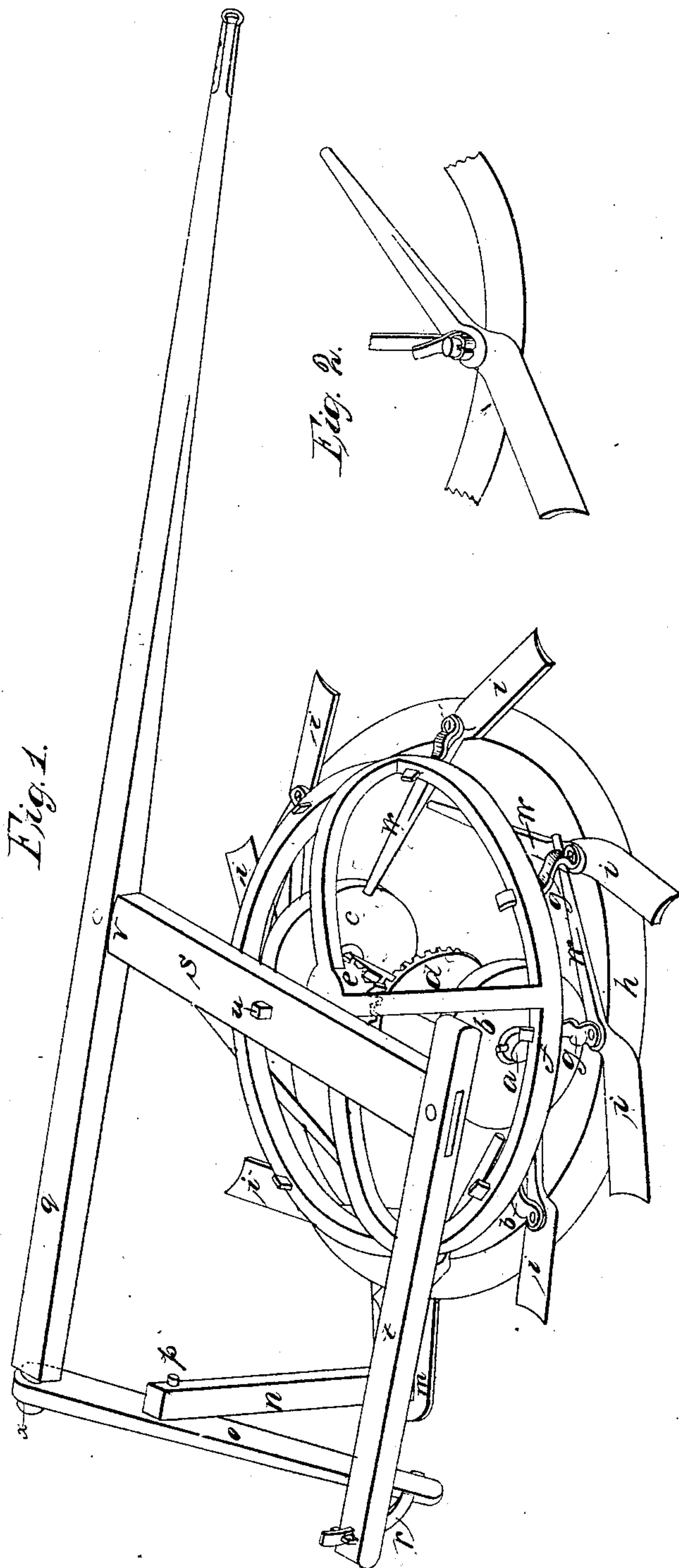


E. NEELY.
GRASS HARVESTER.

No. 7,888.

Patented Jan. 7, 1851.



UNITED STATES PATENT OFFICE.

E. NEELY, OF SAVANNAH, MISSOURI.

IMPROVEMENT IN GRASS-HARVESTERS.

Specification forming part of Letters Patent No. 7,888, dated January 7, 1851.

