said cap being extended beyond the side of the cart-wheel containing the circle of cogs, and pierced with an opening through which the axle is inserted, and shod on top with a metallic plate, *S*, through which the axle also passes, said plate forming the bearing for a circular collar, *T*, slipped over the upper end of the axle, and secured thereto by a pin, *U*, passed through the axle above the said collar. The pendent axle *G* is kept in a vertical position by means of a central box, *V*, or bearing

fastened to the outer end of the axle-tree B, which is extended beyond the hub of the cart-wheel till it reaches the axle G. This box or bearing is usually made from a metallic plate bent round the axle in the form of a yoke—such as that represented in Fig. 5—having its two ends bolted or keyed to the end of the axle-tree. This extended portion of the axle-tree also serves as a bearing for the lower end of the axle Y of the intermediate cog-wheel, E, the box for the upper end of the axle being fixed to the under side of the cap. The frame that sustains the cap is braced by oblique crossed braces W. It is further braced by iron-stays X, bolted to the uprights of the frame and to the shafts.

The horse or other beast of draft, being geared to the shafts, is driven forward in the direction of the arrow No. 1. This will cause the cart-wheels A A and cog-wheels D E F and scythes H to turn in the direction of the arrows 2, 3, 4, 5, 6, and 7, which will cut the hay with nearly the same description of stroke that is given in mowing by hand, laying the hay as fast as it is cut over by the side of the machine in swaths parallel with the track of the machine.

It will be observed that these scythes cut with their convex edges instead of their concave edges, as the common scythes cut.

The rest of the machine may be made in the usual manner.

I do not claim to be the original inventor

of a mowing-machine having scythes attached to a vertical pendent rotary axle operated by cart and cog wheels by the draft of a horse or other animal; but

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

1. The combination and arrangement of the hinged scythes H and radial boxes M, as constructed and operated with the vertical pendent axle G and gearing A D E F to propel the same, as described, said scythes being so constructed and arranged as to form nearly a circular cutting-edge, while each segment of the cutter forms by itself a hinged segmental scythe that can be raised or disengaged from the radial box at pleasure with very little inconvenience for grinding the edge, or for any other purpose, and be again restored to its place, the cutting being performed on the convex edge of the scythe instead of the concave edge, as with the ordinary scythe.

2. The manner of sustaining and supporting the pendent revolving axle by means of the extended cap of the frame, in combination with the extended axle-tree, as described.

In testimony whereof I have hereunto signed my name before two witnesses.

WM. BOONE.

Witnesses:

WM. P. ELLIOT,
A. E. H. JOHNSON.