To all whom it may concern:

Be it known that I, EDWARD NEELY, of Savannah, Andrew county, State of Missouri, have invented a new and useful Improvement in Machines for Mowing Grass; and I do hereby declare the following to be a full, clear, and exact description of the manner of constructing the same, reference being had to the accompanying drawings, making part of the same, in which—

Figure 1 represents a perspective view of the machine when complete and ready for use. Fig. 2 represents a method of securing the cutter to the cutter-wheel.

On an axle, *a*, I place two wheels, *b c*, one of which, *b*, has secured to it and revolving with it the bevel-wheel *d*, which meshes into the bevel-wheel *e*, which forms the center of the revolving wheel *f*. To the wheel *f*, which is made of iron, is suspended by the straps *g g*, &c., the cutter-wheel *h*, also made of iron, upon which the cutters, to be hereinafter described, are attached. The under side of the cutter-ring *h* is beveled off toward its outer edge, so as easily to surmount (by aid of the other parts hereinafter described) any inequalities in the ground.

The cutters *i i i*, &c., (which can be increased or diminished in number according to the size of the machine,) are of a razor-blade form and lie flat upon the top of the cutter-ring *h*. Where the "tang" *w w*, &c., joins the blade *v*, it is curved upward, so as to allow each blade to move freely under the tang of each succeeding blade. The tangs are of such length as to catch behind the straps *g g g*, &c., which support the wheel upon which they are secured and operate, and which keep the cutters *i i*, &c., in proper position for cutting, the weight of the metal cutter-ring being sufficient to keep the straps taut. When the cutter strikes against a clod, tussock, or other hard substance, it is forced backward onto the cutter-ring. At the same time the tang forces the strap against which it rests outward, as seen at *k*, which tends to raise the cutter-ring and allows it to slide freely over such uneven surface, the under side of said ring being beveled off to assist this operation. The cutters are secured to the cutter-ring by means of a pin or screw, upon which they are to turn freely, and which can be easily removed when it is necessary to

sharpen the cutters. This pin or screw also secures the strap which supports the cutter-ring. When a pin is used a very simple method of fastening is to have the pin stand up high enough above the blade so as to allow the strap, which is slotted near the end, to pass through a hole in the pin, and then pass the slot over the head of the pin, all of which is fully represented by Fig. 2.

Attached to the axle *a*, and projecting in rear of the machine, is the guide or guard board *m*, the rear end of which slides upon the ground and keeps the machine steady while in operation. In the rear end of this guide or guard board *m* is a standard, *n*, onto the upper end of which is attached the arm *o* by means of a pin, *p*, and on which it turns freely. One end of the arm *o* is attached to the rear end of the tongue *q* on which it turns at *x*. The other end, by means of the strap *r*, is attached to the frame of the machine. The cross-piece *s*, where it is framed into the tongue *q*, has the shoulder *v* rounded off, so as to allow the tongue some play at that joint. The bar *t* at the other end of the cross-piece *s* is framed solid, and the whole top frame secured to the running-gear by means of the bolt *u* passing through the cross-piece *s*, the center of the wheel *f*, and through or into the axle. The machine is guided by means of the arm *o*, attached to the tongue, acting on the standard *n*, which is fastened in the guide-board *m*, any alteration in the direction of the tongue bringing the machine up parallel with it.

My object in securing and suspending the different parts of my machine by straps, chains, and yielding joints is to allow the parts to yield when the machine is suddenly stopped by accident or other cause. In machines geared tight when suddenly stopped the bevel-gear is often broken. In my machine this is entirely avoided by allowing the different parts some motion or play after the driving apparatus has stopped.

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

1. The manner herein described of suspending the cutter-ring *h* from the wheel *f* by means of straps or other yielding material, for the purpose herein described.

2. The combination of the cutters *i i i*, &c.,

beveled cutter-ring *h*, and straps *g g*, &c, for the purpose of raising the cutter-ring over any obstruction coming against the edge of the knife, as herein described.

3. The manner of arranging the guide-board *m*, standard *n*, arm *o*, and strap *r*, secured as described, for the purpose of guiding the machine and allowing the parts to yield to a sud-

den stopping of the machine or to irregularities in the ground, for the purpose and in the manner herein described.

EDWARD NEELY.

Witnesses:

A. B. STOUGHTON,
SAML. P. BELL.